

RAMSEY COUNTY DEPARTMENT OF PUBLIC WORKS KELLER EAST SHORE EROSION CONTROL PROJECT

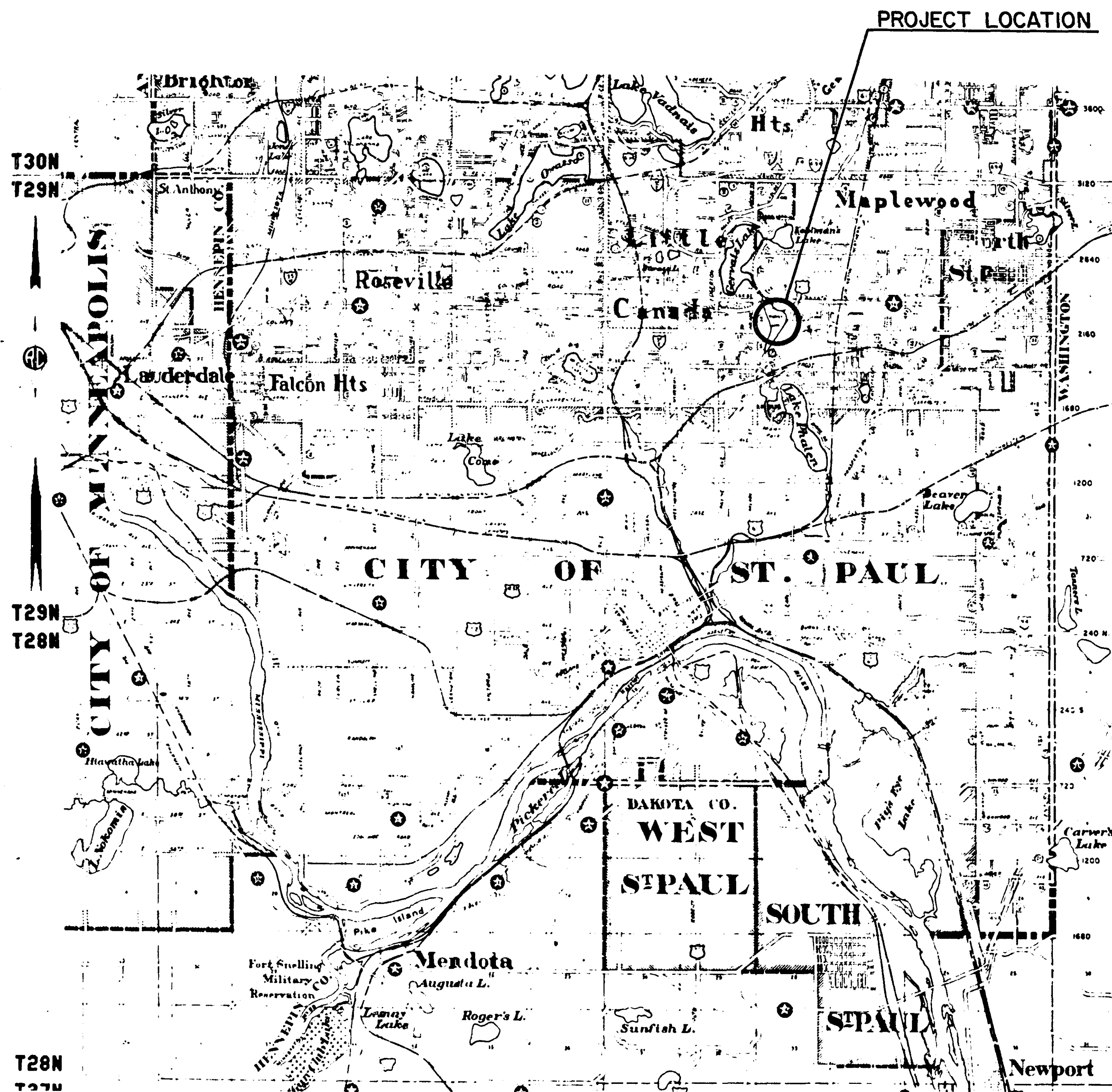
CONSTRUCTION PLANS FOR THE EXCAVATION
AND INSTALLATION OF ROCK FILLED GABIONS

LOCATION: EAST SHORE OF KELLER LAKE
WESTERLY OF S.T.H. 61 APPROXIMATELY 1000'
SOUTHERLY OF COUNTY ROAD B IN THE CITY
OF MAPLEWOOD.

PROJECT NO. 47277
SLR 82-1 & SLR 84-1

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	QUANTITIES & DETAILS
3-5	PLAN & PROFILE
6-9	X-SECTIONS



PLANS SYMBOLS

<p>STATE LINE COUNTY LINE TOWNSHIP OR RANGE LINE SECTION LINE QUARTER LINE SIXTEENTH LINE RIGHT OF WAY LINE PRESENT RIGHT OF WAY LINE CONTROL OF ACCESS LINE PROPERTY LINE (Except Land Lines) VACATED PLATTED PROPERTY CORPORATE OR CITY LIMITS TRUNK HIGHWAY CENTER LINE RETAINING WALL RAILROAD RAILROAD RIGHT OF WAY LINE RIVER OR CREEK DRY RUN DRAINAGE DITCH DRAIN TILE CULVERT DRAIN TILE GUARD RAIL BARBED WIRE FENCE WOVEN WIRE FENCE CHAIN LINK FENCE RAILROAD SHOW FENCE STONE WALL OR FENCE HEDGE RAILROAD CROSSING SIGN RAILROAD CROSSING BELL ELECTRIC WARNING SIGN CROSSING GATE MEANDER CORNER</p>	<p>SPRINGS MARSH TIMBER ORCHARD BRUSH NUBERRY CATCH BASIN FIRE HYDRANT CATTLE GUARD OVERPASS (Highway Over) UNDERPASS (Highway Under) BRIDGE BUILDING (One Story Frame) F FRAME C CONCRETE S STONE T TILE B BRICK ST STUCCO IRON PIPE OR ROD MONUMENT (STONE, CONCRETE, OR METAL) WOODEN HUB GRAVEL PIT SAND PIT BORROW PIT ROCK QUARRY</p>
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UTILITIES SYMBOLS

<p>POWER POLE LINE TELEPHONE OR TELEGRAPH POLE LINE JOINT TELEPHONE AND POWER OR POWER POLES ON TELEPHONE POLES ANCHOR STEEL TOWER STREET LIGHT PEDestal TELEPHONE CABLE TERMINAL GAS MAIN WATER MAIN</p>	<p>CONDUIT TELEPHONE CABLE IN CONDUIT ELECTRIC CABLE IN CONDUIT TELEPHONE MAMMOLE ELECTRIC MAMMOLE BURIED TELEPHONE CABLE T-BUR BURIED ELECTRIC CABLE P-BUR AERIAL TELEPHONE CABLE T-AE SEWER, (SANITARY OR STORM) SEWER MAMMOLE</p>
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PIT DATA

PIT NO. _____ Located in
Dead Haul

PIT NO. _____ Located in
Dead Haul

DESIGN SQUAD _____ DATE 2/10/84
DRAWN BY _____ DATE 2/10/84
CHECKED BY _____ DATE 2/15/84

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

DATE 2/10/84 REG. NO. 16153 ENGR. *James E. Johnson*

RECOMMENDED FOR APPROVAL *PLK* DATE 2-14-84
TRAFFIC ENGR.

RECOMMENDED FOR APPROVAL *Handwritten* DATE 4-2-84
COUNTY ENGINEER

RECOMMENDED FOR APPROVAL *DM* DATE 2/10/84
ENR ENGR.

APPROVED *Handwritten* DATE 4-9-84
CHAIRMAN OF THE RAMSEY COUNTY BOARD

RECOMMENDED FOR APPROVAL *MSX* DATE 2/14/84
MUN. ENGR.

APPROVED *Handwritten* DATE 4-2-84
DIRECTOR OF PARKS AND RECREATION

RECOMMENDED FOR APPROVAL *DLK* DATE 2/14/84
CONV. ENGR.

APPROVED _____ DATE _____

RECOMMENDED FOR APPROVAL *LKF* DATE 2-17-84
DESIGN ENGR.

MINNESOTA DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL *Handwritten* DATE 2-15-84
D.O.M. ENGR.

RECOMMENDED FOR APPROVAL _____ DATE _____

APPROVED *Handwritten* DATE 2-17-84
COORDINATING ENGR.

RECOMMENDED FOR APPROVAL _____ DATE _____
DISTRICT STATE AID ENGINEER

APPROVAL _____ DATE _____

**ASBUILT PLAN
CONFORMING TO
CONST. RECORDS**

DONE BY: *Handwritten*
DATE: 2/22/84

PLAN REVISIONS		
DATE	SHEET NO.	BY

THE 1978 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" SHALL GOVERN.

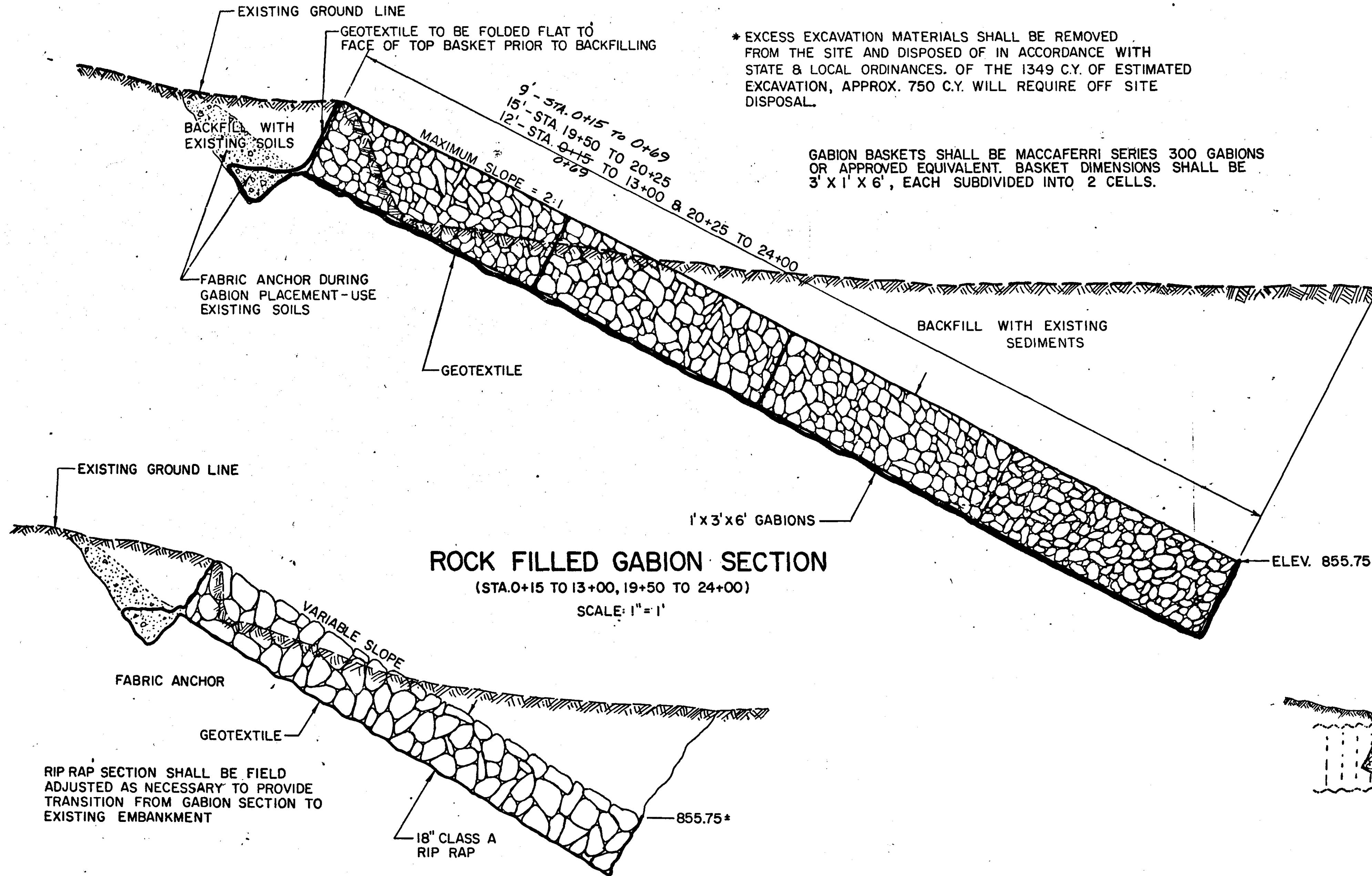
STATEMENT OF ESTIMATED QUANTITIES		PROJECT: KELLER EAST SHORE EROSION		JET	
ITEM NO.	CONTRACT ITEM	UNIT	ESTIMATED QUANTITY	EST. FINAL QUANTITY	COMBINED PROJECT EST. FINAL QUANTITY
2021.501	MOBILIZATION	L.S.	.4	.6	1
2101.502	CLEARING	TREE	2	13	15
2101.507	GRUBBING	TREE	1	9	10
2105.501	COMMON EXCAVATION	C.Y.	540	809	1349
2501.515	15" C.M. PIPE APRONS (WITH TRASH GUARD) EACH		1	0	1
2503.511	15" C.M. PIPE SEWER	L.F.	80	0	80
2511.502	RANDOM RIPRAP	TON	25	49	84
2511.515	GEOTEXTILE FILTER	S.Y.	1532	1940	2472
2575.501	ROADSIDE SEEDING	ACRE	.54	.77	1.31
2575.502	SEED MIXTURE (SOS SPEC.)	FOUND	46	69	115
2575.511	MULCH MATERIAL, TYPE 1	TON	.8	1.2	2
013.004	FURNISH & INSTALL GABIONS	C.Y.	354	452	786

KELLER EAST SHORE CLEAR & GRUB CHART

Sta	Lt.	Rt.	Specie & Size	Clear	Grub
2+26		27'	12", 15" Willow	2	1
8+81		26'	20", 12" Boxelder	2	1
7+25		29'	12" Stump	0	1
10+18		15'	Willow Clump	1	1
10+68		17'	16", 18" Willow	2	1
10+96		18'	10", 15" Willow	2	1
11+08		17'	12" Willow	1	1
11+10		20'	16" Willow	1	1
11+19		21'	10", 12", 8" 14" Willow	4	1
11+19		21'	16" Stump	0	1
Totals				15	10
				Clear	Grub

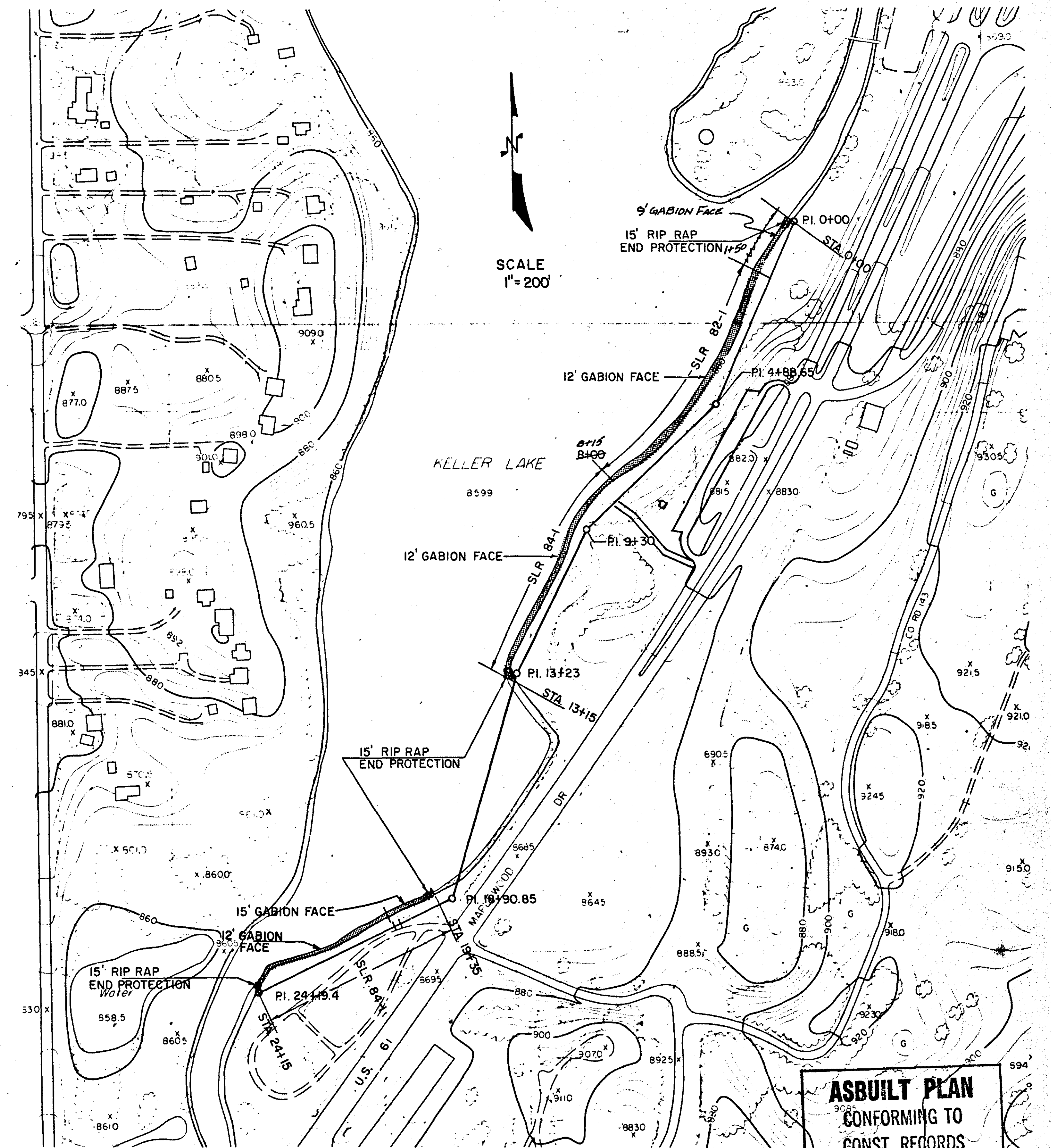
* EXCESS EXCAVATION MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH STATE & LOCAL ORDINANCES. OF THE 1349 C.Y. OF ESTIMATED EXCAVATION, APPROX. 750 C.Y. WILL REQUIRE OFF SITE DISPOSAL.

GABION BASKETS SHALL BE MACCAFERRI SERIES 300 GABIONS OR APPROVED EQUIVALENT. BASKET DIMENSIONS SHALL BE 3' X 1' X 6', EACH SUBDIVIDED INTO 2 CELLS.



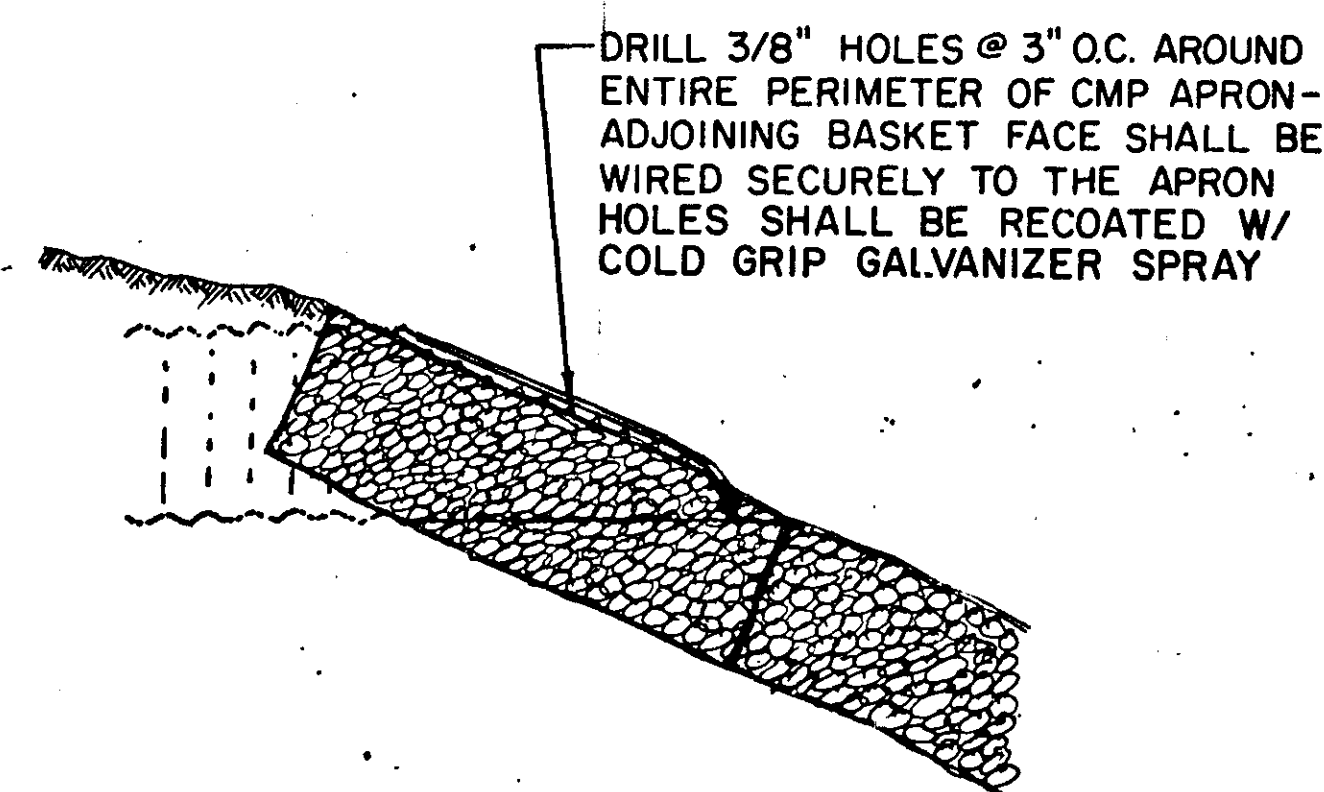
RIP RAP END PROTECTION/TRANSITION
(STA. 0+00 TO 0+15, 13+00 TO 13+15, 19+35 TO 19+50, 24+00 TO 24+15)
SCALE: 1"=2'

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
James P. Tolson
DATE: 2/28/04 Reg. No. 16159

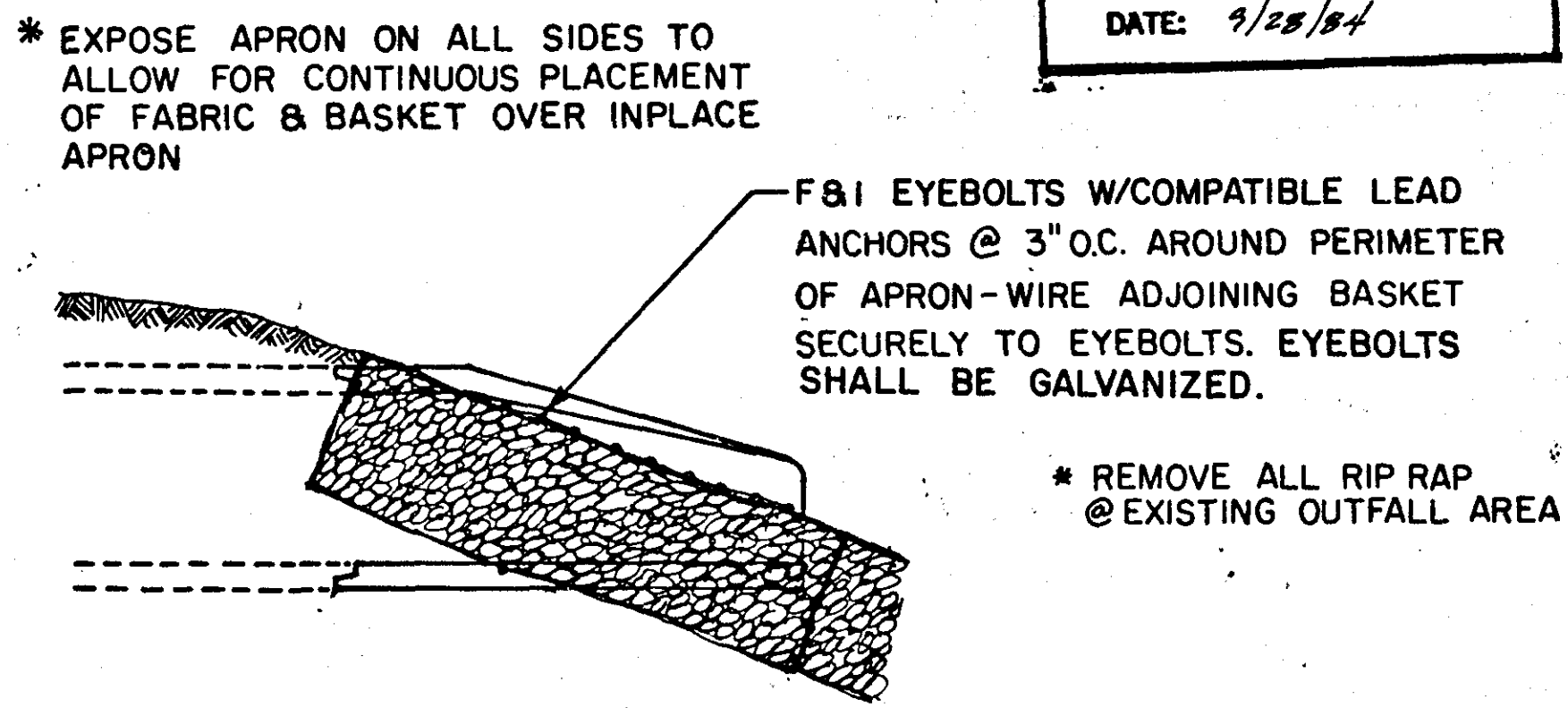


SCALE 1"=200'

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *[Signature]*
DATE: 2/28/04



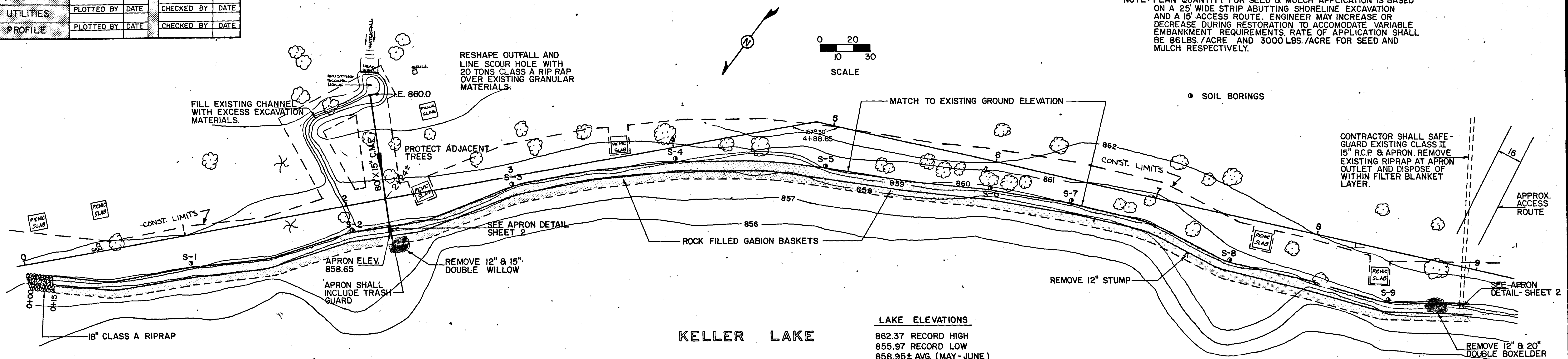
PROPOSED 15" CMP, APRON TREATMENT
(STATION 2+24±)



EXISTING 15" RCP, APRON TREATMENT
(STATION 8+96±)

TOPOGRAPHY	PLOTTED BY	DATE	CHECKED BY	DATE
UTILITIES	PLOTTED BY	DATE	CHECKED BY	DATE
PROFILE	PLOTTED BY	DATE	CHECKED BY	DATE

NOTE: PLAN QUANTITY FOR SEED & MULCH APPLICATION IS BASED ON A 25' WIDE STRIP ABUTTING SHORELINE EXCAVATION AND A 15' ACCESS ROUTE. ENGINEER MAY INCREASE OR DECREASE DURING RESTORATION TO ACCOMMODATE VARIABLE EMBANKMENT REQUIREMENTS. RATE OF APPLICATION SHALL BE 86LBS./ACRE AND 3000 LBS./ACRE FOR SEED AND MULCH RESPECTIVELY.

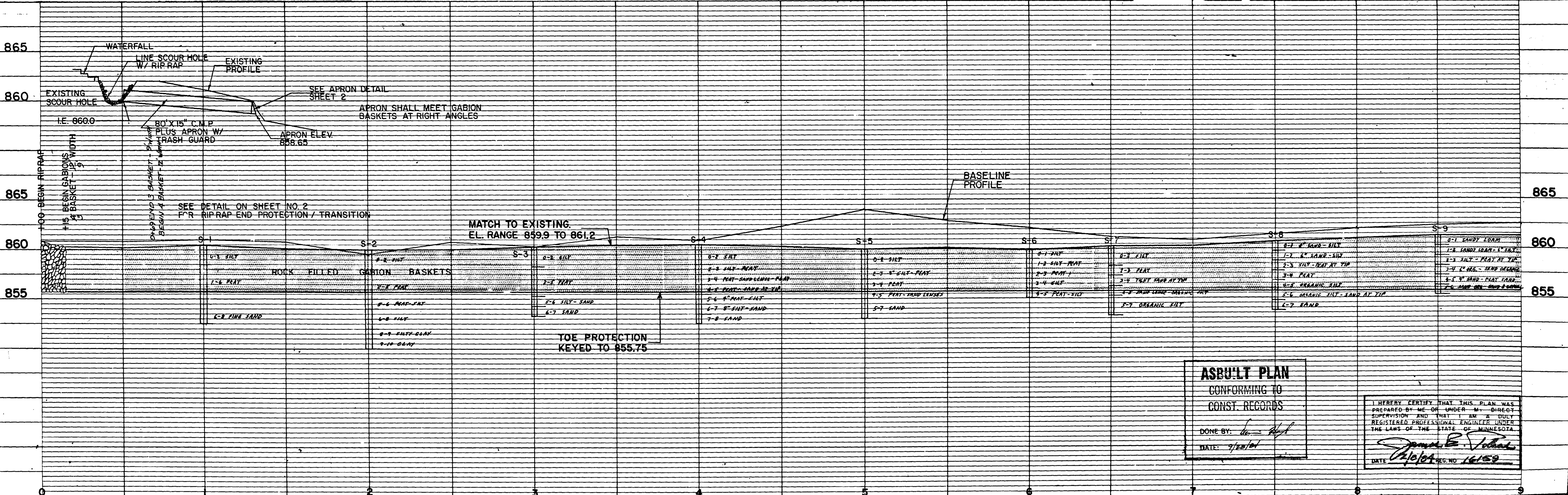


LAKE ELEVATIONS
 862.37 RECORD HIGH
 855.97 RECORD LOW
 858.95± AVG. (MAY - JUNE)

CONTRACTOR SHALL CONFINE ALL WORK ACTIVITIES WITHIN CONSTRUCTION LIMITS SHOWN. ANY CORRECTIVE WORK REQUIRED OUTSIDE THOSE LIMITS SHALL BE AT THE CONTRACTORS EXPENSE, AND BE SUBJECT TO APPROVAL BY THE ENGINEER.

CONTRACTOR SHALL SAFEGUARD EXISTING TREES. ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY BY AN EXPERIENCED ARBORIST OR TO THE SATISFACTION OF THE ENGINEER. SHOULD DAMAGE REQUIRE SUBSEQUENT REMOVAL, REPLACEMENT WITH A TREE OF EQUAL VALUE UP TO \$250.00 SHALL BE PROVIDED PRIOR TO FINAL PAYMENT.

CONTRACTOR SHALL SAFEGUARD ALL PARK AMENITIES (PICNIC TABLES, SHELTERS, ETC.) ANY DAMAGE TO SUCH STRUCTURES SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER. CONTRACTOR SHALL ASSUME ALL COSTS ASSOCIATED WITH SUCH WORK.

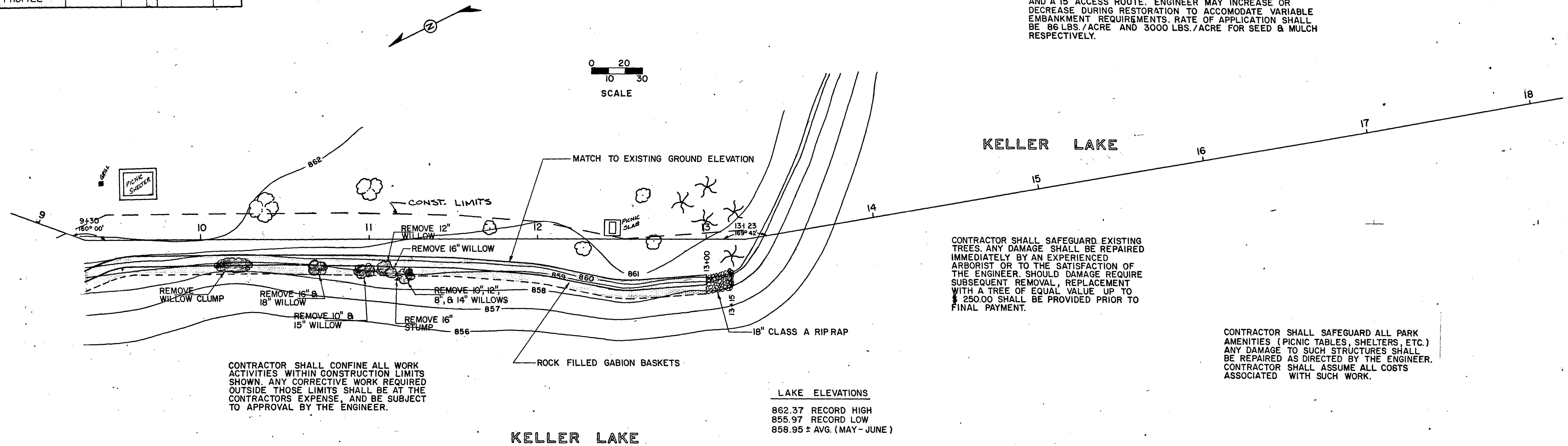


AS-BUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *[Signature]*
 DATE: 7/28/04

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
[Signature]
 DATE: 7/28/04 REG. NO. 16159

TOPOGRAPHY	PLOTTED BY	DATE	CHECKED BY	DATE
UTILITIES	PLOTTED BY	DATE	CHECKED BY	DATE
PROFILE	PLOTTED BY	DATE	CHECKED BY	DATE

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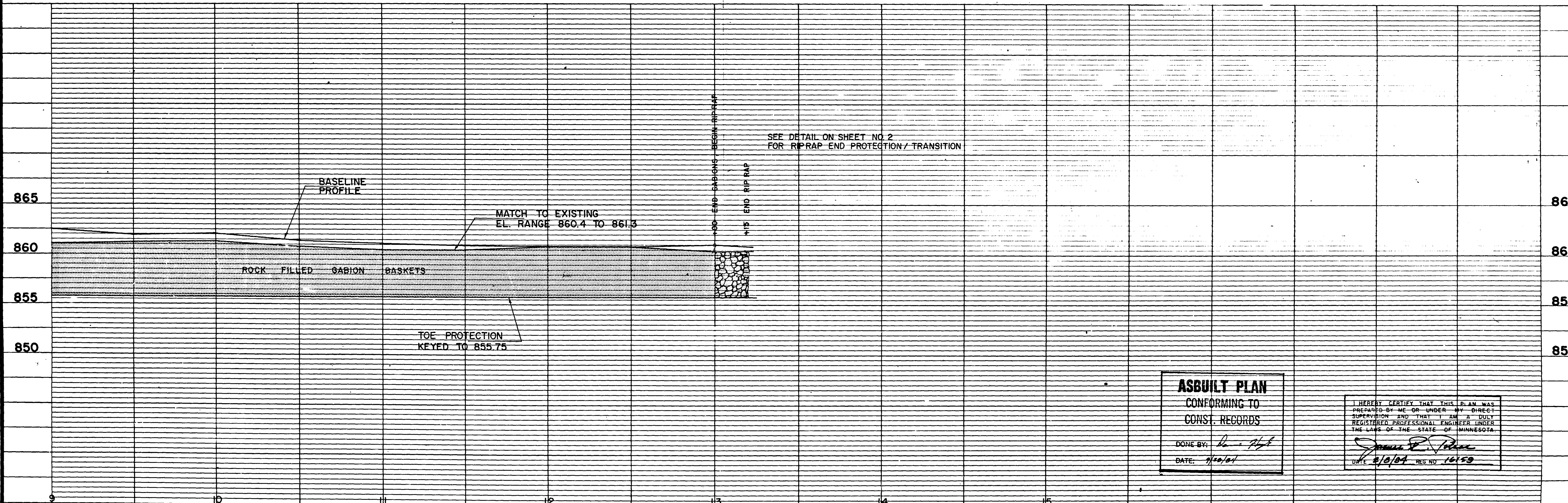


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 858.95 ± AVG. (MAY - JUNE)

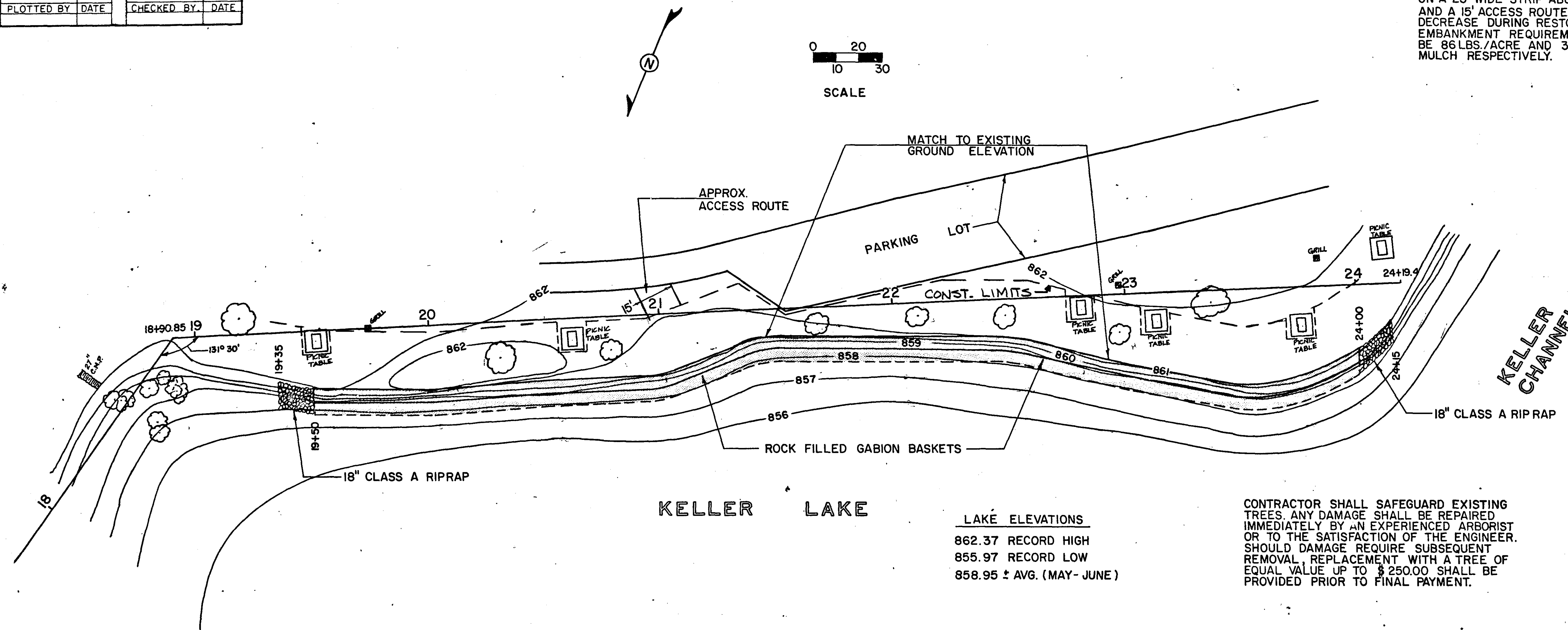


ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *[Signature]*
 DATE: 7/20/01

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
[Signature]
 DATE 8/10/01 REG NO 16150

TOPOGRAPHY	PLOTTED BY	DATE	CHECKED BY	DATE
UTILITIES	PLOTTED BY	DATE	CHECKED BY	DATE
PROFILE	PLOTTED BY	DATE	CHECKED BY	DATE

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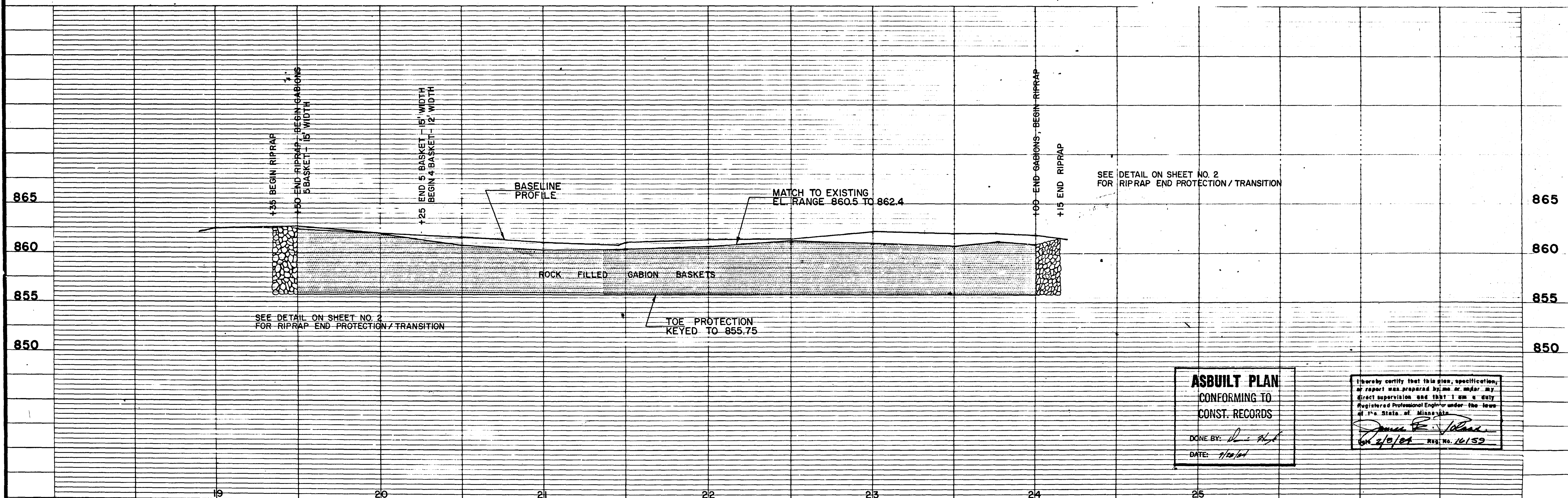


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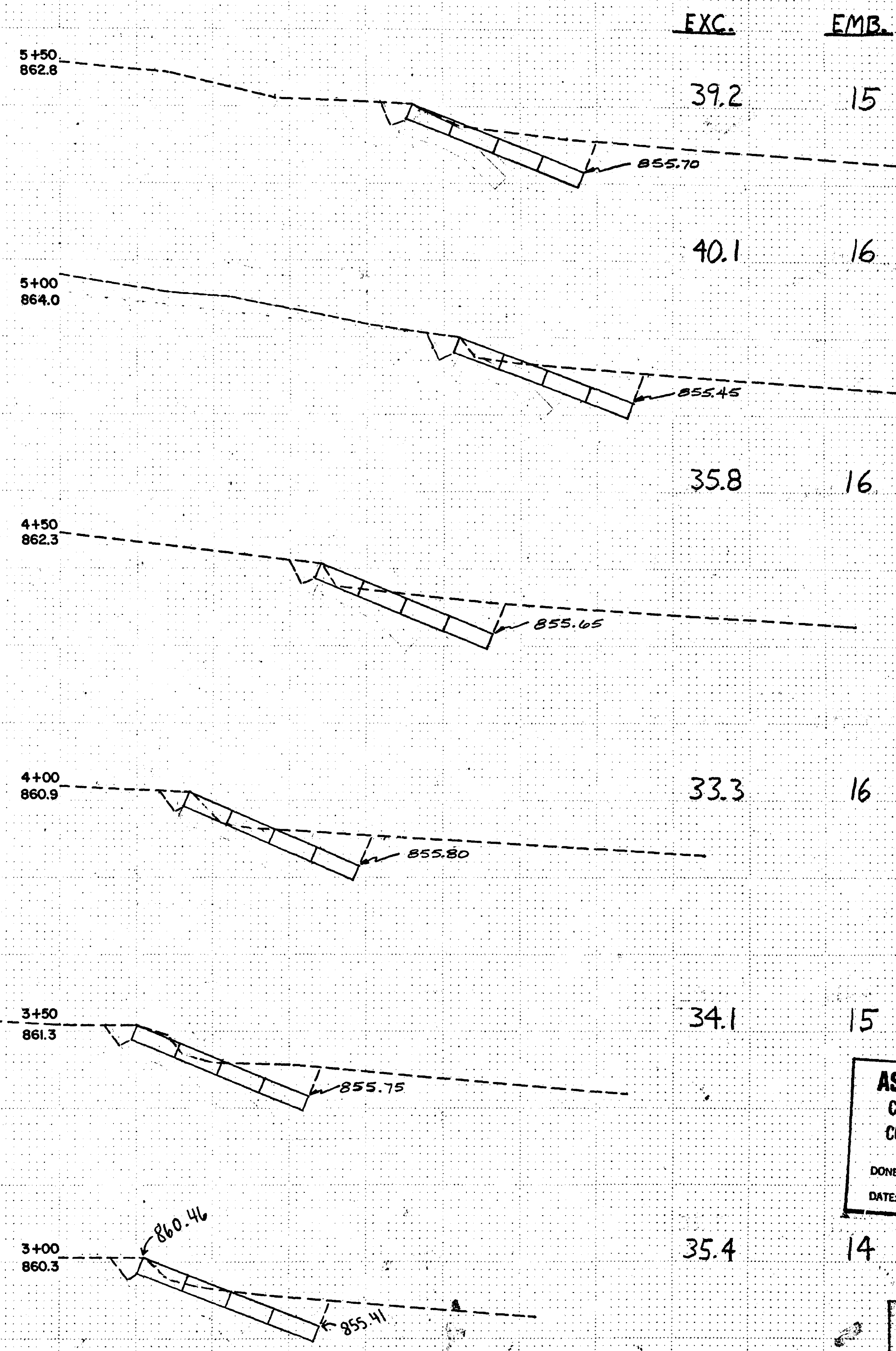
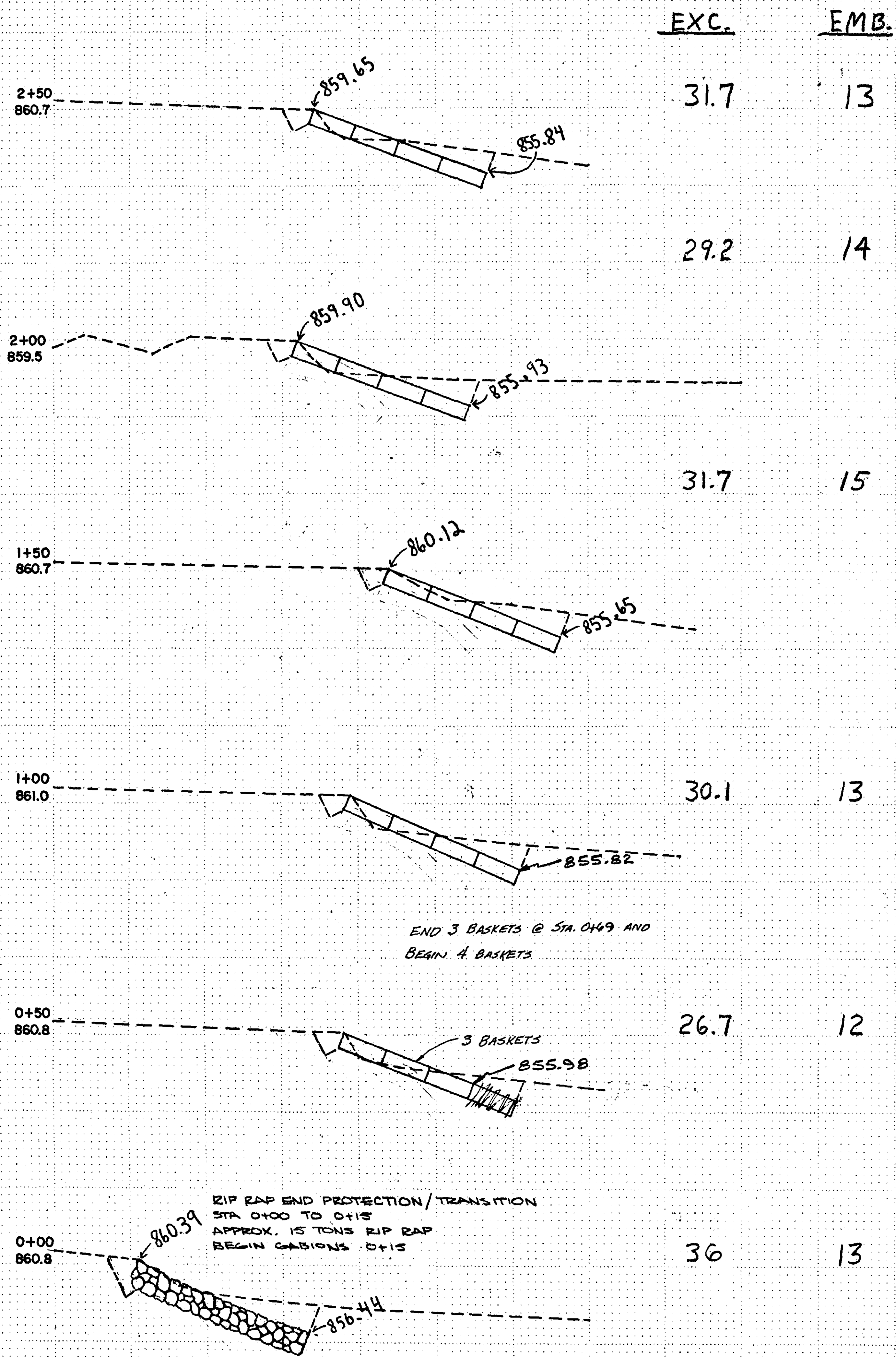
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ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *[Signature]*
 DATE: 7/20/04

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
[Signature]
 7/20/04 REG. NO. 16152

SCALE: VERT. & HOR. 1" = 5'

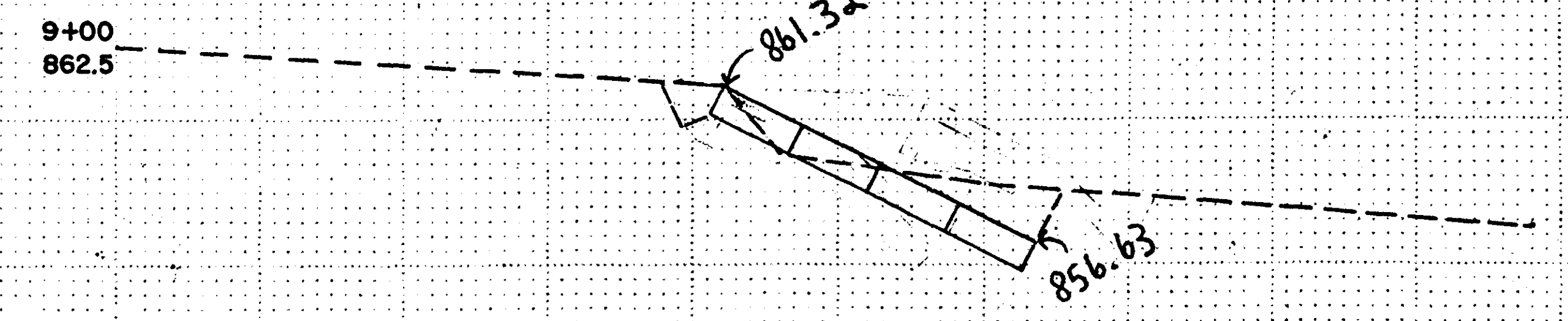
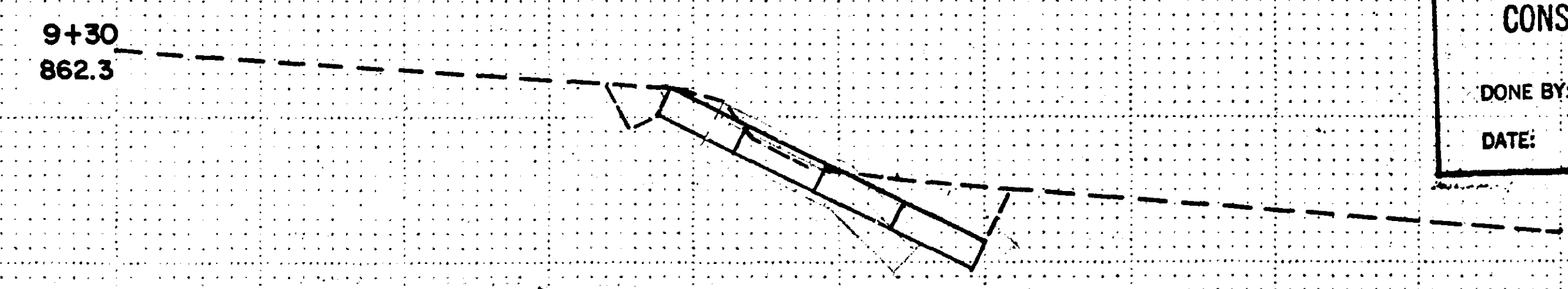
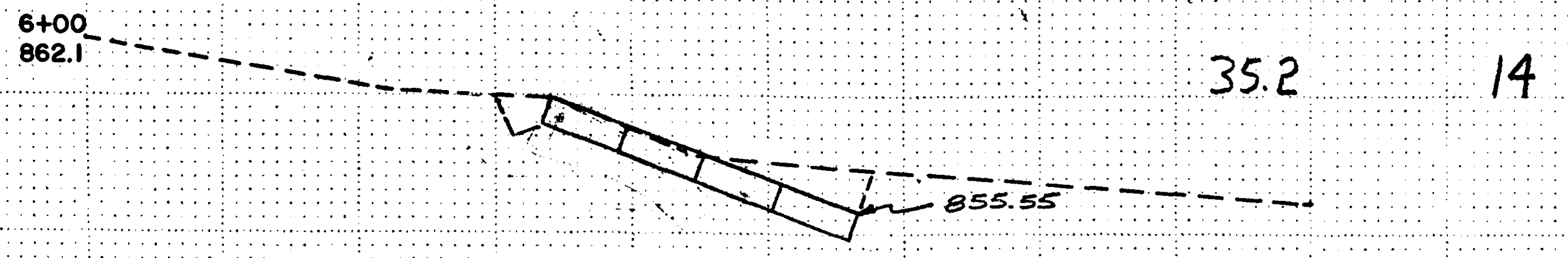
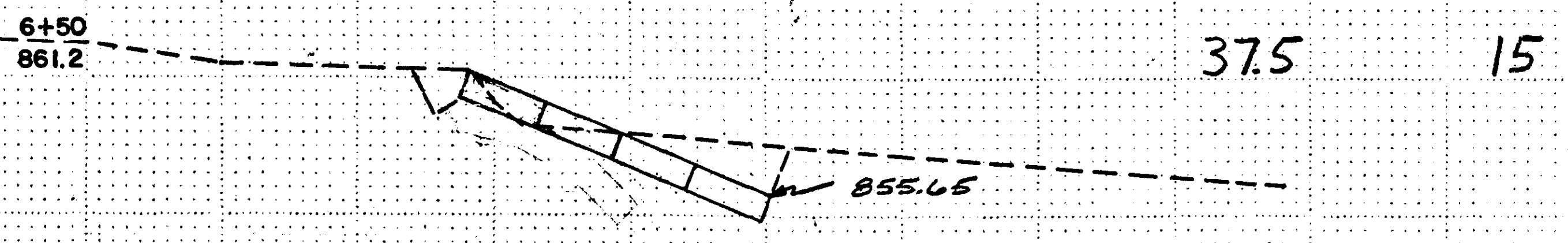
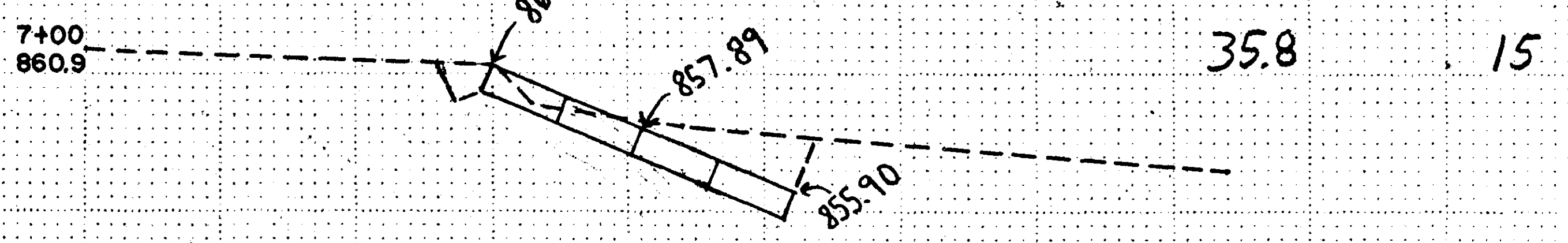
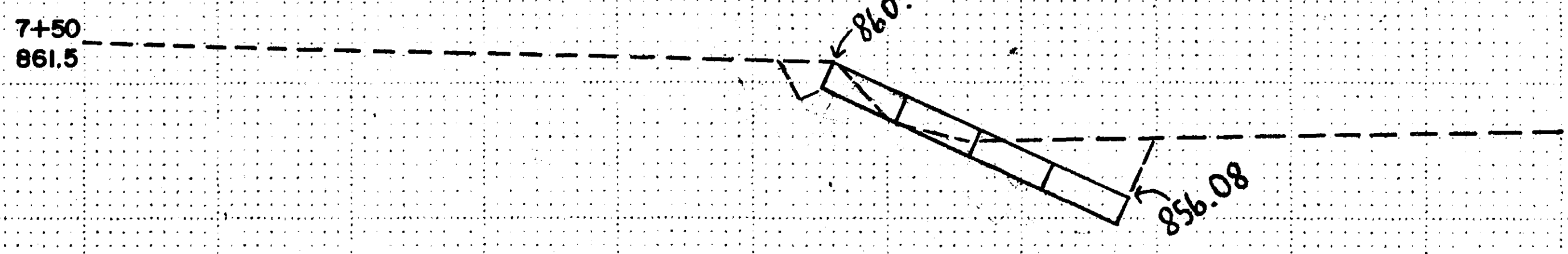
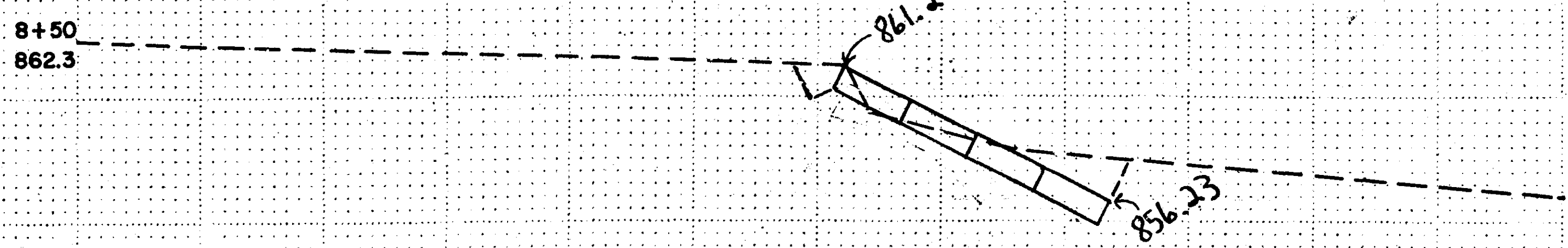


ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *[Signature]*
 DATE: 9/20/84

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
[Signature]
 DATE: 2/8/84 REG NO: 16159

EXC. EMB.

SCALE: VERT. & HOR. 1"=5'



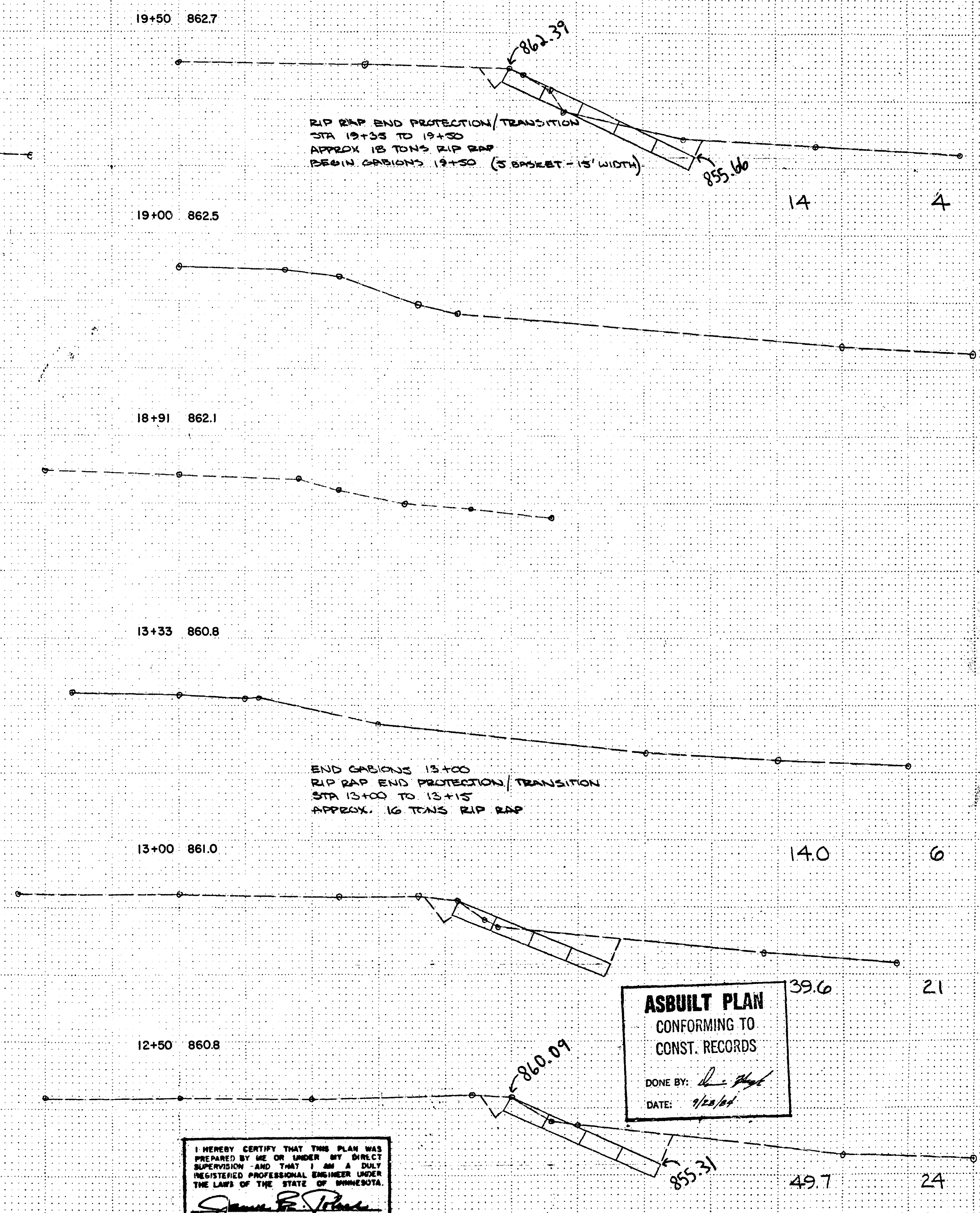
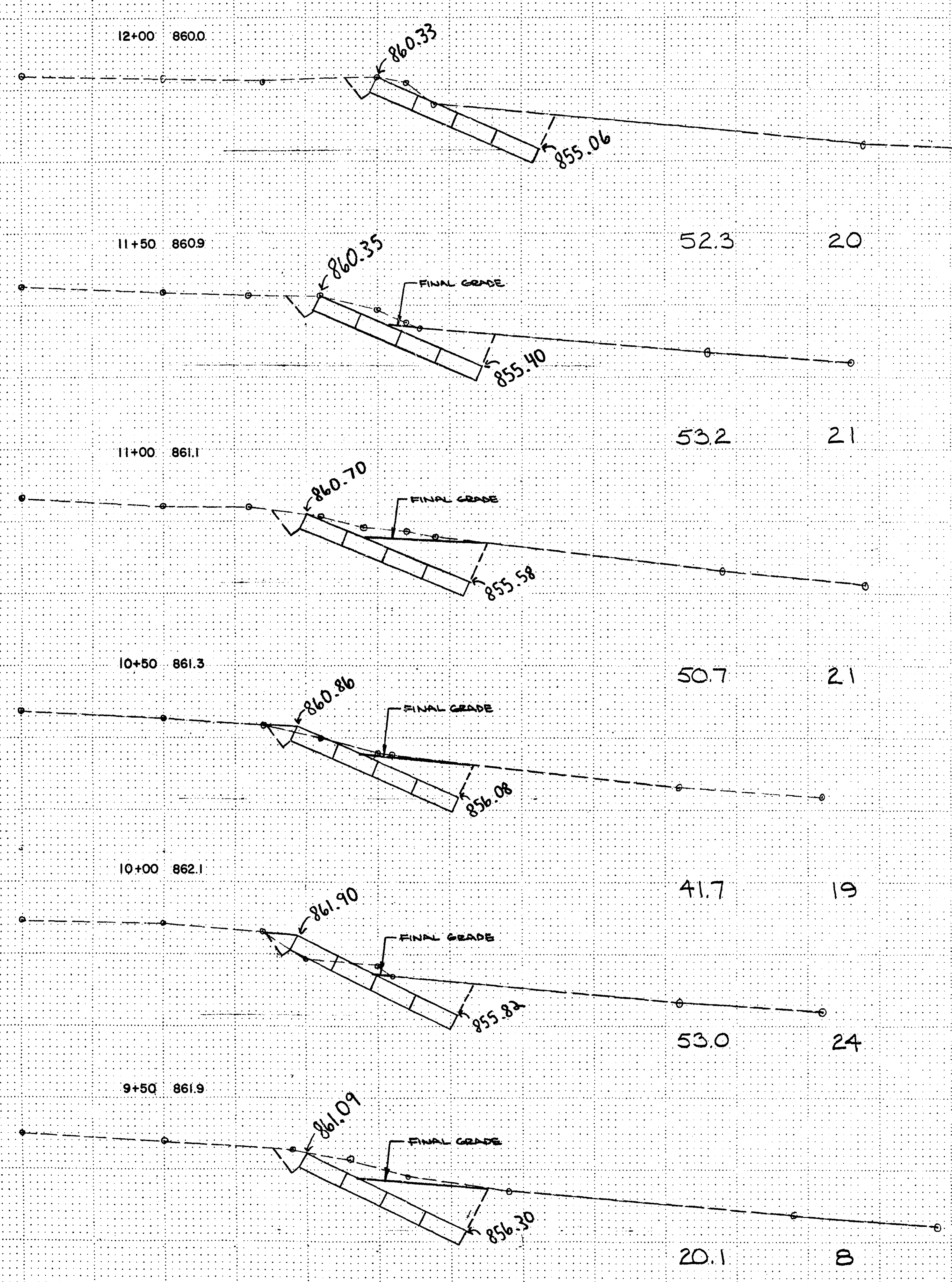
ASBUILT PLAN
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 DONE BY: *[Signature]*
 DATE: 9/20/04

I HEREBY CERTIFY THAT THIS PLAN WAS
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 REGISTERED PROFESSIONAL ENGINEER UNDER
 THE LAWS OF THE STATE OF MINNESOTA
[Signature]
 9/20/04, REG. NO. 16152

EXC EMB

SCALE: VERT. & HORIZ. 1"=5'

EXC EMB



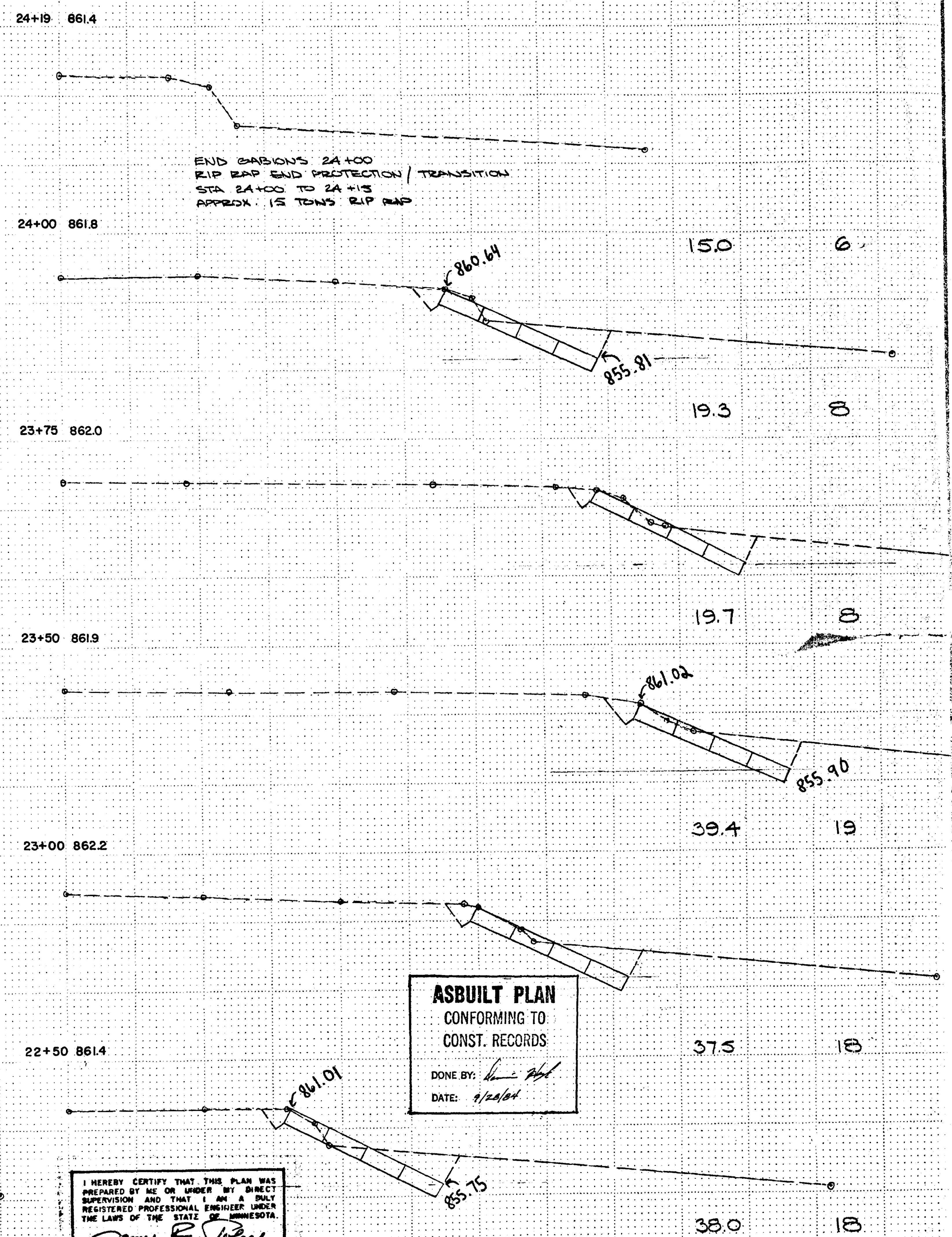
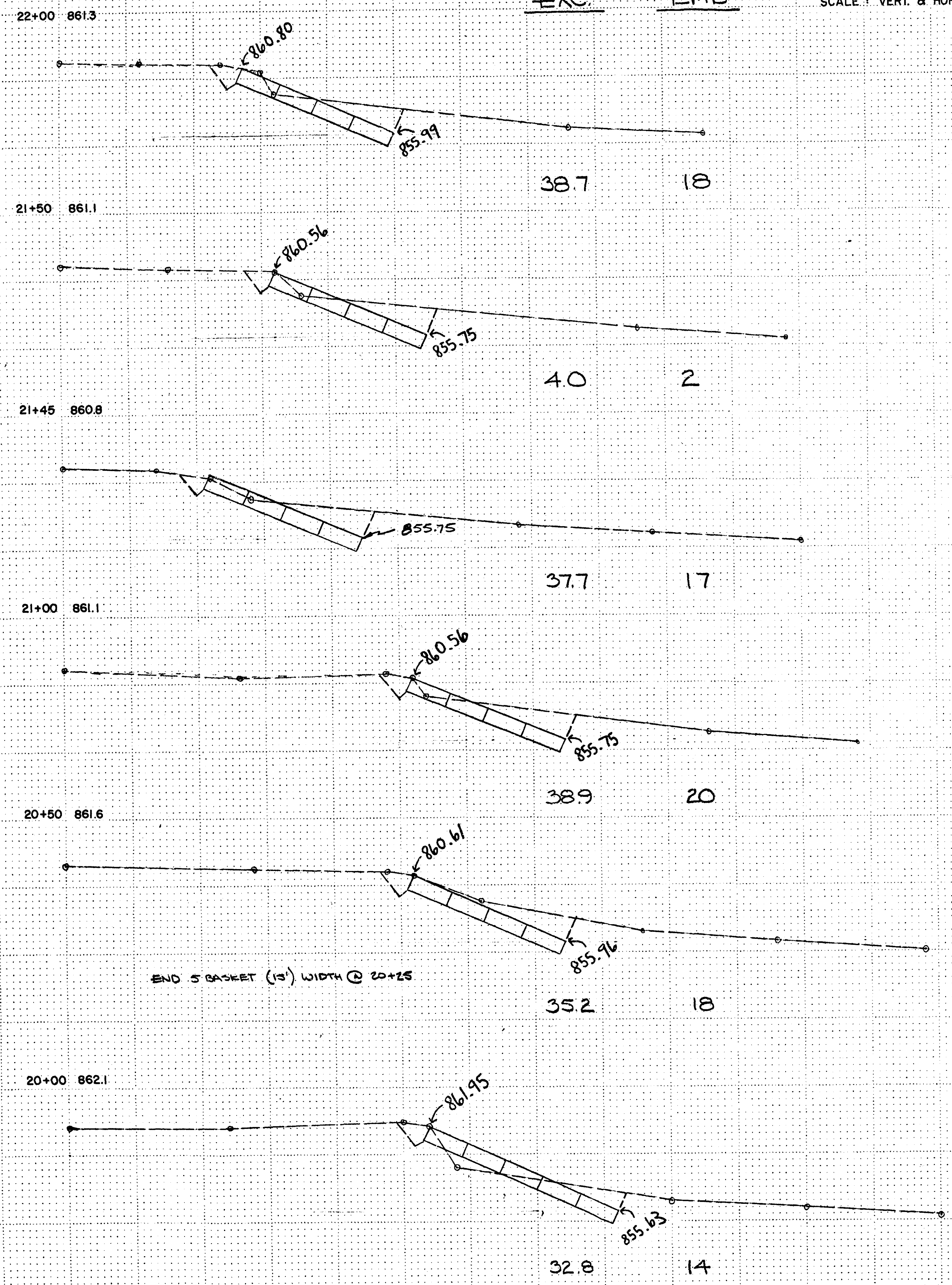
ASBUILT PLAN
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 DATE: 7/28/01

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
[Signature]
 DATE: 7/28/01 REG. NO. 16153

EXC. EMB

SCALE: VERT. & HORIZ. 1"=5'

EXC. EMB



ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *[Signature]*
 DATE: 7/24/84

I HEREBY CERTIFY THAT THIS PLAN WAS
 PREPARED BY ME OR UNDER MY DIRECT
 SUPERVISION AND THAT I AM A DULY
 REGISTERED PROFESSIONAL ENGINEER UNDER
 THE LAWS OF THE STATE OF MINNESOTA.
James E. [Signature]
 DATE 7/24/84 REG. NO. 16152