

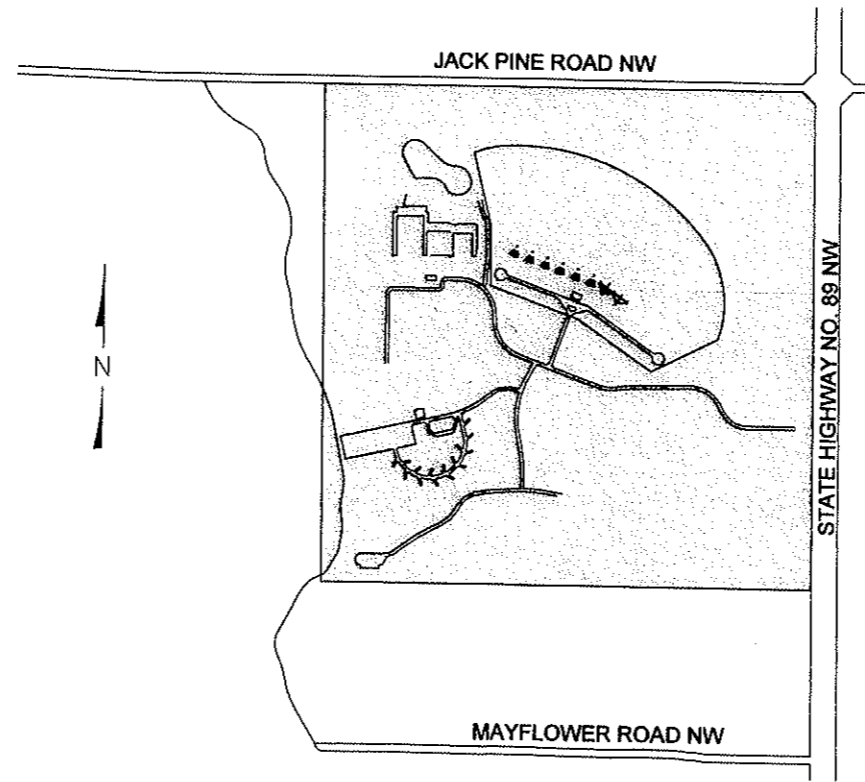
BELTRAMI COUNTY

SHOOTING SPORTS PARK

PHASE 1

INDEX OF SHEETS

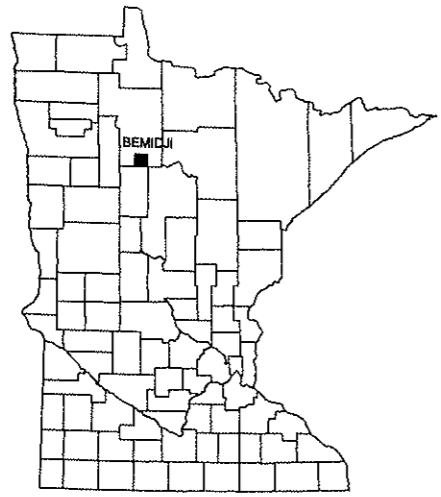
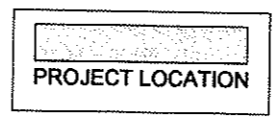
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATED QUANTITIES
3	CIVIL DRAWING SET MATCHLINE PLAN
4	SURVEY CONTROL SHEET
5	PHASE 1 AREA QUANTITIES SHEET
6	CIVIL LEGEND AND NOTES
7	EXISTING SITE CONDITION (OVERALL)
8	EXISTING SITE CONDITION (WESTERLY HALF)
9	EXISTING SITE CONDITION (EASTERLY HALF)
10	DEMOLITION & REMOVAL PLAN
11	TYPICAL SECTIONS SHEET
12	GRADING PLAN
13	GRADING PLAN
14	GRADING PLAN
15	GRADING PLAN
16	GRADING PLAN
17	PLAN & PROFILE
18	PLAN & PROFILE
19	PLAN & PROFILE
20	PLAN & PROFILE
21	CIVIL SITE DETAILS
22	FENCING DETAILS
23	FENCING DETAILS
24	GENERAL AREA FENCE PLAN
25	SHOTGUN AREA UTILITY PLAN
26	RIFLE/PISTOL AREA UTILITY PLAN
27	GENERAL AREA LANDSCAPE PLAN
28	EROSION CONTROL SHEET
C1	KEY PLAN, GEN. NOTES & DWG. SCHEDULE
C2	GENERAL SITE RANGE SAFETY PLAN, BASE LINE LAYOUT & PROJECTILE CONTAINMENT DIAGRAM
C3	300 YD. HIGH POWER RIFLE RANGE PLAN, PROFILE & DETAILS
C4	200 YD. HIGH POWER RIFLE RANGE PLAN, PROFILE & DETAILS
C5	100 YD. SMALL BORE RIFLE RANGE PLAN, PROFILE & DETAILS
C6	50 YD. PISTOL & LAW ENFORCEMENT RANGE PLANS & PROFILES
C7	SHOTGUN RANGE FIRING LINE PLAN & TRAP RANGE DETAILS
C8	SKEET RANGE FIRING LINE PLAN & SINGLE UNIT PLAN & DETAILS
C9	SKEET/TRAP COMBO RANGE FIRING LINE PLAN & SKEET HSE. ELEVNS.
C10	SKEET HOUSE & RIFLE RANGE FIRING LINE STRUCTURE DETAILS
C11	PISTOL RANGE COVER STRUCTURE & BULLET CATCHER DETAILS
C12	50 YD. PISTOL RANGE SECTION-ELEVATIONS & DETAILS
C13	RIFLE RANGE CROSS SECTION-ELEVATION VIEWS FROM THE FIRING LINE
C14	RIFLE RANGE PIT RETAINING WALL & MISC. DETAILS
C15	MISCELLANEOUS SHOOTING RANGE DETAILS
C16	600 YARD EXPANSION TO THE 300 YARD RANGE, PLAN, PROFILE & DETAILS



3.6 MI. N. OF U.S. #2 ON MN. HWY. #89

VICINITY MAP

NO SCALE



LOCATION MAP

NO SCALE

NO.	REVISIONS	BY	APR.	DATE	DESIGNED	CHECKED	I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.		Lic. No. 44824			BELTRAMI COUNTY SHOOTING SPORTS PARK PHASE 1	SHEET
					DRAWN	APPROVED							Printed Name: Michael J. Karvako
													OF
													28

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GENERAL AREA ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
1	MOBILIZATION	LUMP SUM	1
2	CLEARING	ACRE	11.4
3	GRUBBING	ACRE	11.4
4	OBLITERATE TRAIL	LIN FT	606
5	UNCLASSIFIED EXCAVATION	CU YD	10,831
6	DOZER	HOUR	10
7	AGGREGATE BASE CLASS 5	TON	3,228
8	12" CS PIPE CULVERT (16 GA)	LIN FT	136
9	12" GS PIPE APRON	EACH	8
10	SILT FENCE, TYPE PREASSEMBLED MAINTAINED	LIN FT	250
11	TURF ESTABLISHMENT	ACRE	9.3

SHOTGUN AREA ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
1	MOBILIZATION	LUMP SUM	1
2	CLEARING	ACRE	52.5
3	GRUBBING	ACRE	52.5
4	OBLITERATE TRAIL	LIN FT	515
5	UNCLASSIFIED EXCAVATION	CU YD	57,067
6	DOZER	HOUR	10
7	AGGREGATE BASE CLASS 5	TON	2,130
(1) 8	TREE PLANTING	ACRE	1.35
9	4" CONCRETE SIDEWALK	SF	4,548
10	TURF ESTABLISHMENT	ACRE	51.1
11	FENCING (CHAINLINK)	LIN FT	6250
12	SLIDING GATE	EACH	1
13	BOLLARDS	EACH	73

RIFLE AREA ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
1	MOBILIZATION	LUMP SUM	1
2	CLEARING	ACRE	11.4
3	GRUBBING	ACRE	11.4
4	OBLITERATE TRAIL	LIN FT	790
5	UNCLASSIFIED EXCAVATION	CU YD	4,614
6	DOZER	HOUR	10
7	AGGREGATE BASE CLASS 5	TON	993
(1) 8	TREE PLANTING	ACRE	.06
9	15" RC PIPE CULVERT	LIN FT	201
10	15" RC PIPE APRON	EACH	6
11	RANDOM RIPRAP CLASS III	CU YD	8.8
12	FILTER LOG, TYPE STRAW BIOROLL	LIN FT	5,150
13	TURF ESTABLISHMENT	ACRE	10.8
14	FENCING (CHAINLINK)	LIN FT	2,395
15	SLIDING GATE	EACH	1
16	EROSION CONTROL BLANKET	SY	18,159
17	FENCING (WOVEN WIRE)	LF	738
18	TURF ESTABLISHMENT W/ SPECIAL SEED	ACRE	3.8

(1) TREES TO BE RELOCATED FROM SELECTED AREAS ONSITE. TO BE LOCATED AT 20 FT SPACING.

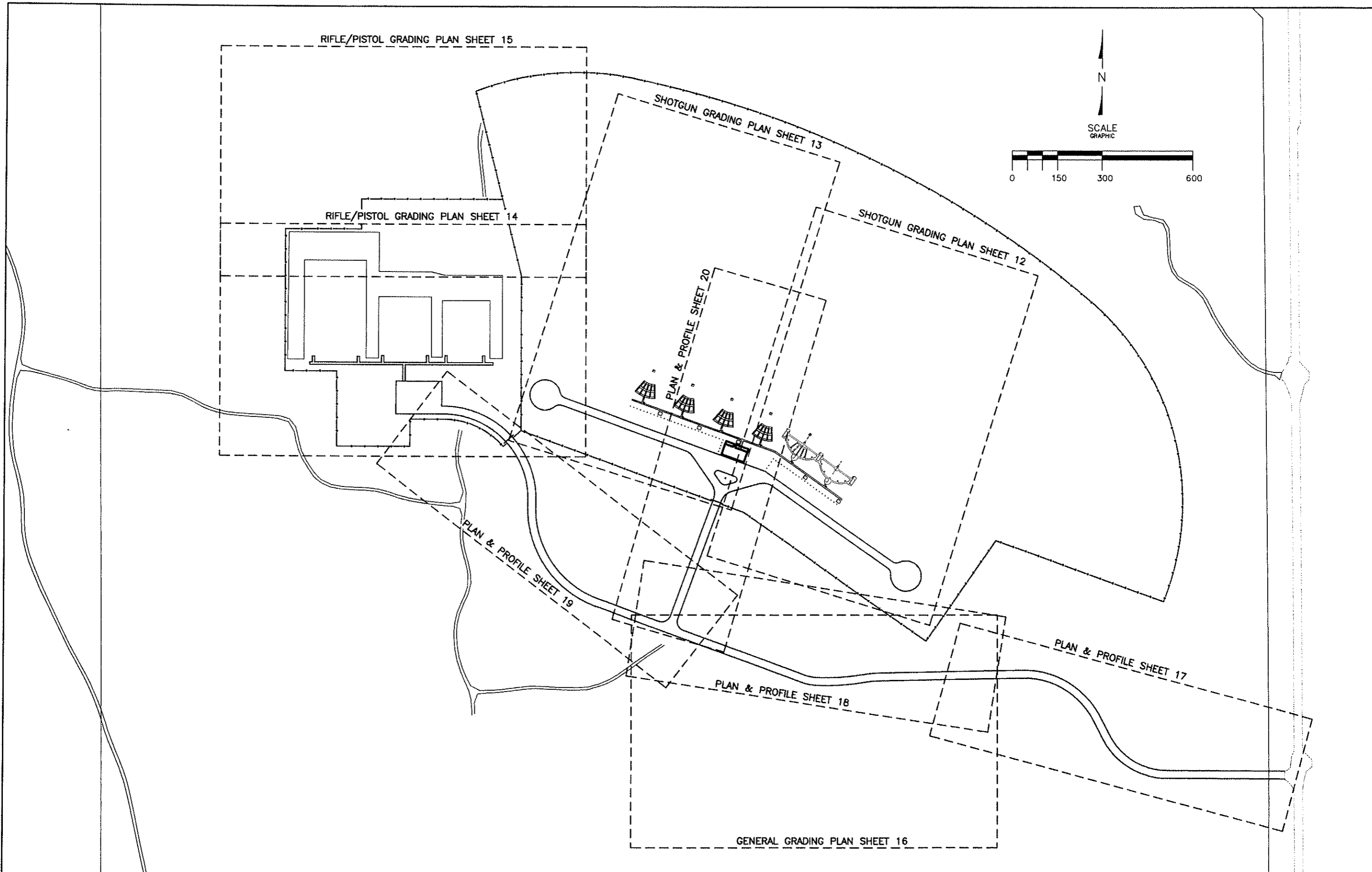
BASIS OF ESTIMATED QUANTITIES

AGGREGATE BASE.....140 LBS. PER CUBIC FOOT

THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY AND ONLY COVERS ITEMS INDICATED ON SHEETS 1 THRU 28.

DESIGNED MJK		CHECKED MJK		I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Certified By: <u>[Signature]</u> Lic. No. <u>44824</u> Printed Name: <u>Michael J. Karvako</u> Date <u>12/14/09</u>	 144 PAUL BUNYAN DRIVE NW - P.O. BOX 785 - BEMIDJI MN 56619 PHONE: (218) 444-8004 FAX: (218) 444-8562	 BELTRAMI COUNTY SHOOTING SPORTS PARK PHASE 1 ESTIMATED QUANTITIES	SHEET 2
DRAWN SWH		APPROVED MJK					OF 28
NO.	REVISIONS	BY	APR. DATE				

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DATE 12/14/09	JOB NO. 08-011

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 Printed Name: Michael J. Karvako Date 12/14/09

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BELTRAMI COUNTY SHOOTING SPORTS PARK PHASE 1
 CIVIL DRAWING SET MATCHLINE PLAN

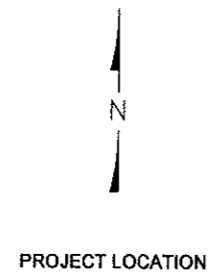
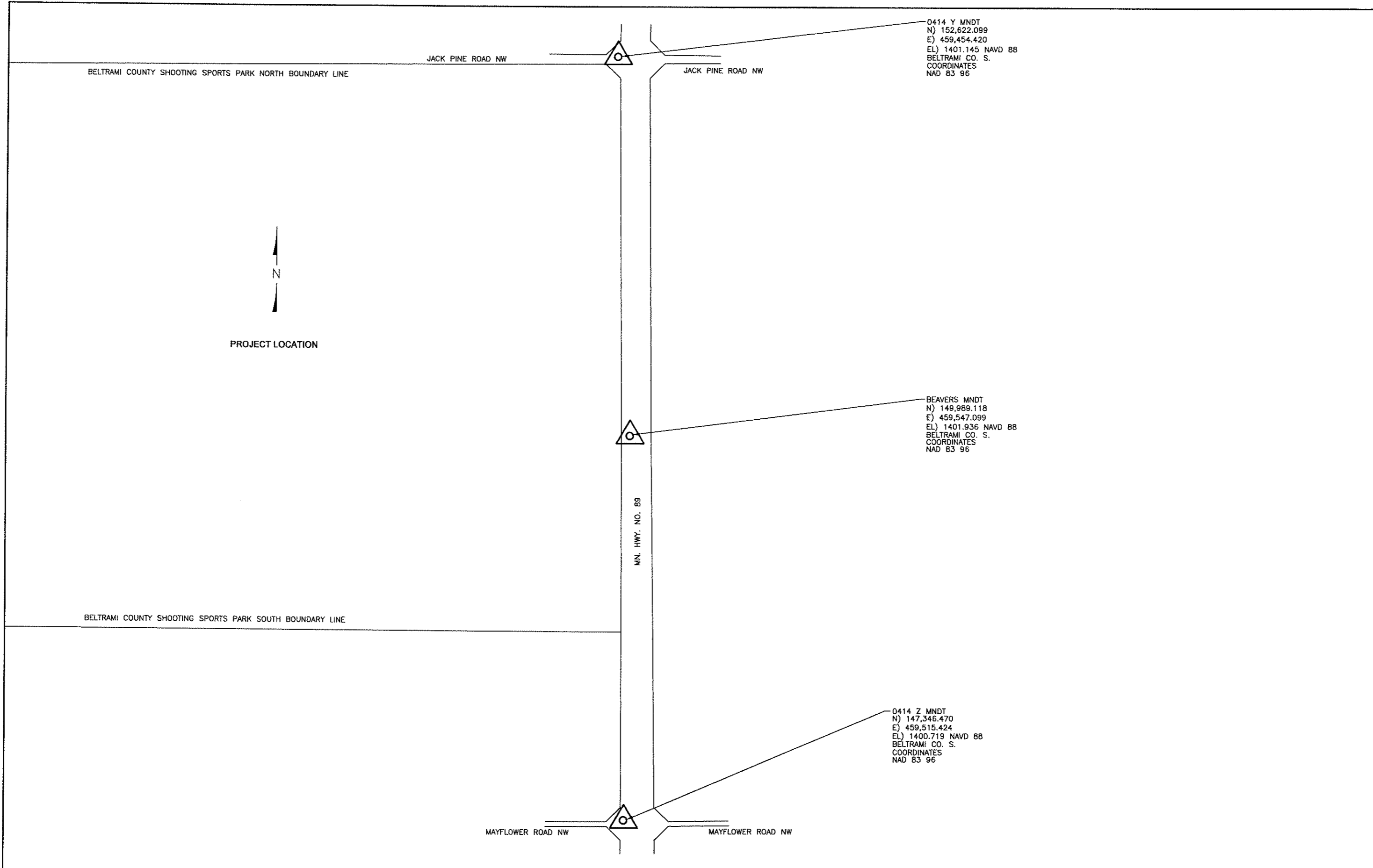
SHEET 3 OF 28

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 BELTRAMI CO. S.
 COORDINATES
 NAD 83 96

BEAVERS MNDT
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 COORDINATES
 NAD 83 96

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 BELTRAMI CO. S.
 COORDINATES
 NAD 83 96



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BELTRAMI COUNTY SHOOTING SPORTS PARK PHASE 1		SHEET 4
SURVEY CONTROL		OF 28

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RIFLE/PISTOL RANGES	
MASS SITE GRADING GRANULAR SOILS	
EXCAVATION (CY)	3,218
EMBANKMENT (CY)	52,828
NET EXCAVATION + / BORROW -	-49,610

RIFLE/PISTOL AREA	
MASS SITE GRADING GRANULAR SOILS	
EXCAVATION (CY)	1,396
EMBANKMENT (CY)	2,856
NET EXCAVATION + / BORROW -	-1,460
ROAD/PARKING IMPROVEMENTS	
AGGREGATE BASE COURSE (TON)	1,069

SHOTGUN AREA	
MASS SITE GRADING GRANULAR SOILS	
EXCAVATION (CY)	57,051
EMBANKMENT (CY)	13,331
NET EXCAVATION + / BORROW -	43,720
ROAD/PARKING IMPROVEMENTS	
AGGREGATE BASE COURSE (TON)	2,171

MAIN ENTRANCE ROAD	
MASS SITE GRADING GRANULAR SOILS	
EXCAVATION (CY)	3,089
EMBANKMENT (CY)	1,387
NET EXCAVATION + / BORROW -	1,702
ROAD IMPROVEMENTS	
AGGREGATE BASE COURSE (TON)	3,261

POND "A"	
MASS SITE GRADING GRANULAR SOILS	
EXCAVATION (CY)	6,943
EMBANKMENT (CY)	0
NET EXCAVATION + / BORROW -	6,943

SHOTGUN ROAD	
MASS SITE GRADING GRANULAR SOILS	
EXCAVATION (CY)	600
EMBANKMENT (CY)	0
NET EXCAVATION + / BORROW -	600
ROAD IMPROVEMENTS	
AGGREGATE BASE COURSE (TON)	482

NOTES:

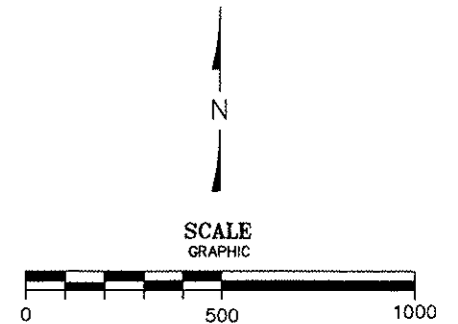
- SEE SHEET 2 FOR ESTIMATED QUANTITIES TABULATION.
- SEE PHASE 2 PLANS FOR PHASE 2 ESTIMATED QUANTITIES.
- ALL EARTHWORK VOLUMES ARE CALCULATED WITH A 1.2 FILL FACTOR APPLIED.
- EARTHWORK VOLUMES INCLUDE TOPSOIL VOLUMES AND DOES NOT INCLUDE ANY AGGREGATE VOLUMES.
- QUANTITY DATA SHOWN IS FOR INFORMATION ONLY. QUANTITIES SHOWN FOR THE CONTRACTOR TO LOCATE WHERE IMPORT/EXCAVATION IS REQUIRED.
- QUANTITIES SHOWN ON DRAWING ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT INTENDED TO BE INCLUSIVE OF ALL WORK AT ANY PARTICULAR LOCATION.
- INFORMATION ON EARTHWORK RELATED ITEMS IS SHOWN TO PROVIDE AN OVERVIEW OF WHERE EXCESS MATERIAL AND BORROW ARE REQUIRED THROUGHOUT THE SITE FOR PLANNING PURPOSES WITH PROPOSED CONSTRUCTION ACTIVITIES.
- CONCRETE QUANTITIES INCLUDE ANTICIPATED CONCRETE VOLUMES FOR FLATWORK ITEMS SUCH AS SIDEWALKS AND CONCRETE PADS.

RIFLE PISTOL AREA INCLUDES PARKING LOT QUANTITIES, ROAD QUANTITIES INSIDE OF GATE, AND SURROUNDING AREA.

SHOTGUN AREA INCLUDES ROADS/PARKING QUANTITIES INSIDE OF GATE AND SHOTGUN FIELD GRADING QUANTITIES.

SHOTGUN ROAD INCLUDES QUANTITIES FROM THE SHOTGUN GATE UP TO THE INTERSECTION OF THE MAIN ENTRANCE ROAD

POND "A" INCLUDES GRADING EARTHWORK QUANTITIES FROM POND BASIN AND DRAINAGE SWALES.



NO.	REVISIONS	BY	APR.	DATE

DESIGNED	CHECKED
MJK	MJK
DRAWN	APPROVED
JWM	MJK
DATE	JOB NO.
12/14/09	08-011

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Certified By: *Michael J. Karvacko* Lic. No. 44824
 Printed Name: Michael J. Karvacko Date: 12/14/09

KARVACKO Engineering
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 PHONE: (218) 444-8004 FAX: (218) 444-8562



BELTRAMI COUNTY SHOOTING SPORTS PARK PHASE 1
PHASE 1 AREA QUANTITIES SHEET

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GENERAL NOTES

- (1) THE STATE OF MINNESOTA, DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS FOR CONSTRUCTION", 2005 EDITION SHALL APPLY TO ALL WORK WITHIN THE LIMITS OF THIS PROJECT EXCEPT AS MODIFIED OR ALTERED IN THE ATTACHED SPECIFICATIONS.
- (2) THE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR INFORMATION ONLY, AND REPRESENT THE BEST KNOWLEDGE OF THE ENGINEER. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THE LOCATION OF THESE UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
- (3) THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SILT, SOIL AND OTHER SUSPENDED PARTICLES FROM BEING DISCHARGED TO THE BODIES OF WATER OR DRAINAGE STRUCTURES IN THE CONSTRUCTION VICINITY.
- (4) DEWATERING, IF REQUIRED, SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT, IT IS THE EXPRESSED RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE NEED FOR DEWATERING, AND VERIFY ALL EXISTING OR ANTICIPATED CONDITIONS.
- (5) ALL AREAS INDICATED AS "GRADE TO DRAIN" SHALL BE GRADED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER TO PROVIDE DRAINAGE. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- (6) ALL DISTURBED AREAS (INCLUDING BORROW AREAS), NOT OTHERWISE SURFACED, SHALL BE SEEDED AND MULCHED.
- (7) EXCESS EXCAVATION MATERIAL SHALL BE DISPOSED OF ONSITE AT A LOCATION CHOSEN BY OWNER/ENGINEER.
- (8) TOPSOIL WILL BE STRIPPED PRIOR TO EXCAVATION. THIS STRIPPED TOPSOIL SHALL BE SALVAGED AND STOCKPILED, TO BE SPREAD EVENLY, AFTER CONSTRUCTION, TO A MINIMUM DEPTH OF 4 INCHES ON ALL NON-SURFACED AREAS DISTURBED BY CONSTRUCTION. TOPSOIL SALVAGING AND REPLACEMENT SHALL BE PAID FOR AS UNCLASSIFIED EXCAVATION. REFER TO THE SPECIFICATIONS.
- (9) WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT SHALL MEAN THIS WORK WILL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.

STANDARD PLATES		THE FOLLOWING STANDARD PLATES APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.
PLATE NO.	DESCRIPTION	
3000 L	REINFORCED CONCRETE PIPE	
3040 F	CORRUGATED METAL PIPE CULVERT	
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE	
3123 J	METAL APRON FOR C.S. PIPE	
3124 B	METAL APRON CONNECTION	
3133 C	RIPRAP AT RCP OUTLETS	
3134 C	RIPRAP AT CMP OUTLETS	
3221 C	CORRUGATED STEEL PIPE COUPLING BAND	
8000 I	STANDARD BARRICADES	

UTILITY NOTES

1. THE INFORMATION ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS/HER OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT ALL UTILITIES, INCLUDING TELEPHONE, INTERNET, CABLE, ELECTRIC, GAS, WATER, SANITARY, STORM, ARE LOCATED PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. GOPHER STATE ONE CALL 1-800-252-1166, FOR ALL UTILITIES.

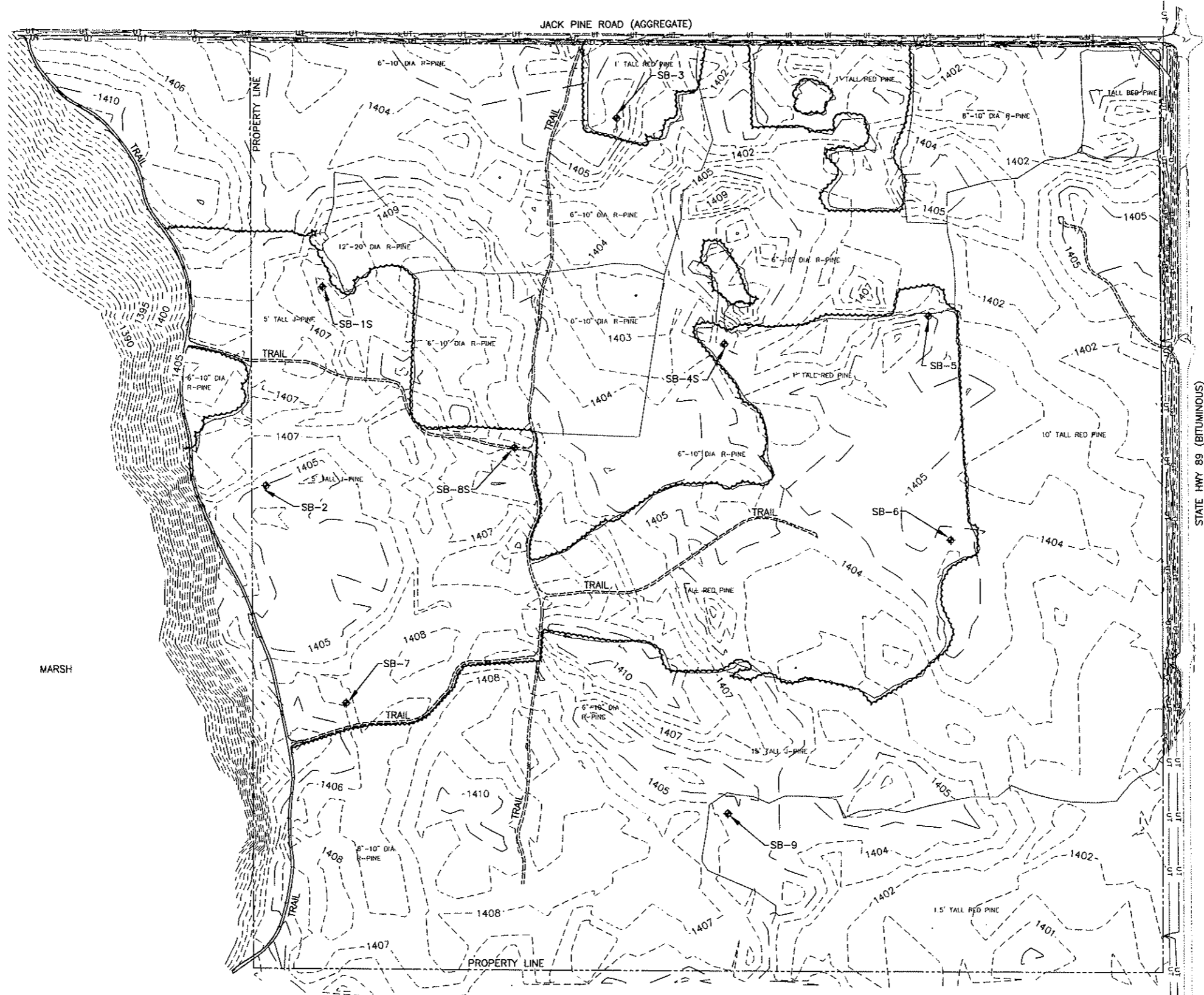
AREA UTILITIES

PAUL BUNYAN TELEPHONE	(218) 368-1973
QWEST	(218) 568-4744
MIDCONTINENT COMMUNICATIONS	(800) 581-0081
BELTRAMI ELECTRIC	(218) 444-2540

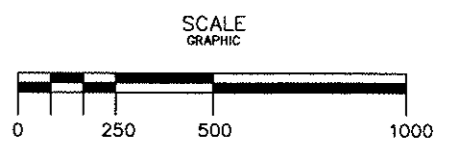
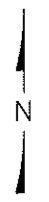
LEGEND

PROPOSED	EXISTING	DESCRIPTION
		PROPERTY LINES
		WATERMAIN, HYDRANT, GATE VALVE
		IRRIGATION PIPE
		WATER SERVICE WITH CURB STOP
		DRAIN TILE
		STORM DRAIN WITH MANHOLE, CATCH BASIN
		SANITARY SEWER WITH MANHOLE
		SANITARY SERVICE PIPE
		SANITARY SEWER FORCED MAIN
		UNDERGROUND TELEPHONE CONDUIT WITH MANHOLE
		UNDERGROUND FIBER OPTIC
		UNDERGROUND TELEPHONE CABLE WITH PED
		UNDERGROUND T.V. CABLE WITH PED
		UNDERGROUND ELECTRICAL WITH TRANSFORMER
		UNDERGROUND GAS LINE WITH METER
		OVERHEAD TELEPHONE CABLE
		OVERHEAD T.V. CABLE
		OVERHEAD ELECTRICAL CABLE
		CONCRETE SIDEWALK
		CURB & GUTTER
		FENCE
		BARBED WIRE
		CHAIN LINK
		STOCKADE
		TREE LINE
		TREES
		TREE REMOVAL
		UTILITY POLE/DUTY POLE
		LIGHT POLE
		SOIL BORING
		BENCH MARK/CONTROL POINT
		CUT OFF FOR QUANTITY COMPUTATIONS
		CULVERT WITH APRONS
		ELEVATION CONTOURS
		SPOT ELEVATION
		RETAINING WALL
		WATER LINE
		MARSH
PROPERTY CORNERS		
		IRON MONUMENT SET SET WITH CAP
		IRON MONUMENT FOUND FOUND WITH CAP
		NO MONUMENT FOUND
		BITUMINOUS/ST. ROAD
		GRAVEL/DIRT ROAD
		TREE REMOVAL AREA/ CLEARING & GRUBBING

S:\Project Drawings\08-011_GUN CLUB\DESIGN\DWGS\PHASE 1 DRAWINGS\7-9 EXISTING SITE CONDITIONS.dwg, 12/14/2009 8:49:28 AM, 1:1



LEGEND
 TREELINE
 SOIL BORING



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DATE 12/14/09	JOB NO. 08-011

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 Printed Name: Michael J. Karvako Date 12/14/09

KARVAKKO Engineering

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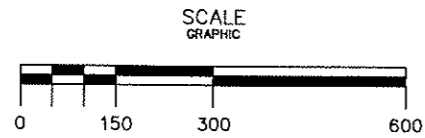
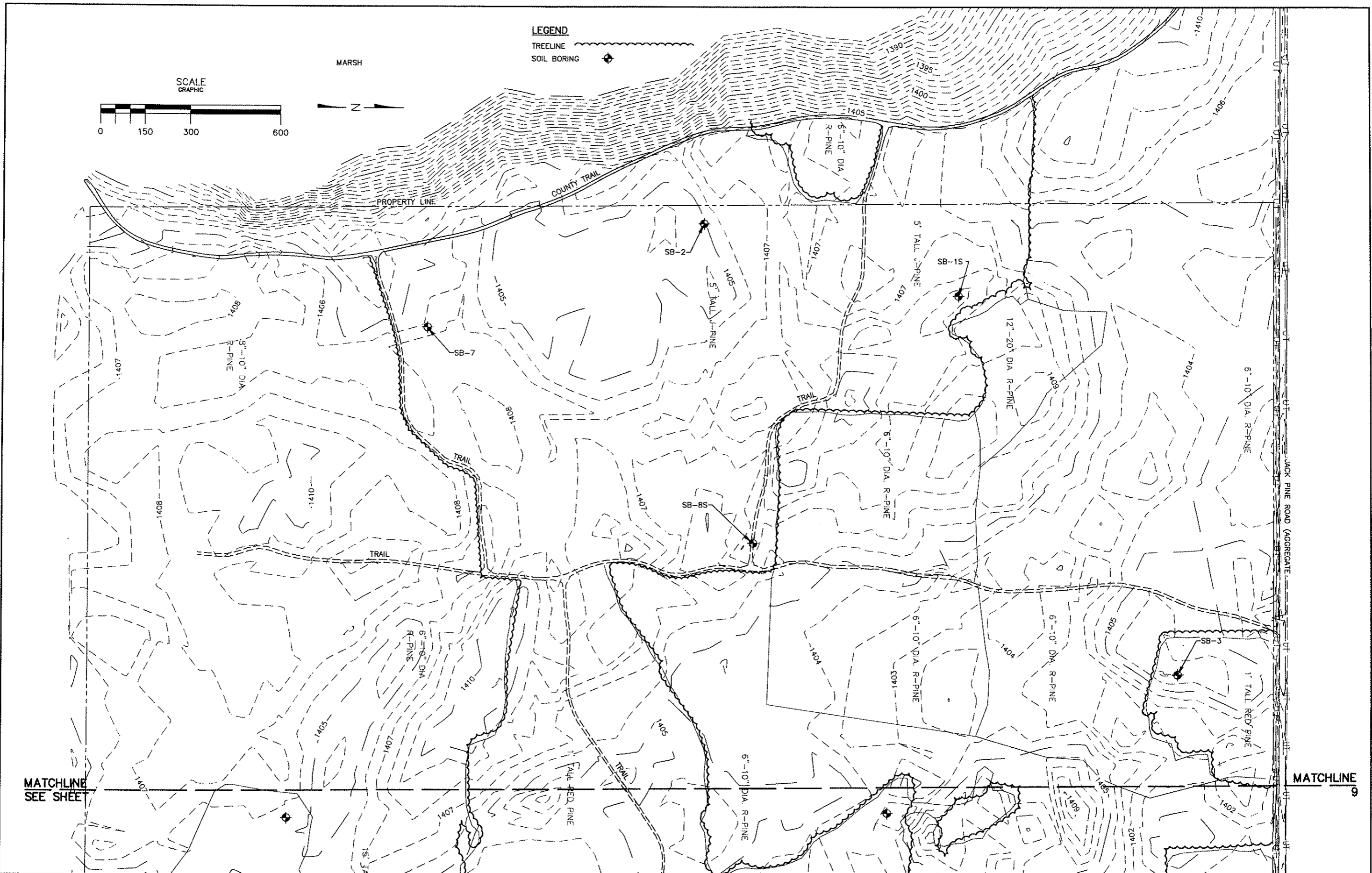


BELTRAMI COUNTY SHOOTING SPORTS PARK PHASE 1

EXISTING SITE CONDITIONS OVERALL

SHEET 7 OF 28

S:\Project Drawings\168-011 GUN CLUB\DESIGN\WEST\PHASE 1 DRAWINGS\7-9 EXISTING SITE CONDITIONS.dwg, 12/14/2009 8:51:29 AM, 1:1



LEGEND
 TREELINE
 SOIL BORING

MARSH

MATCHLINE
SEE SHEET

MATCHLINE
9

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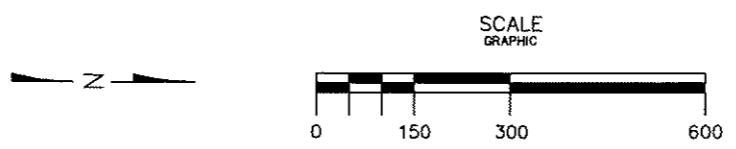
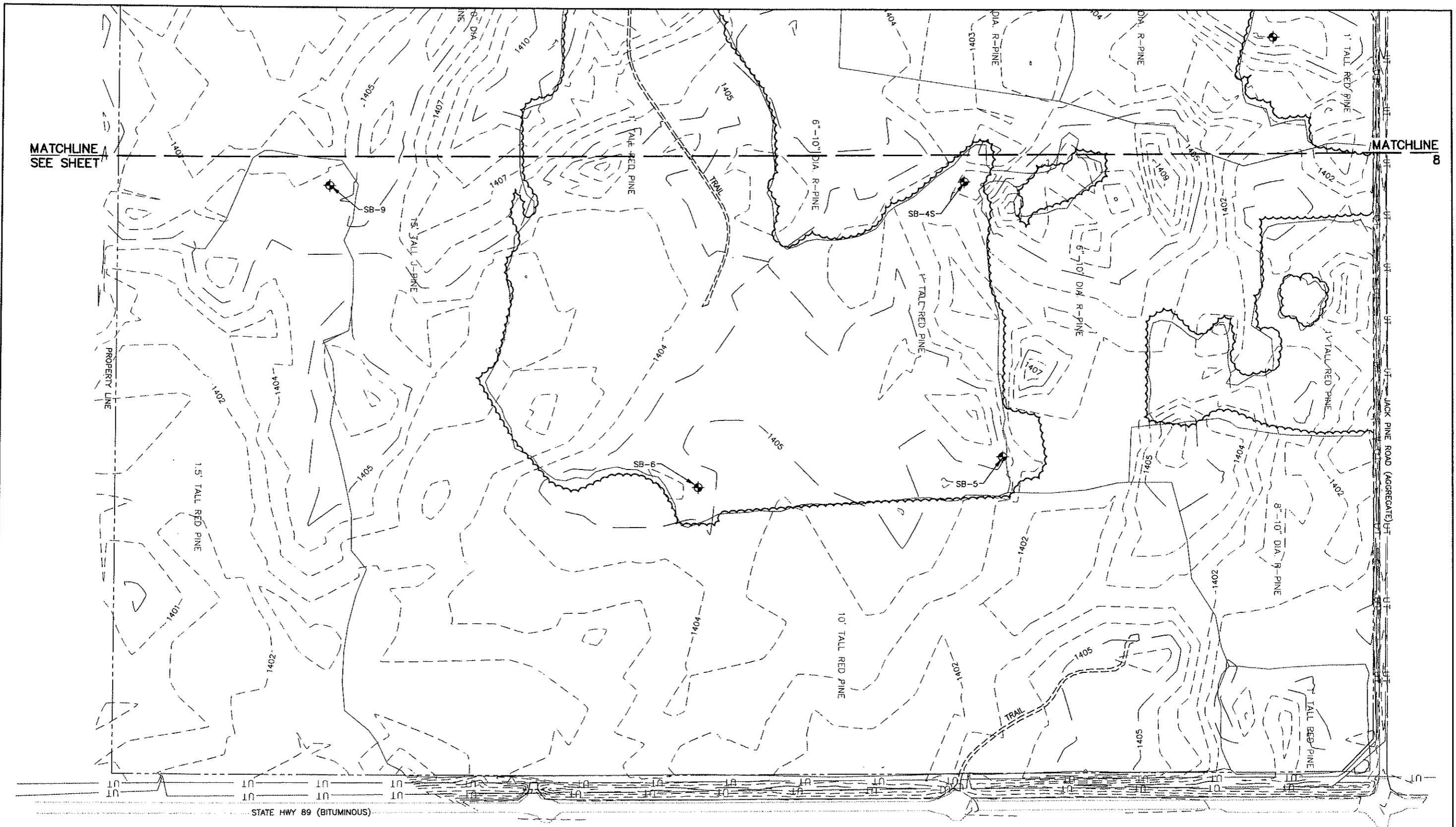
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BELTRAMI COUNTY SHOOTING
SPORTS PARK PHASE 1
EXISTING SITE CONDITIONS WEST

SHEET 8
OF 28

S:\Project Drawings\08-011 GUN CLUB\DESIGN\DWGS\PHASE 1 DRAWINGS\7-9 EXISTING SITE CONDITIONS.dwg, 12/14/2009 8:54:06 AM, 1:1



LEGEND
 TREELINE
 SOIL BORING

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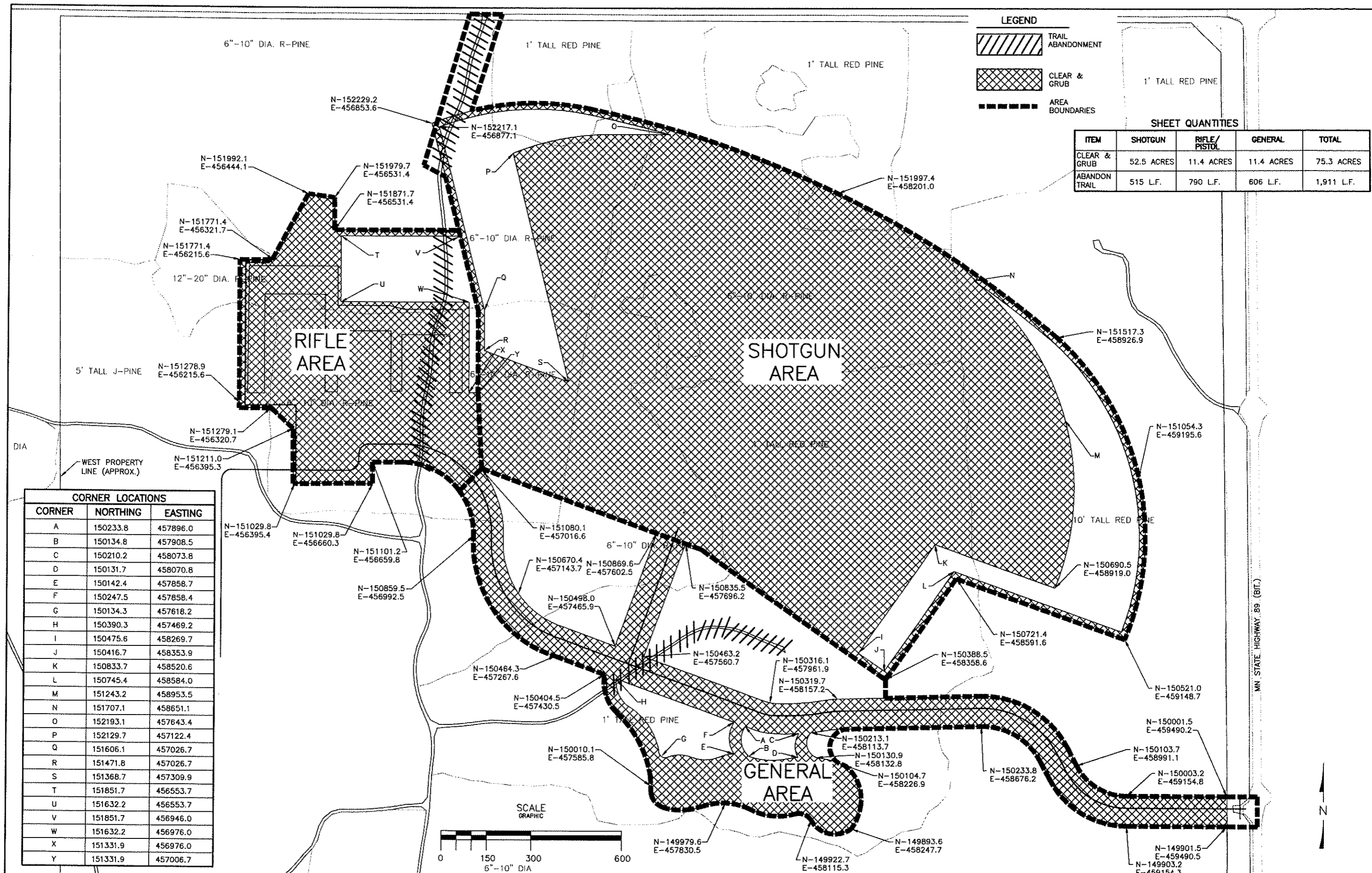
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BELTRAMI COUNTY SHOOTING SPORTS PARK PHASE 1
EXISTING SITE CONDITIONS EAST

SHEET **9**
 OF **28**

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LEGEND

- TRAIL ABANDONMENT
- CLEAR & GRUB
- AREA BOUNDARIES

SHEET QUANTITIES

ITEM	SHOTGUN	RIFLE/PISTOL	GENERAL	TOTAL
CLEAR & GRUB	52.5 ACRES	11.4 ACRES	11.4 ACRES	75.3 ACRES
ABANDON TRAIL	515 L.F.	790 L.F.	606 L.F.	1,911 L.F.

CORNER LOCATIONS

CORNER	NORTHING	EASTING
A	150233.8	457896.0
B	150134.8	457908.5
C	150210.2	458073.8
D	150131.7	458070.8
E	150142.4	457858.7
F	150247.5	457858.4
G	150134.3	457618.2
H	150390.3	457469.2
I	150475.6	458269.7
J	150416.7	458353.9
K	150833.7	458520.6
L	150745.4	458584.0
M	151243.2	458953.5
N	151707.1	458651.1
O	152193.1	457643.4
P	152129.7	457122.4
Q	151606.1	457026.7
R	151471.8	457026.7
S	151368.7	457309.9
T	151851.7	456553.7
U	151632.2	456553.7
V	151851.7	456946.0
W	151632.2	456976.0
X	151331.9	456976.0
Y	151331.9	457006.7

N-151029.8 E-456395.4	N-151029.8 E-456660.3	N-151101.2 E-456659.8	N-151080.1 E-457016.6
N-151278.9 E-456215.6	N-150859.5 E-456992.5	N-150670.4 E-457143.7	N-150869.6 E-457602.5
N-151279.1 E-456320.7	N-150498.0 E-457465.9	N-150463.2 E-457560.7	N-150835.5 E-457696.2
N-151211.0 E-456395.3	N-150464.3 E-457267.6	N-150316.1 E-457961.9	N-150721.4 E-458591.6
N-151992.1 E-456444.1	N-150404.5 E-457430.5	N-150319.7 E-458157.2	N-150388.5 E-458358.6
N-151979.7 E-456531.4	N-150010.1 E-457585.8	N-150213.1 E-458113.7	N-150521.0 E-459148.7
N-151871.7 E-456531.4	N-149979.6 E-457830.5	N-150130.9 E-458132.8	N-150001.5 E-459490.2
N-151771.4 E-456321.7	N-149922.7 E-458115.3	N-150104.7 E-458226.9	N-150103.7 E-458991.1
N-151771.4 E-456215.6	N-149901.5 E-459490.5	N-150233.8 E-458676.2	N-150003.2 E-459154.8
N-152229.2 E-456853.6	N-149903.2 E-459154.3	N-149979.6 E-457830.5	
N-152217.1 E-456877.1			

NO.	REVISIONS	BY	APR.	DATE

DESIGNED MJK	CHECKED MJK
DRAWN JWM	APPROVED MJK
DATE 12/14/09	JOB NO. 08-011

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Certified By: Lic. No. 44824
 Printed Name: Michael J. Karvako Date: 12/14/09

KARVAKKO Engineering

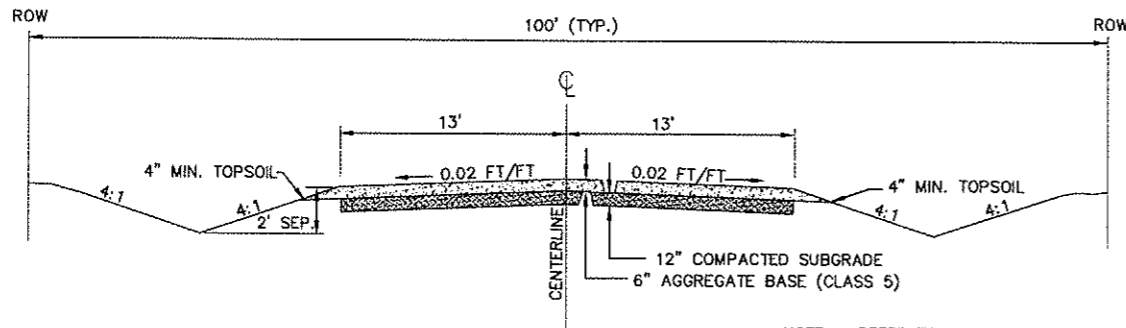
144 PAUL BUNYAN DRIVE NW - P.O. BOX 785 - BEMIDJI MN 56619
 PHONE: (218) 444-5004 FAX: (218) 444-8562



BELTRAMI COUNTY SHOOTING SPORTS PARK PHASE 1

DEMOLITION & REMOVALS

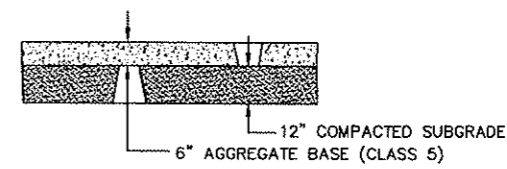
SHEET 10 OF 28



NOTE: REFER TO PLAN & PROFILE SHEETS FOR SPECIAL DITCH GRADES AND ELEVATIONS. CONTRACTOR SHALL STILL MAINTAIN A 4:1 INSLOPE AND BACKSLOPE.

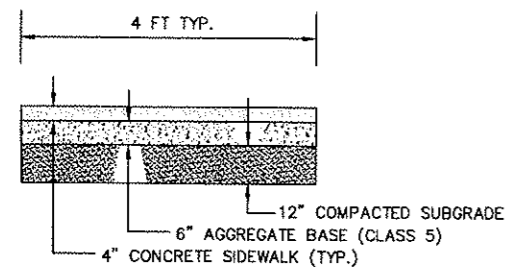
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11 ACCESS ROADS TYPICAL SECTION

NO SCALE



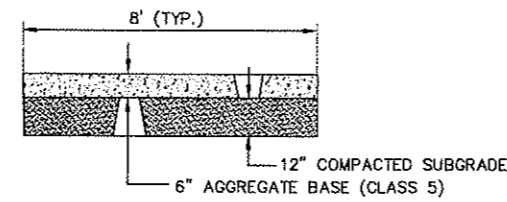
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11 PARKING LOT TYPICAL SECTION

NO SCALE



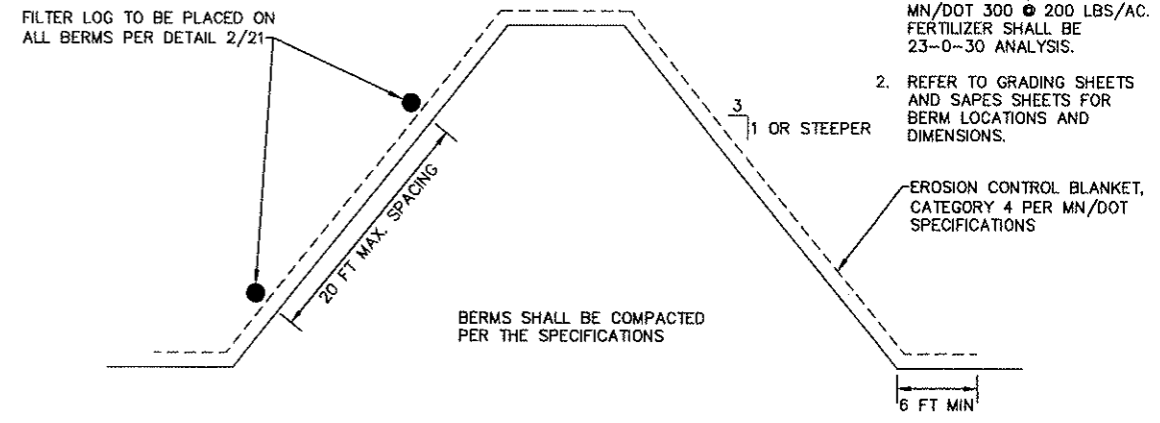
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11 CONCRETE SIDEWALK TYPICAL SECTION

NO SCALE



4
11 AGGREGATE PATH TYPICAL SECTION

NO SCALE



5
11 BERM TYPICAL SECTION

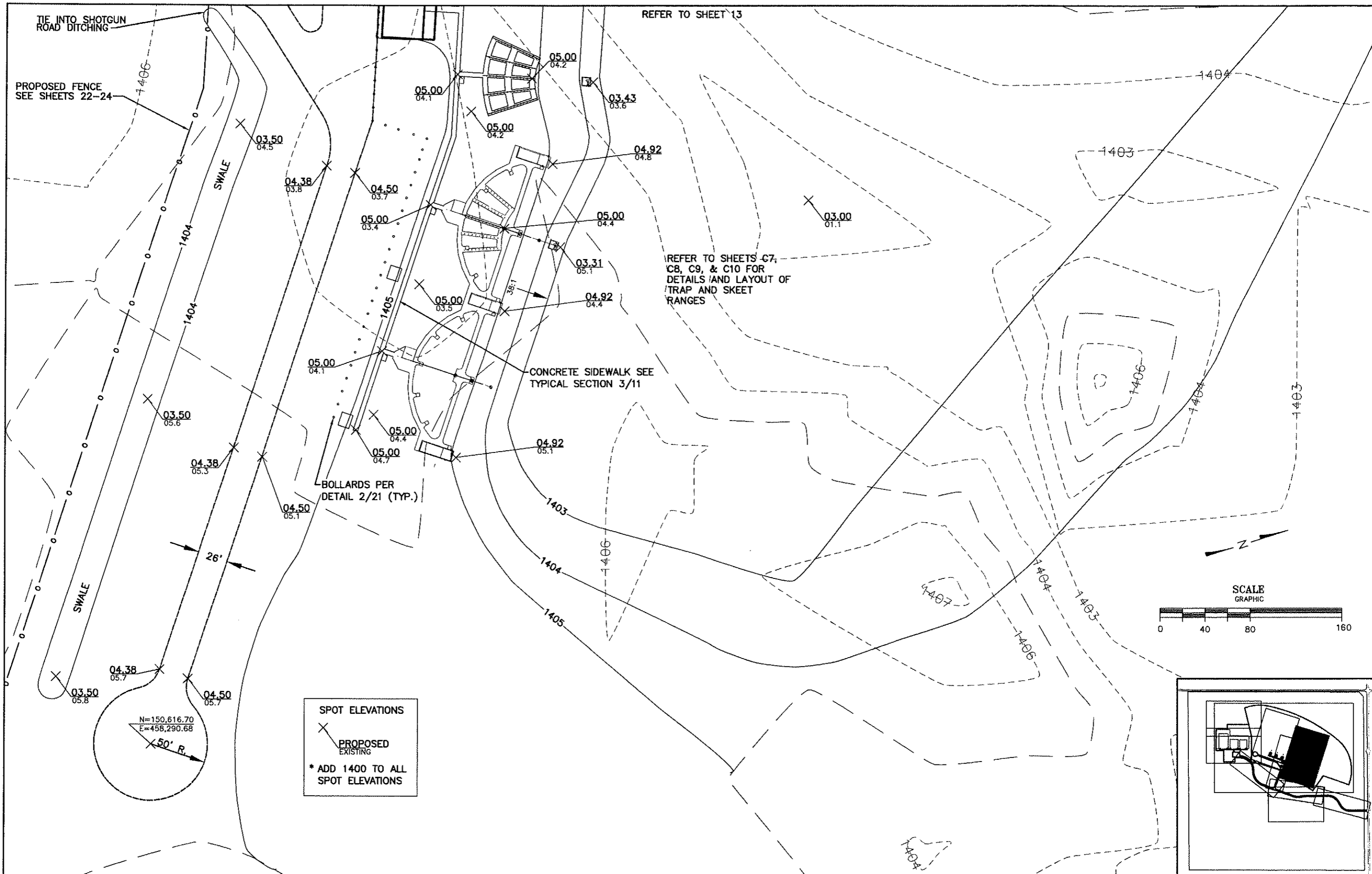
NO SCALE

- NOTES:
- BERMS SHALL BE SEEDED WITH A SPECIAL SEED MIXTURE. MIXTURE SHALL BE A COMBINATION OF MN/DOT 150 @ 75 LBS/AC AND MN/DOT 300 @ 200 LBS/AC. FERTILIZER SHALL BE 23-0-30 ANALYSIS.
 - REFER TO GRADING SHEETS AND SITES SHEETS FOR BERM LOCATIONS AND DIMENSIONS.

S:\Project Drawings\08-011_GUN CLUB\DESIGN\DWGS\PHASE 1 DRAWINGS\011-TYPICAL SECTIONS.dwg, 12/17/2009 1:45:47 PM, 1:1

				DESIGNED MJK	CHECKED MJK	I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Certified By:  Lic. No. 44624 Printed Name: <u>Michael J. Karvako</u> Date <u>12/14/09</u>	 144 PAUL BUNYAN DRIVE NW - P.O. BOX 785 - BEMIDJI MN 56619 PHONE: (218) 444-8004 FAX: (218) 444-8562	 BELTRAMI COUNTY DEPARTMENT	BELTRAMI COUNTY SHOOTING SPORTS PARK PHASE 1		SHEET		
				DRAWN BWH	APPROVED MJK								11
				DATE 12/14/09	JOB NO. 08-011								OF
NO. REVISIONS BY APR. DATE								TYPICAL SECTIONS		28			

S:\Project Drawings\109-011 GUN CLUB\DESIGN\DWG\PHASE 1 DRAWINGS\12-16 GRADING.dwg, 12/14/2009 10:24:56 AM, 1:1



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KARVAKKO Engineering

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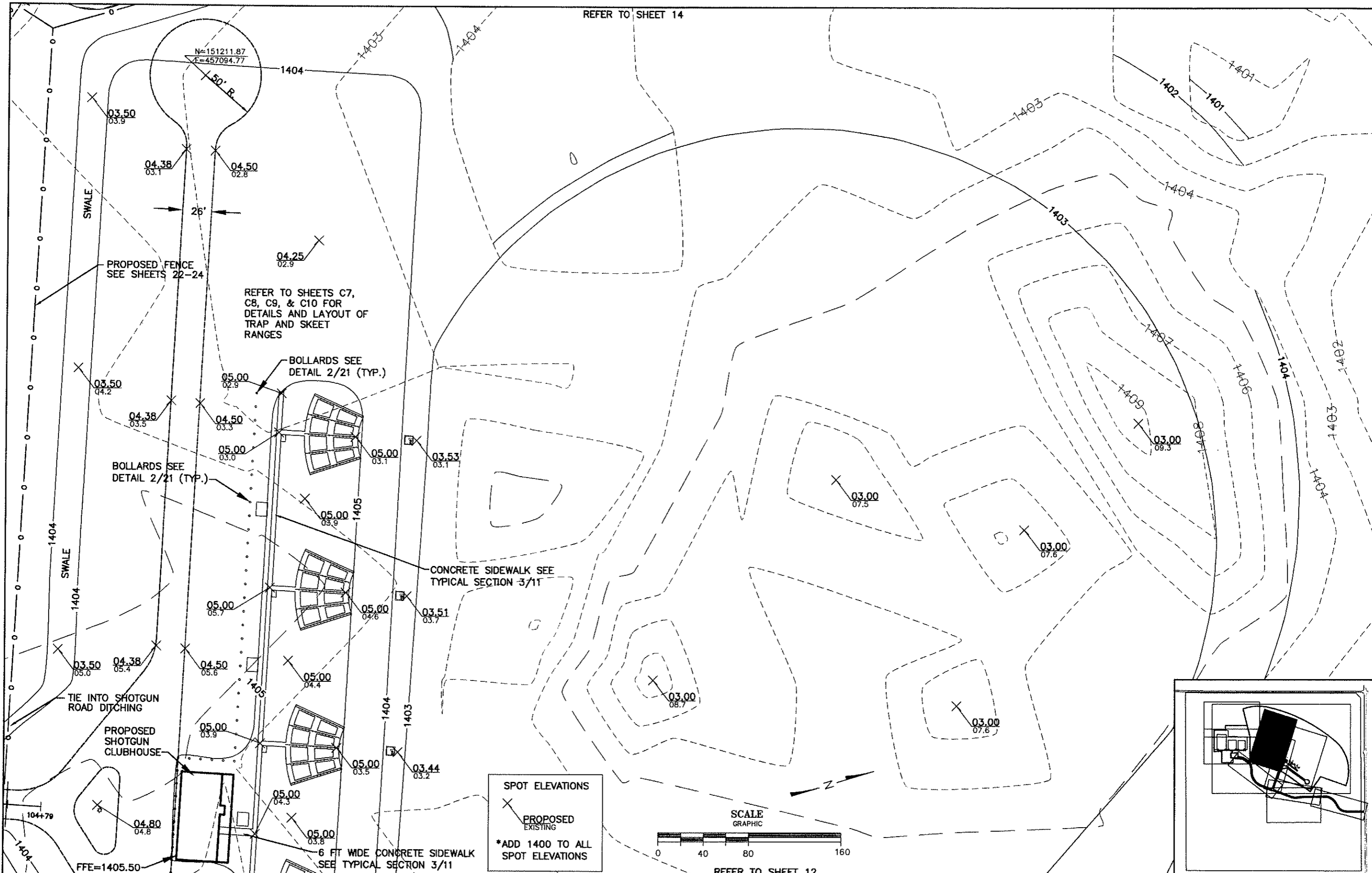


BELTRAMI COUNTY SHOOTING SPORTS PARK PHASE 1

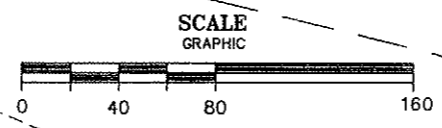
SHOTGUN AREA GRADING PLAN

SHEET 12 OF 28

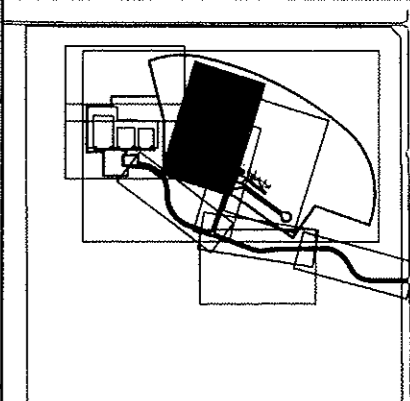
REFER TO SHEET 14



SPOT ELEVATIONS
 X PROPOSED
 O EXISTING
 *ADD 1400 TO ALL SPOT ELEVATIONS



REFER TO SHEET 12



NO.	REVISIONS	BY	APR.	DATE

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DATE 12/14/09	JOB NO. 08-011

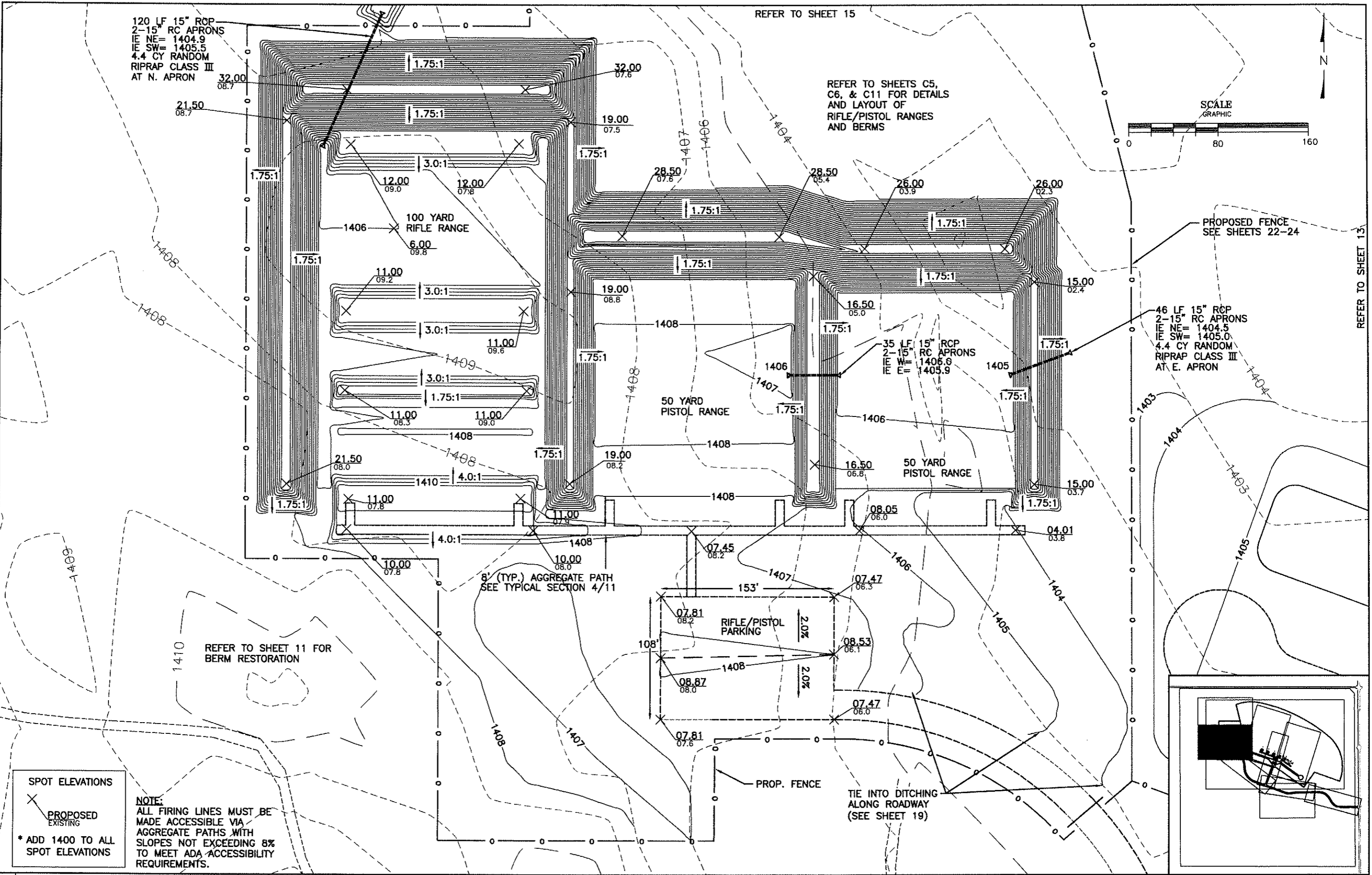
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KARVAKKO Engineering
 144 PAUL BUAYAN DRIVE NW - P.O. BOX 785 - BEMIDJI MN 56619
 PHONE: (218) 444-8004 FAX: (218) 444-8562



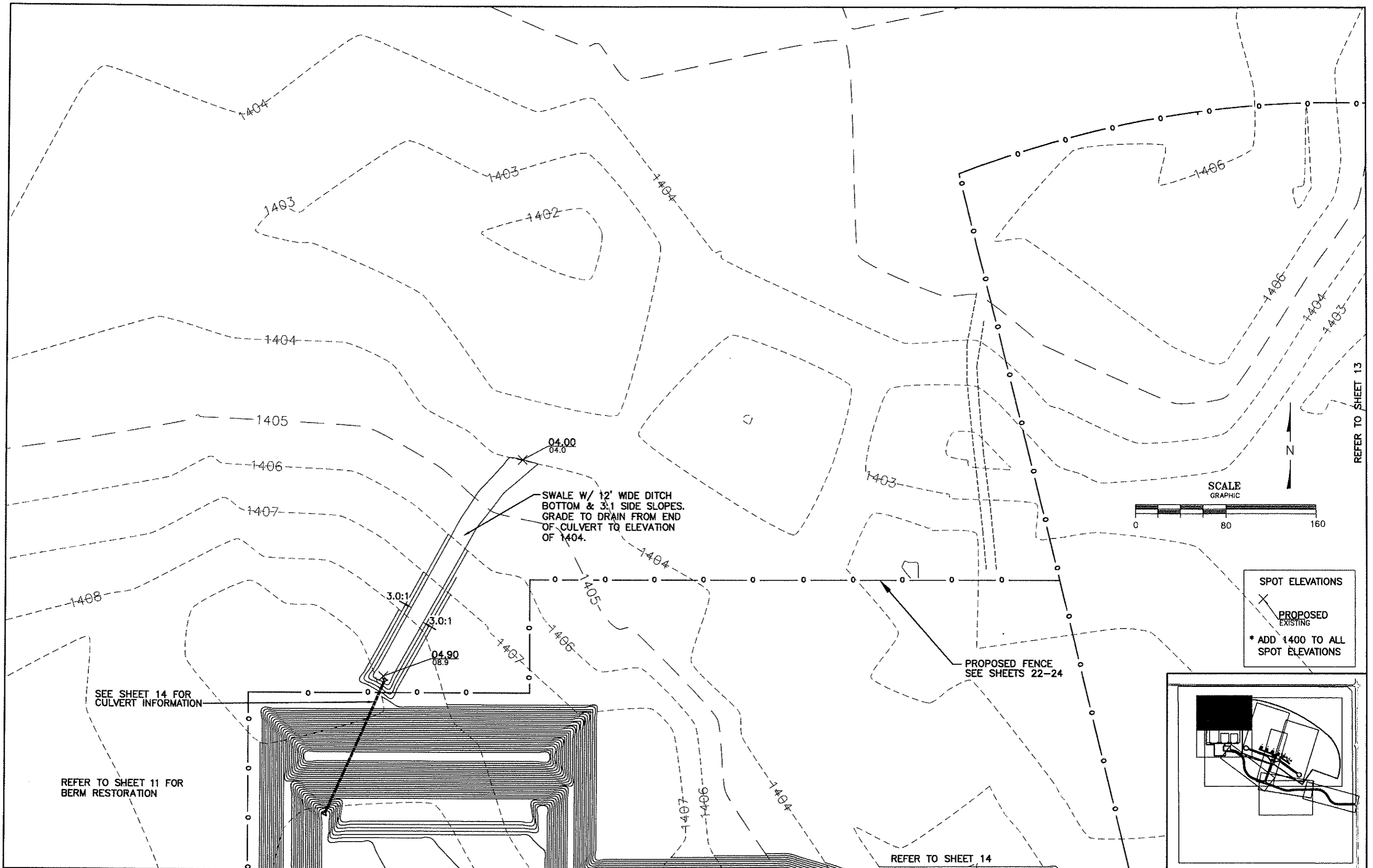
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DESIGNED MJK				CHECKED MJK				I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Certified By: <i>[Signature]</i> Lic. No. 44824 Printed Name: Michael J. Karvako Date 12/14/09				 KARVAKKO Engineering 144 PAUL BUNYAN DRIVE NW - P.O. BOX 785 - BEMIDJII MN 56619 PHONE: (218) 444-8004 FAX: (218) 444-8582		 BELTRAMI COUNTY Public Works Department		BELTRAMI COUNTY SHOOTING SPORTS PARK PHASE 1 RIFLE/PISTOL AREA GRADING PLAN		SHEET 14	
DRAWN JMM				APPROVED MJK														OF 28	
DATE 12/14/09				JOB NO. 08-011				NO.		REVISIONS		BY		APR.		DATE			

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DRAWN JWM	APPROVED MJK
DATE 12/14/09	JOB NO. 08-011

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Printed Name: Michael J. Karvako Date 12/14/09

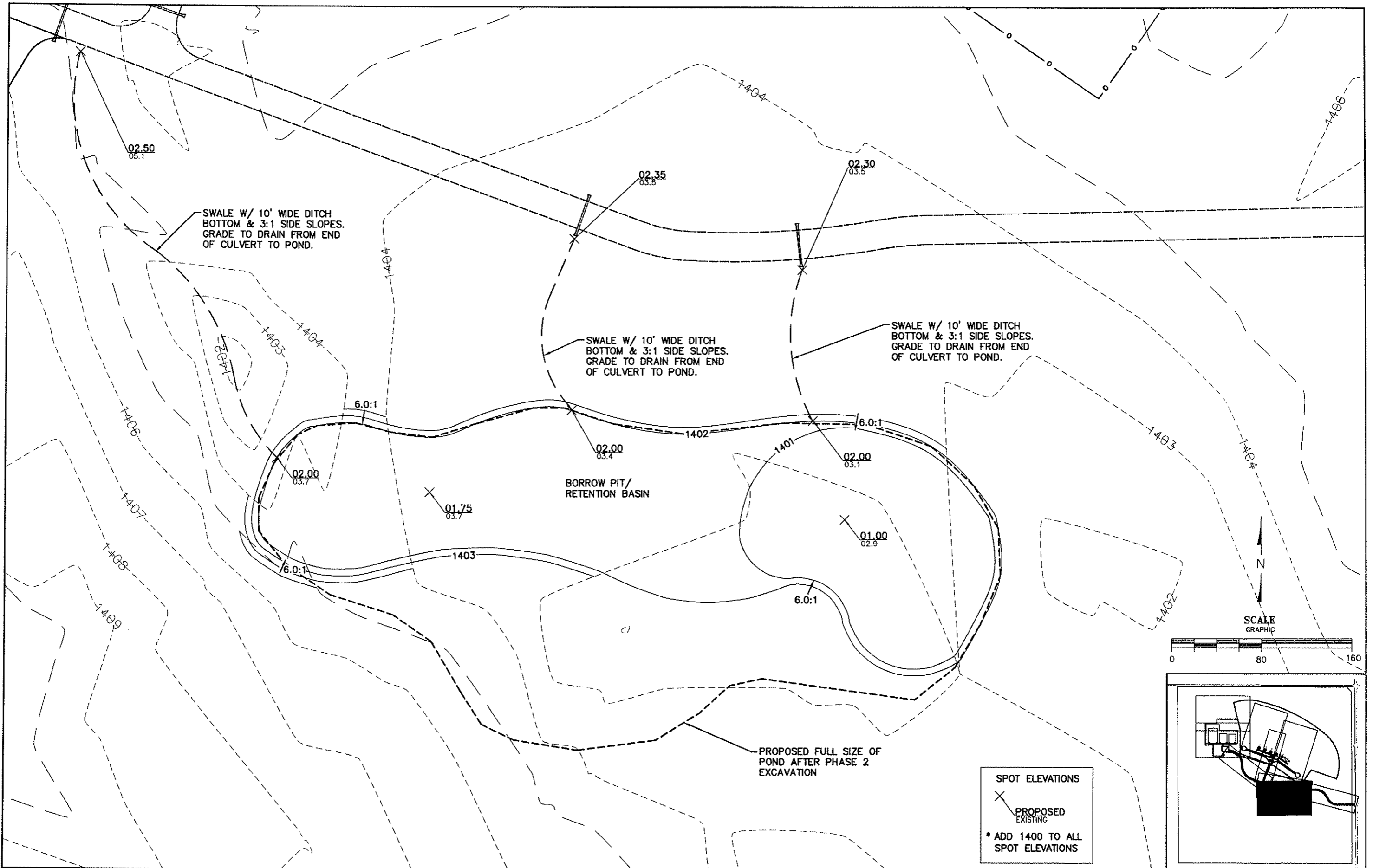
KARVAKKO Engineering
144 PAUL BUNYAN DRIVE NW - P.O. BOX 785 - BEMIDJI MN 56619
PHONE: (218) 444-8004 FAX: (218) 444-8562



BELTRAMI COUNTY SHOOTING
SPORTS PARK PHASE 1
RIFLE/PISTOL GRADING PLAN

SHEET
OF
15
28

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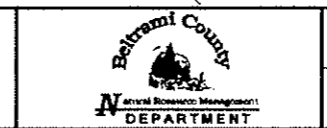


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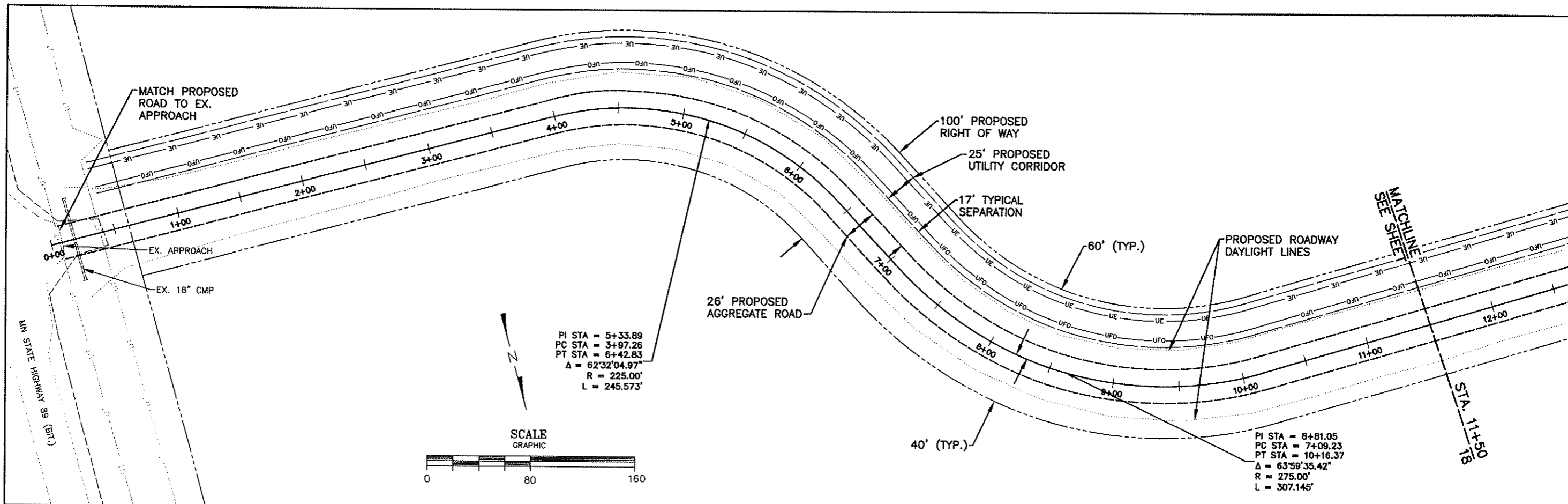
DESIGNED MJK	CHECKED MJK
DRAWN JWM	APPROVED MJK
DATE 12/14/09	JOB NO. 08-011

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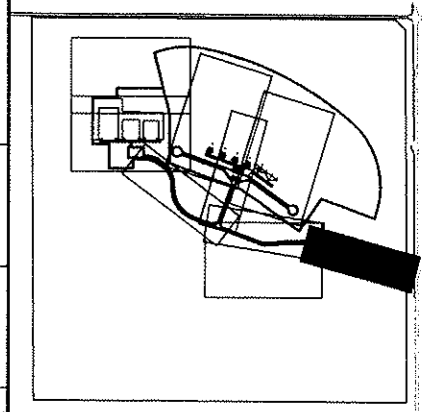
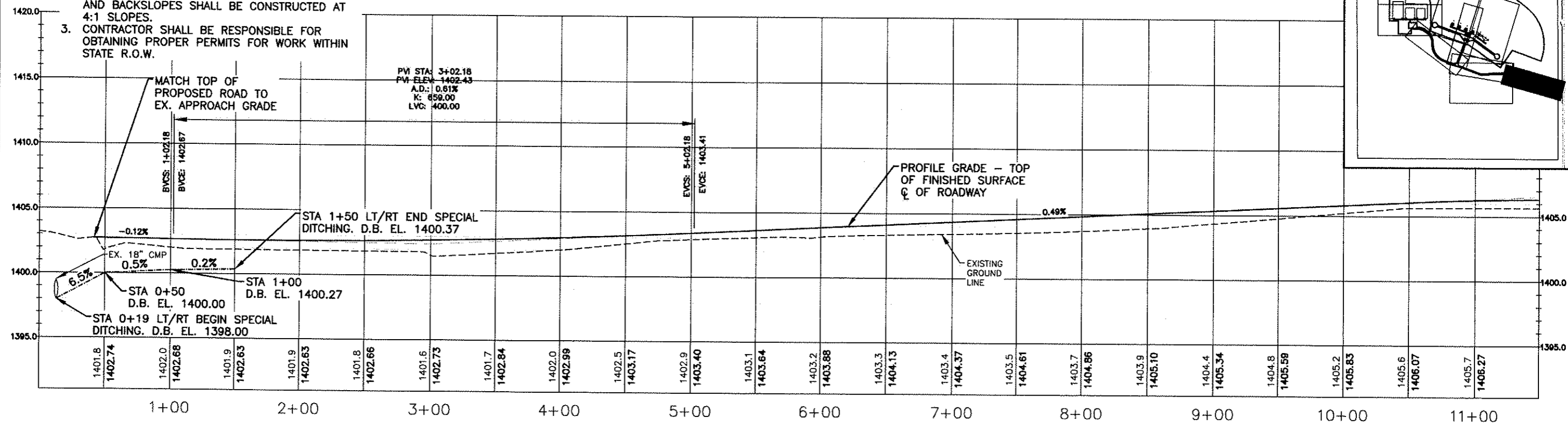
KARVAKKO Engineering
 144 PAUL BUNYAN DRIVE NW - P.O. BOX 786 - BEMIDJII MN 56619
 PHONE: (218) 444-8004 FAX: (218) 444-8562



BELTRAMI COUNTY SHOOTING SPORTS PARK PHASE 1
GENERAL AREA GRADING PLAN



- NOTES:**
1. TYPICAL SECTION 1/11 TO BE FOLLOWED IN ALL AREAS EXCEPT WHERE SPECIAL DITCHING IS SHOWN IN PROFILE VIEW.
 2. IN SPECIAL DITCHING SECTIONS, FORESLOPES AND BACKSLOPES SHALL BE CONSTRUCTED AT 4:1 SLOPES.
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING PROPER PERMITS FOR WORK WITHIN STATE R.O.W.



NO.	REVISIONS	BY	APR.	DATE

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DRAWN JWM	APPROVED MJK
DATE 12/14/09	JOB NO. 08-011

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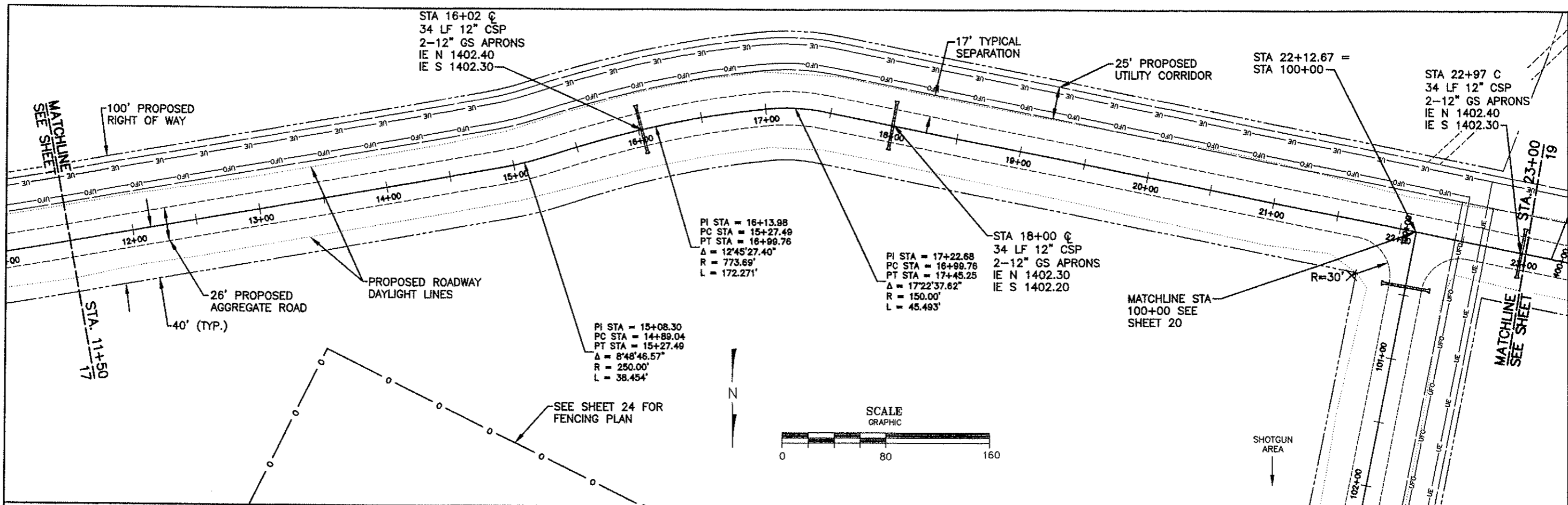
KARVAKKO Engineering

144 PAUL BUNYAN DRIVE NW - P.O. BOX 785 - BEMIDJI MN 56619
 PHONE: (218) 444-8004 FAX: (218) 444-8562

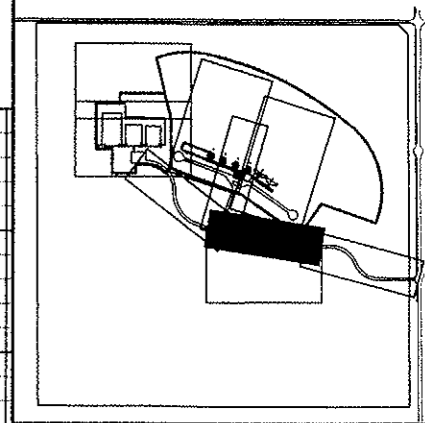
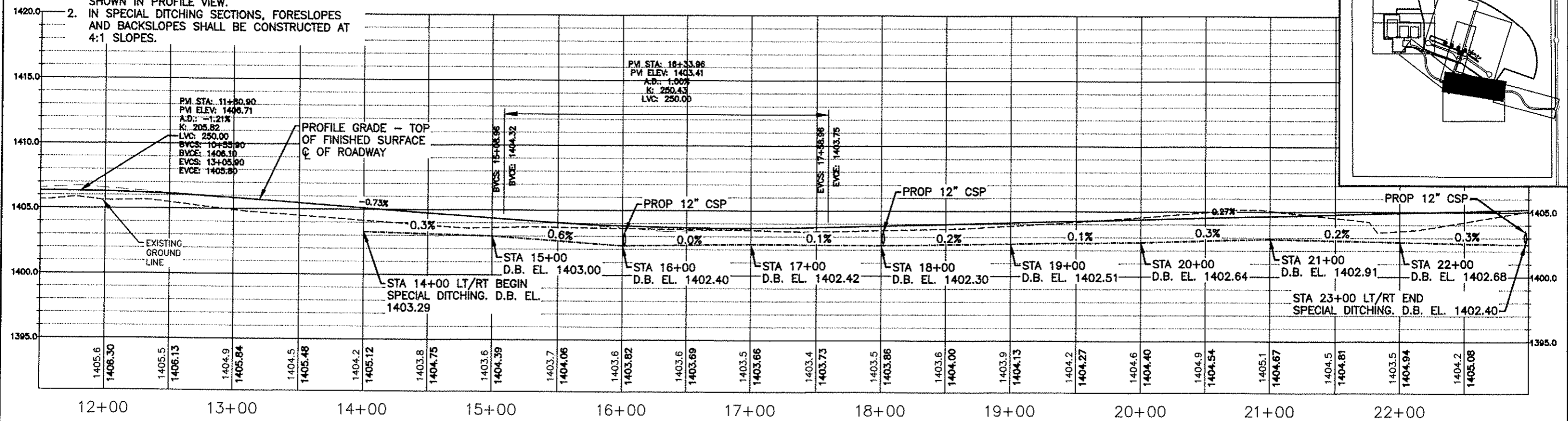


BELTRAMI COUNTY SHOOTING SPORTS PARK PHASE 1

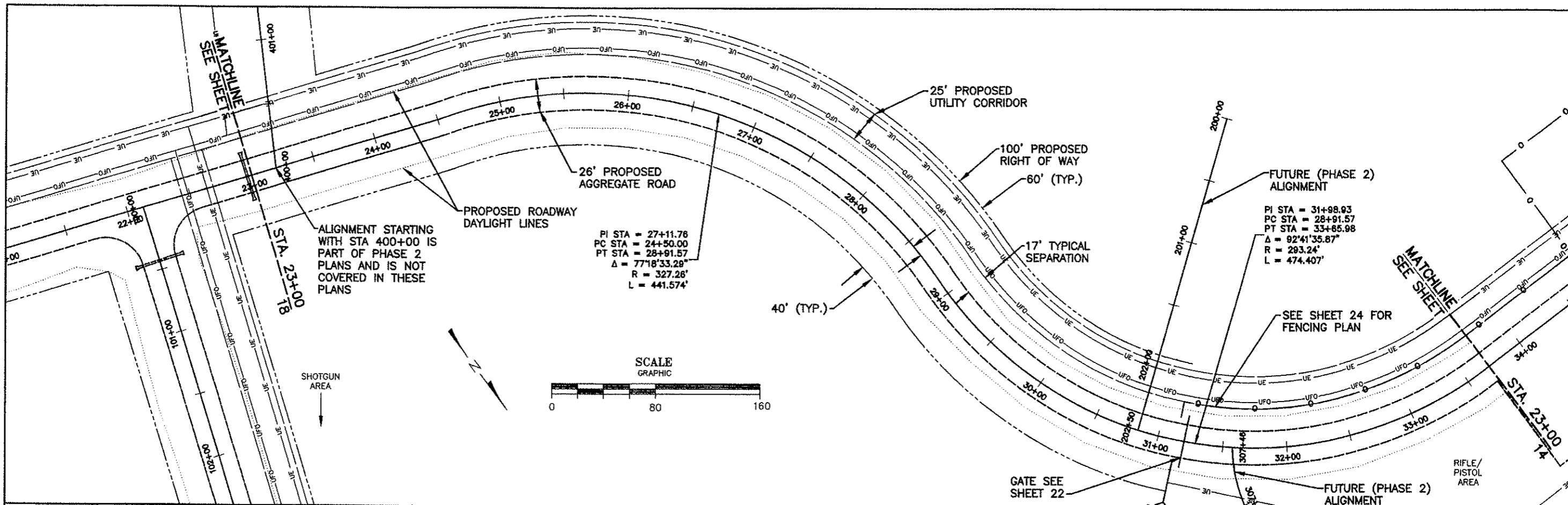
PLAN & PROFILE



- NOTES:**
1. TYPICAL SECTION 1/11 TO BE FOLLOWED IN ALL AREAS EXCEPT WHERE SPECIAL DITCHING IS SHOWN IN PROFILE VIEW.
 2. IN SPECIAL DITCHING SECTIONS, FORESLOPES AND BACKSLOPES SHALL BE CONSTRUCTED AT 4:1 SLOPES.

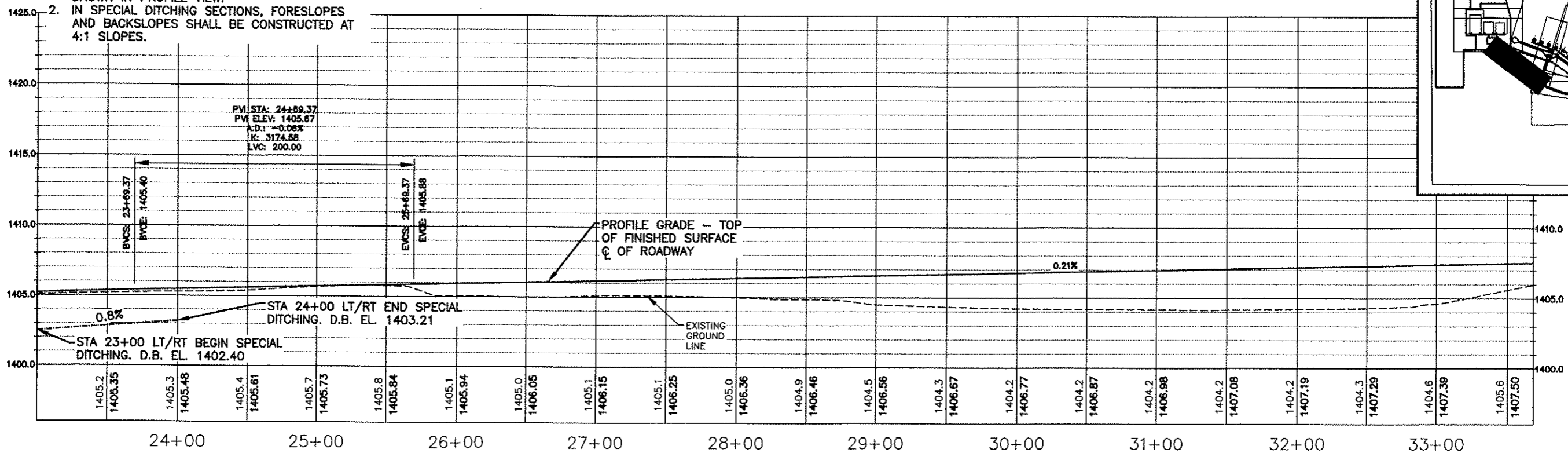


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				DRAWN JWM	APPROVED MJK				PLAN & PROFILE		OF 28
NO.	REVISIONS	BY	APR. DATE	DATE 12/14/09	JOB NO. 08-011						

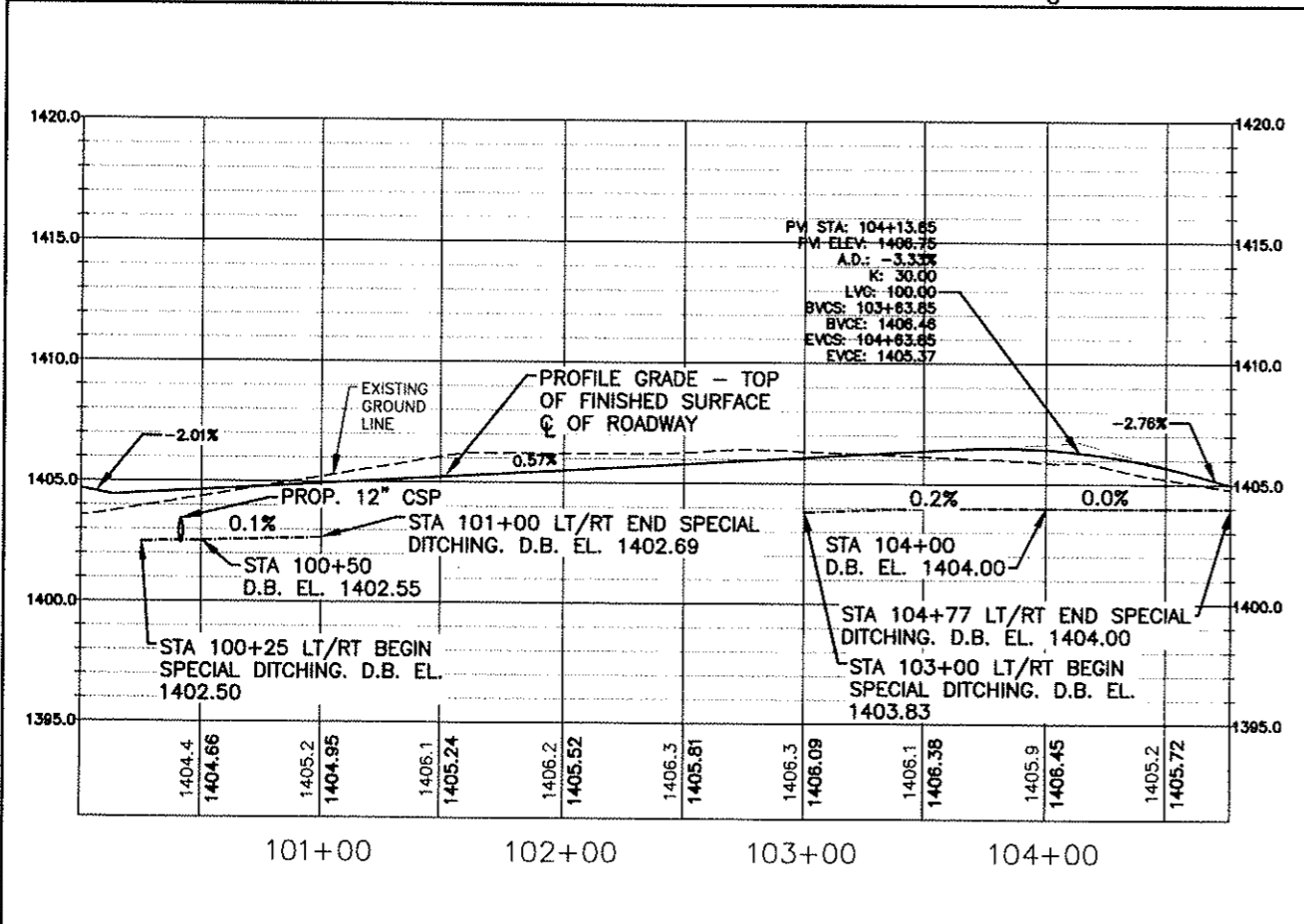
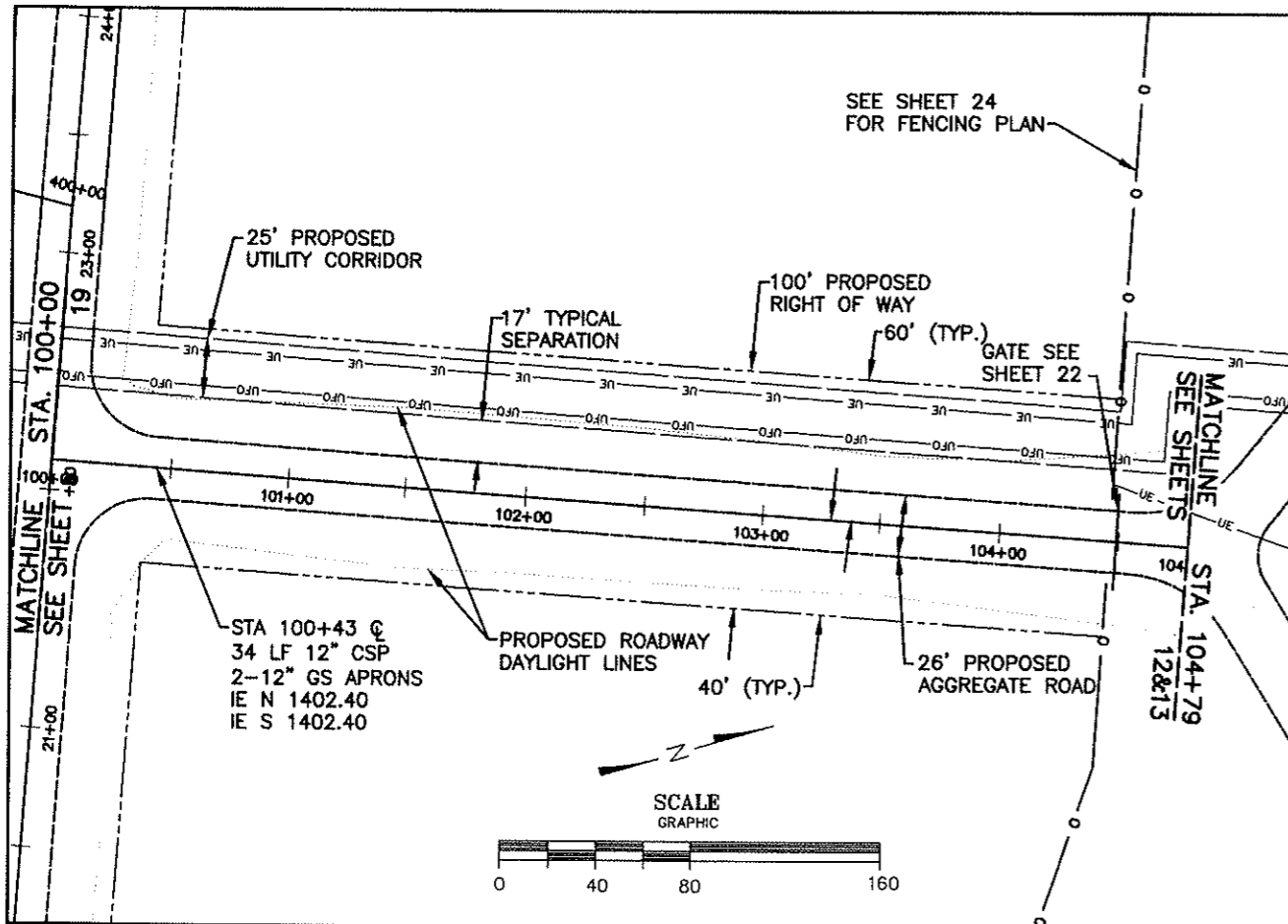


NOTES:

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DRAWN JWM		APPROVED MJK								OF 28	
DATE 12/14/09		JOB NO. 08-011		NO.		REVISIONS		BY		APR. DATE	



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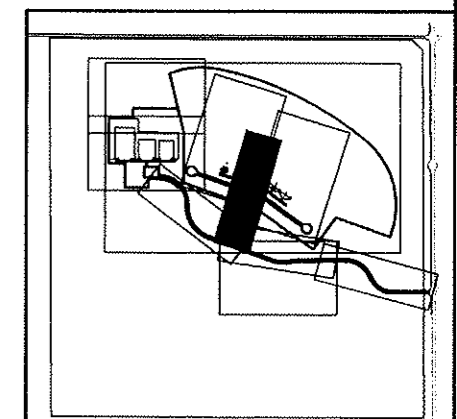
KARVAKKO Engineering
 144 PAUL BUNYAN DRIVE NW - P.O. BOX 785 - BEMIDJI MN 56619
 PHONE: (218) 444-8004 FAX: (218) 444-8562

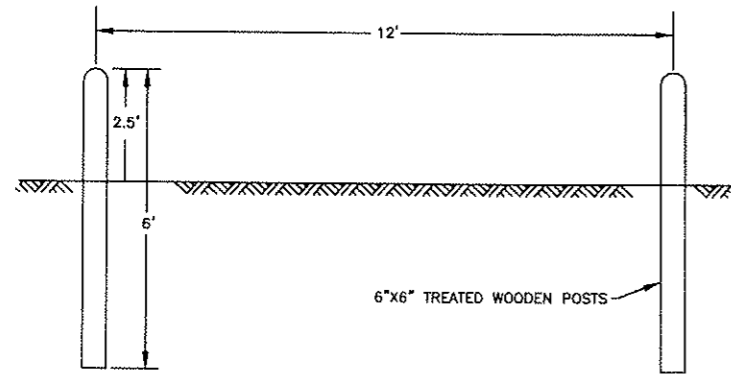


BELTRAMI COUNTY SHOOTING
SPORTS PARK PHASE 1

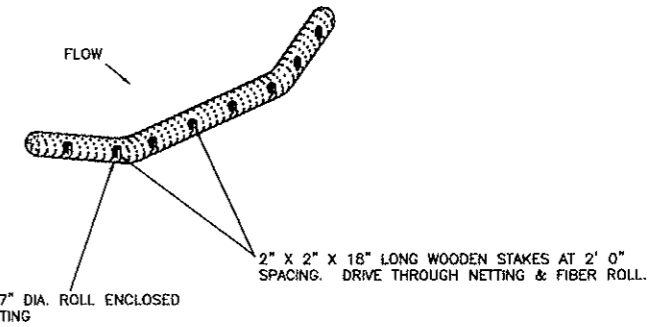
PLAN & PROFILE

SHEET 20
OF 28

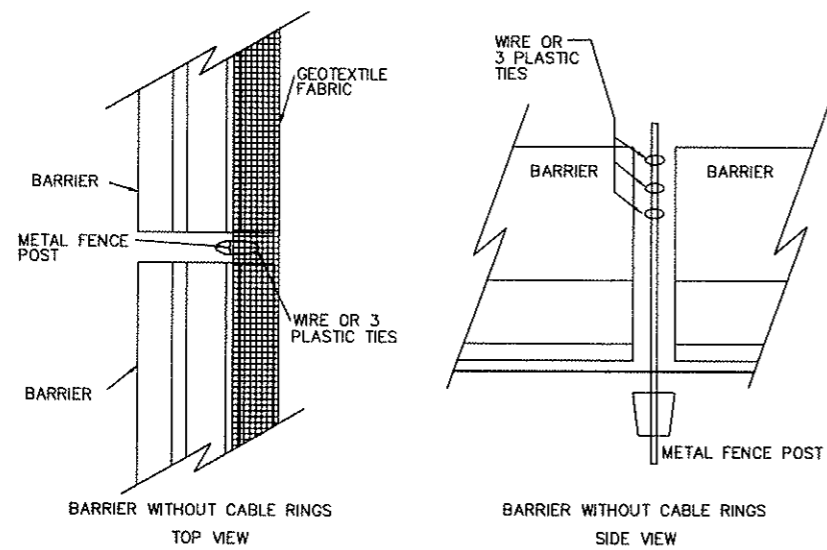




1 BOLLARDS AT SHOTGUN CLUBHOUSE
21 NO SCALE





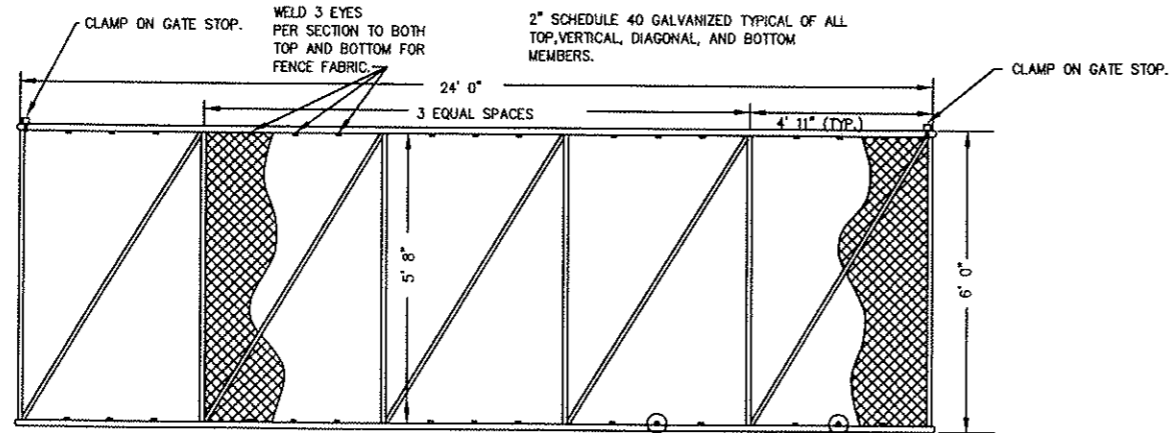
2 FILTER LOG
21 NO SCALE



3 SILT FENCE
21 NO SCALE

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				DRAWN JWM	APPROVED MJK				CIVIL SITE DETAILS	OF 28
NO. REVISIONS BY APR. DATE				DATE 12/14/09	JOB NO. 08-011					

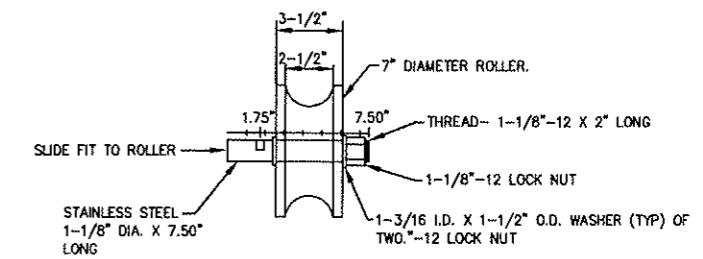


ALL WELDS OF VERTICAL MEMBERS AND DIAGONAL MEMBERS SHALL BE COMPLETE AROUND THE ENTIRE BRACE. BRACE ENDS SHALL NOT BE DEFORMED BY MORE THAN 1/3 THE BRACE DIAMETER. ALL WELDS SHALL BE PAINTED WITH ZINC PAINT.

- NOTES:**
- GATE FRAME SHALL BE (ASTM A1200).
 - TOTAL LENGTH AND THE LENGTHS OF BACK AND FRONT FRAMES MAY VARY WITH OPENING SIZE, SEE MANUFACTURER SPECIFICATION.

1
22 SINGLE GATE DETAIL

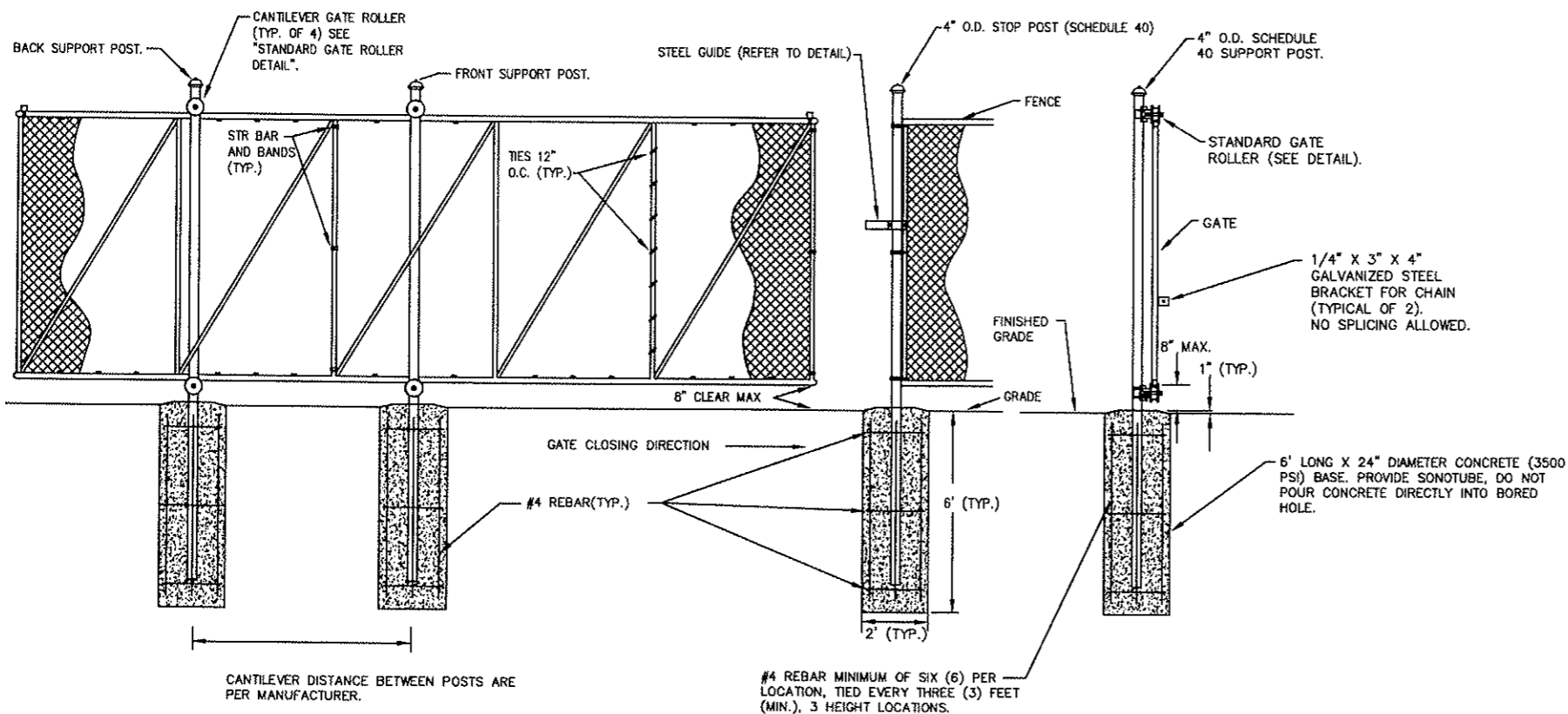
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NOTE:
ROLLERS TO BE MACHINED OF CAST NYLON COMPOSITE AS MANUFACTURED BY LOCAL DECISIONS, INC. OR APPROVED EQUAL

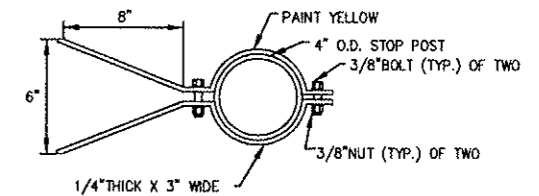
3
22 STANDARD GATE ROLLER DETAIL

NO SCALE



2
22 TYPICAL CANTILEVER GATE SECTION AND SUPPORT POST DETAIL

NO SCALE



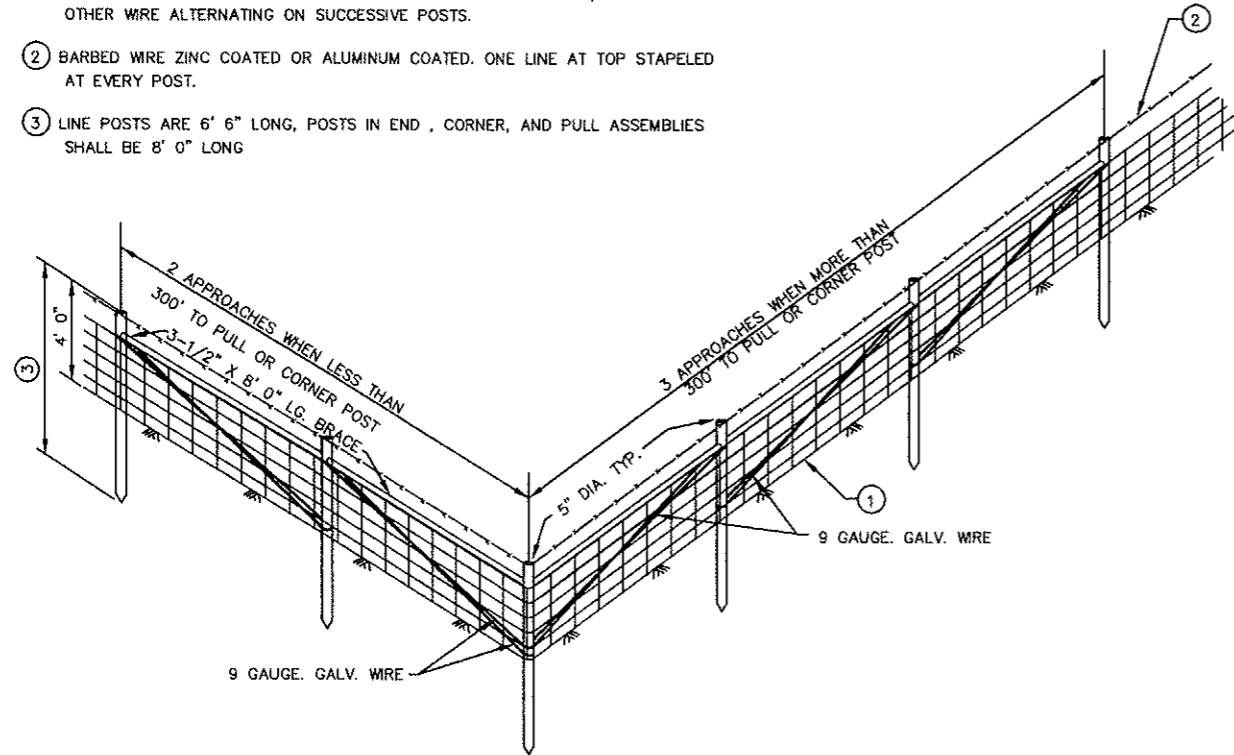
4
22 STANDARD STEEL GUIDE DETAIL

NO SCALE

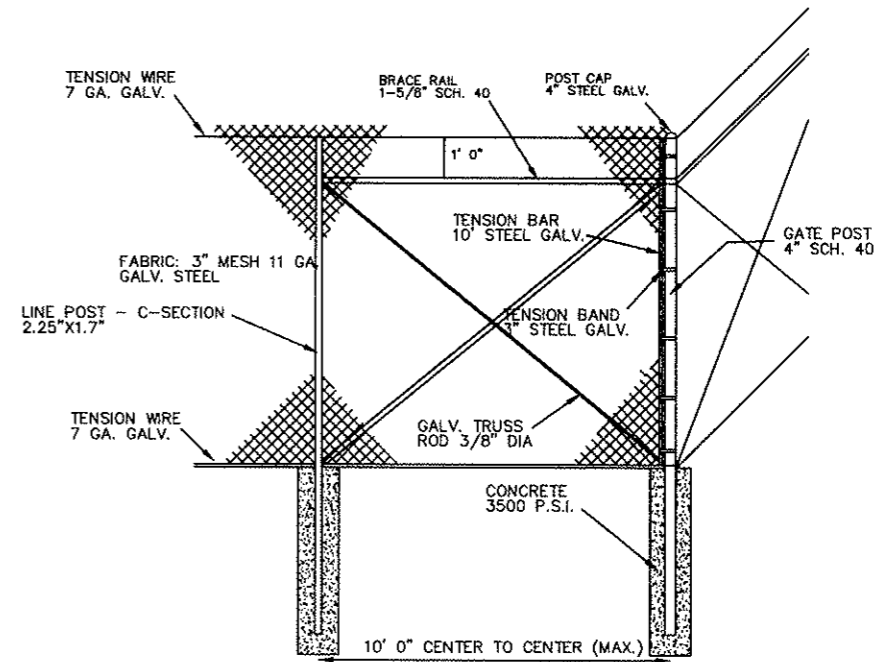
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				DRAWN SWH	APPROVED MJK				FENCING DETAILS	OF 28
				DATE 12/14/09	JOB NO. 08-011					
NO. REVISIONS				BY	APR.				DATE	

NOTES:

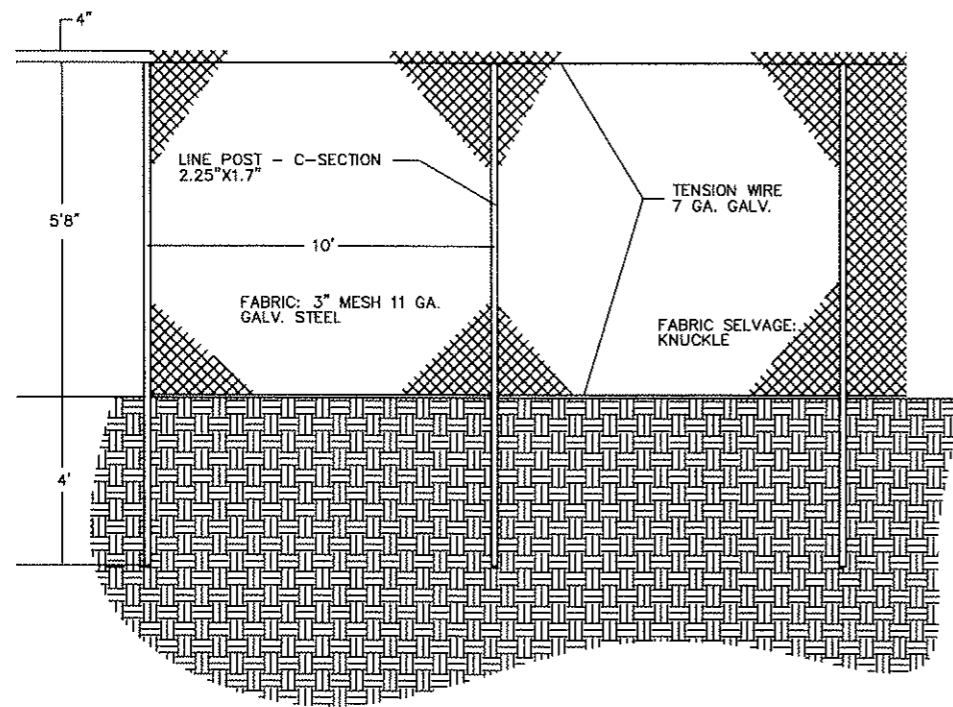
- ① WOVEN WIRE FENCE DESIGN 832-6-11, ZINC COATED (TABLE A1 ASTM A116) OR DESIGN 832-6-11, ALUMINUM COATED TABLE X1 ASTM A584). STAPLE EVERY OTHER WIRE ALTERNATING ON SUCCESSIVE POSTS.
- ② BARBED WIRE ZINC COATED OR ALUMINUM COATED. ONE LINE AT TOP STAPELED AT EVERY POST.
- ③ LINE POSTS ARE 6' 6" LONG, POSTS IN END, CORNER, AND PULL ASSEMBLIES SHALL BE 8' 0" LONG



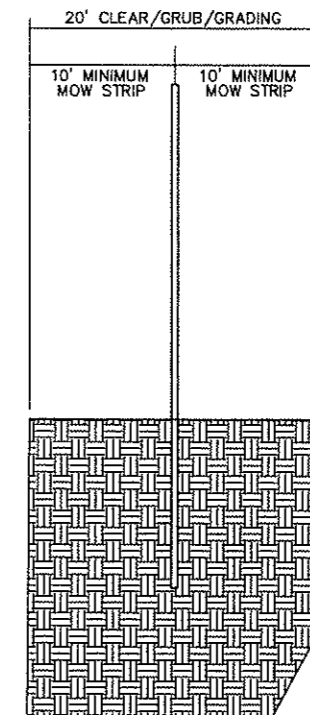
①
23 WOVEN WIRE FENCE NO SCALE



③
23 PULL END OR CORNER POST & ADJACENT LINE POST NO SCALE



②
23 LINE SECTION - CHAIN LINK FENCE NO SCALE

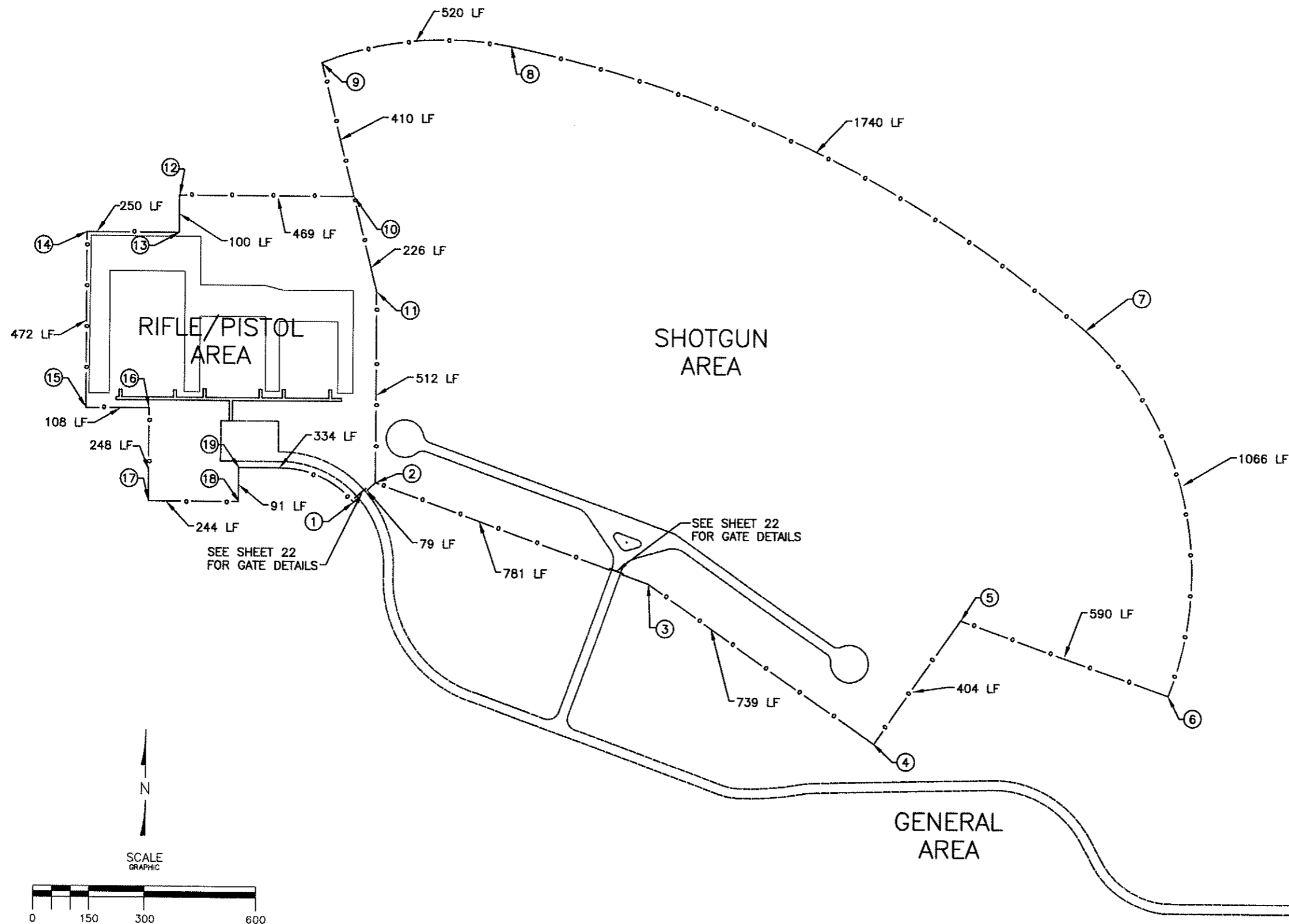


④
23 CLEARING/GRUBBING/GRADING NO SCALE

				DESIGNED MJK	CHECKED MJK	I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Certified By: <i>[Signature]</i> Lic. No. 44624 Printed Name: Michael J. Karvako Date 12/14/09			BELTRAMI COUNTY SHOOTING SPORTS PARK PHASE 1	SHEET 23		
				DRAWN SWH	APPROVED MJK				144 PAUL BUNYAN DRIVE NW - P.O. BOX 785 - BEMIDJI MN 56619 PHONE: (218) 444-8004 FAX: (218) 444-8562	DEPARTMENT	FENCING DETAILS	OF 28
NO.	REVISIONS	BY	APR. DATE	12/14/09	08-011							

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JACK PINE ROAD (AGG.)



CORNER LOCATIONS		
CORNER	NORTHING	EASTING
1	151041.5	456957.4
2	151093.4	457016.7
3	150826.2	457750.9
4	150402.4	458356.1
5	150733.4	458587.8
6	150533.6	459143.1
7	151509.9	458920.1
8	152270.1	457376.0
9	152223.2	456865.4
10	151861.7	456953.8
11	151604.9	457016.7
12	151861.7	456484.8
13	151761.4	456484.8
14	151761.4	456234.7
15	151289.0	456234.7
16	151289.0	456405.2
17	151041.0	456405.4
18	151040.9	456649.1
19	151131.1	456649.6

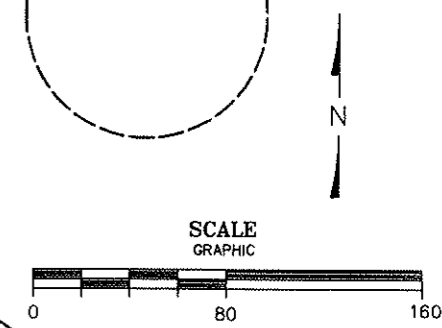
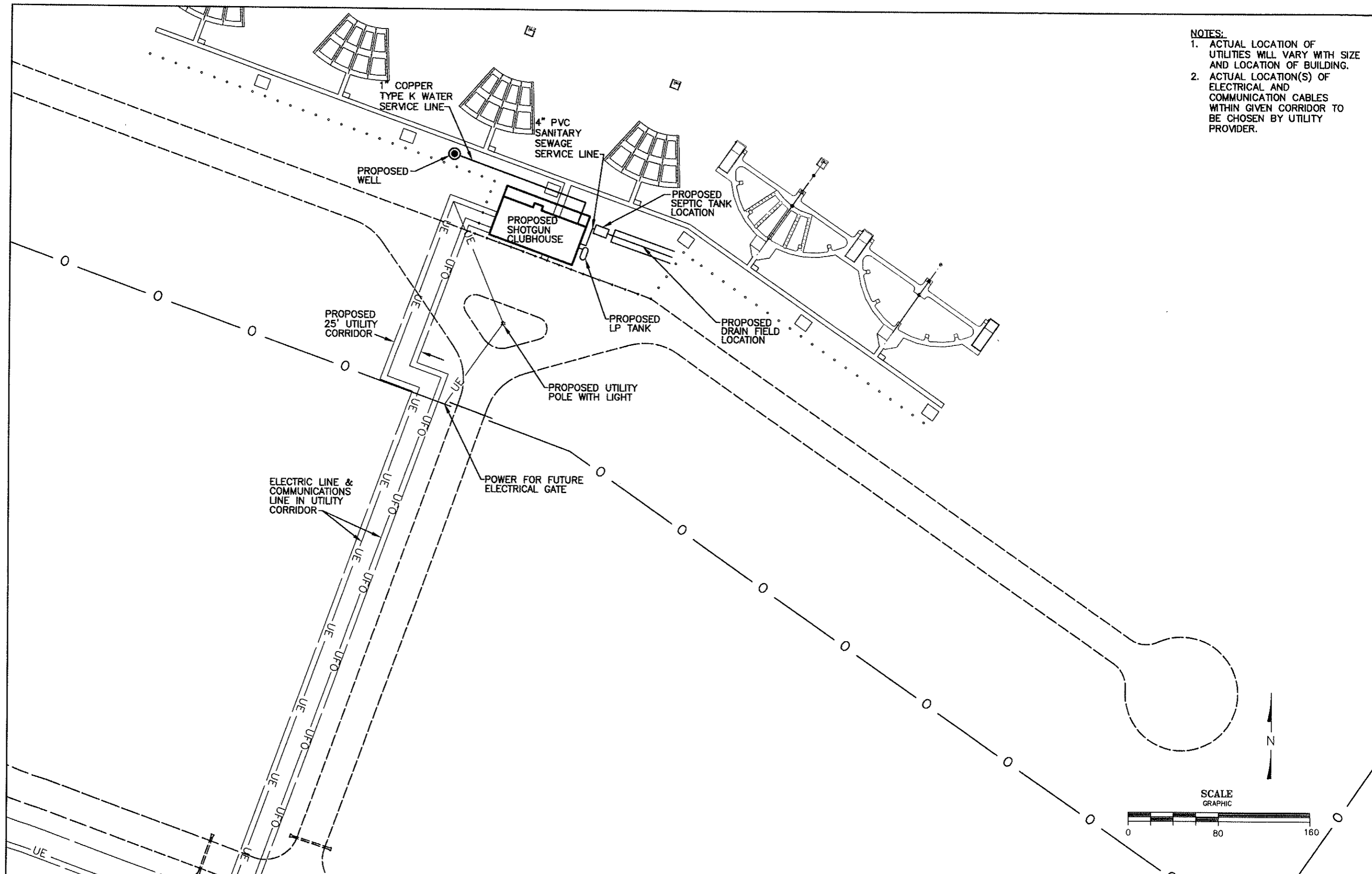
NOTE:
 1. ALL FENCING TO BE CHAINLINK EXCEPT FOR THE SEGMENT BETWEEN ⑩ - ⑪ AND ⑪ - ⑫. THESE SEGMENTS ARE TO BE WOVEN WIRE PER THE DETAIL.

MIN. STATE HIGHWAY 88 (BIT.)

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DESIGNED: MJK DRAWN: JWM DATE: 12/14/09				CHECKED: MJK APPROVED: MJK JOB NO.: 08-011		I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Certified By: <i>[Signature]</i> Lic. No. 44624 Printed Name: Michael J. Karvako Date 12/14/09		KE KARVAKKO Engineering 144 PAUL BUNYAN DRIVE NW - P.O. BOX 785 - BEMIDJI MN 56619 PHONE: (218) 444-8004 FAX: (218) 444-8562		Beltrami County Department		BELTRAMI COUNTY SHOOTING SPORTS PARK PHASE 1 GENERAL AREA FENCING PLAN		SHEET 24 OF 28	
NO. REVISIONS BY APR. DATE															

- NOTES:**
1. ACTUAL LOCATION OF UTILITIES WILL VARY WITH SIZE AND LOCATION OF BUILDING.
 2. ACTUAL LOCATION(S) OF ELECTRICAL AND COMMUNICATION CABLES WITHIN GIVEN CORRIDOR TO BE CHOSEN BY UTILITY PROVIDER.



DESIGNED MJK	CHECKED MJK	DATE 12/14/09	JOB NO. 08-011
DRAWN JWM	APPROVED MJK	BY	APR
NO. REVISIONS			

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Certified By: *[Signature]* Lic. No. 44924
 Printed Name: Michael J. Karvako Date 12/14/09

KARVAKKO Engineering

144 PAUL BUNYAN DRIVE NW - P.O. BOX 785 - BEMIDJI MN 56619
 PHONE: (218) 444-8004 FAX: (218) 444-8562

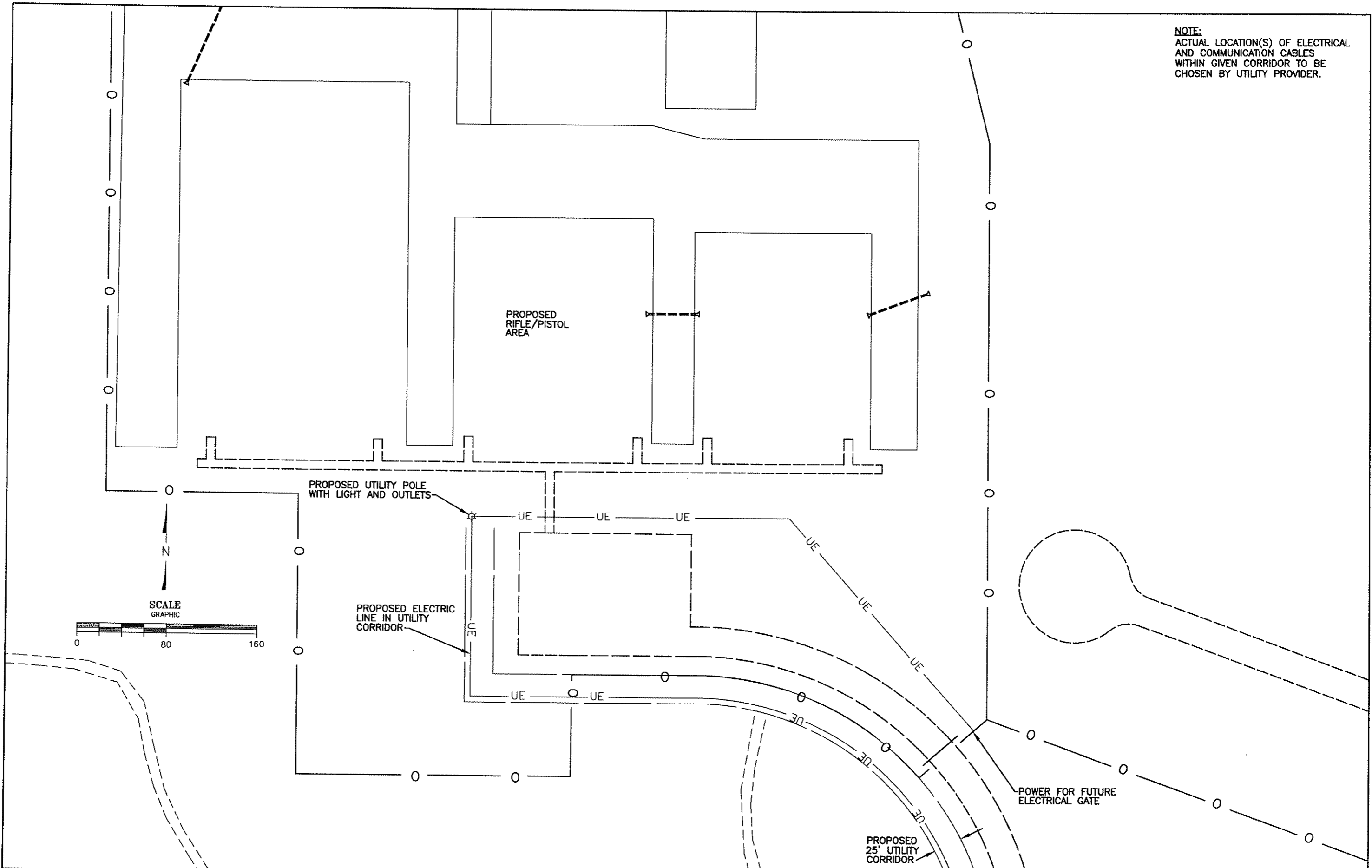


BELTRAMI COUNTY SHOOTING SPORTS PARK PHASE 1

SHOTGUN AREA UTILITY PLAN

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NOTE:
 ACTUAL LOCATION(S) OF ELECTRICAL
 AND COMMUNICATION CABLES
 WITHIN GIVEN CORRIDOR TO BE
 CHOSEN BY UTILITY PROVIDER.



NO.	REVISIONS	BY	APR.	DATE

DESIGNED MJK	CHECKED MJK
DRAWN JWM	APPROVED MJK
DATE 12/14/08	JOB NO. 08-011

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 Certified By: *[Signature]* Lic. No. 44824
 Printed Name: Michael J. Karvako Date 12/14/09

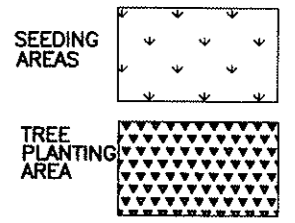
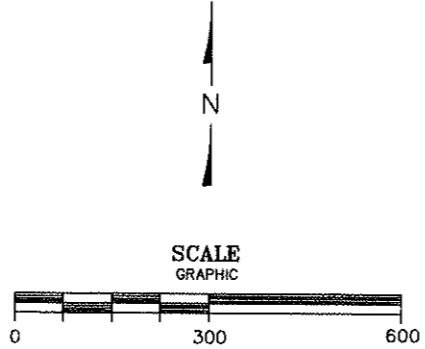
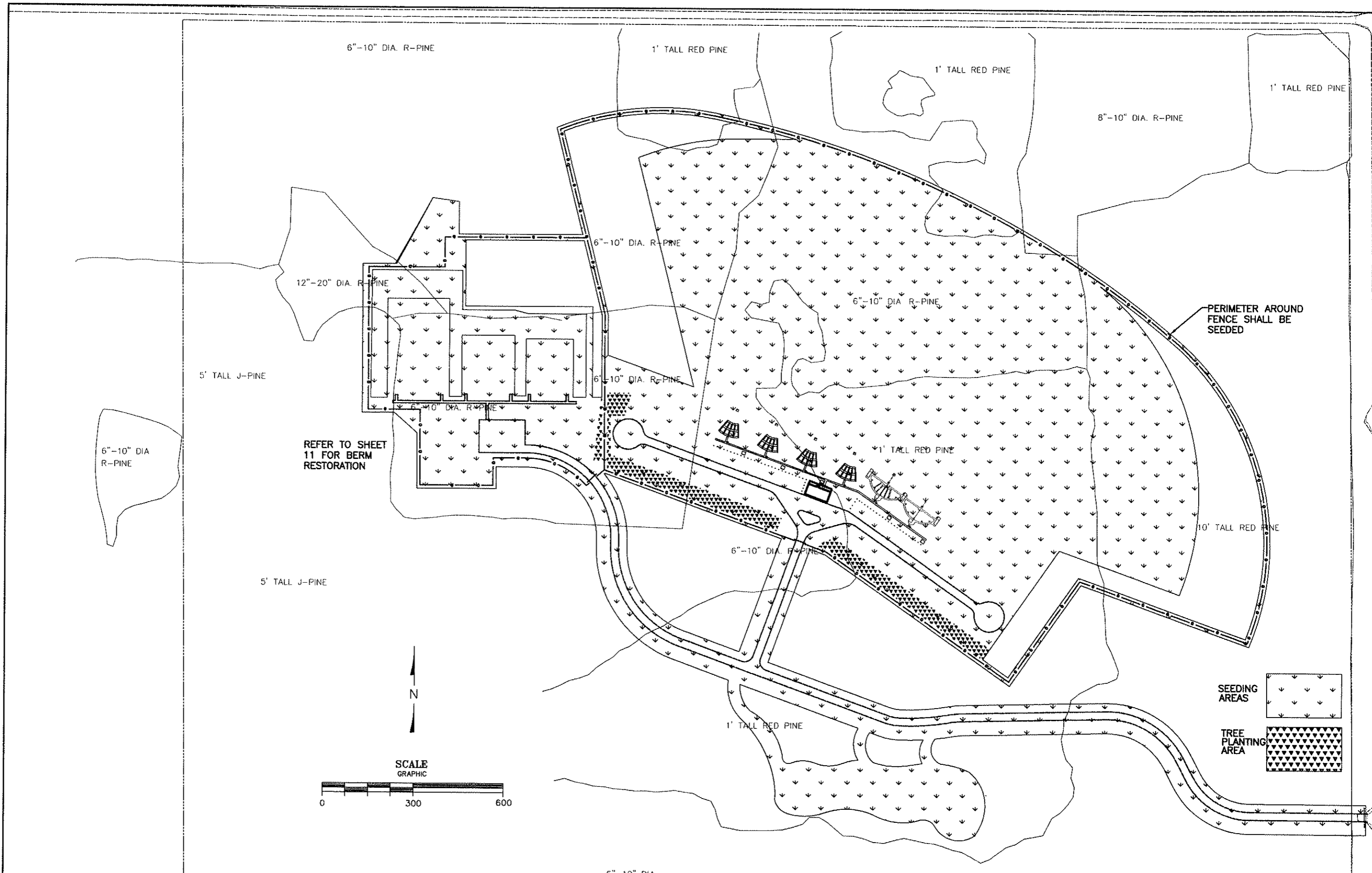
KARVAKKO Engineering
 144 PAUL BUNYAN DRIVE NW - P.O. BOX 785 - BEMIDJI MN 56619
 PHONE: (218) 444-8004 FAX: (218) 444-8562



BELTRAMI COUNTY SHOOTING
 SPORTS PARK PHASE 1
RIFLE/PISTOL AREA UTILITY PLAN

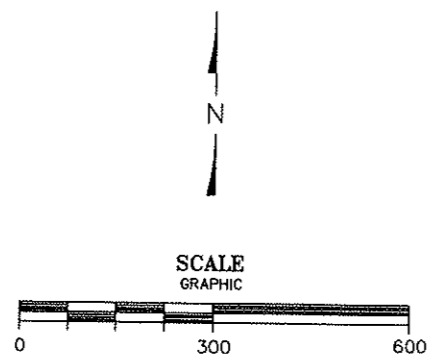
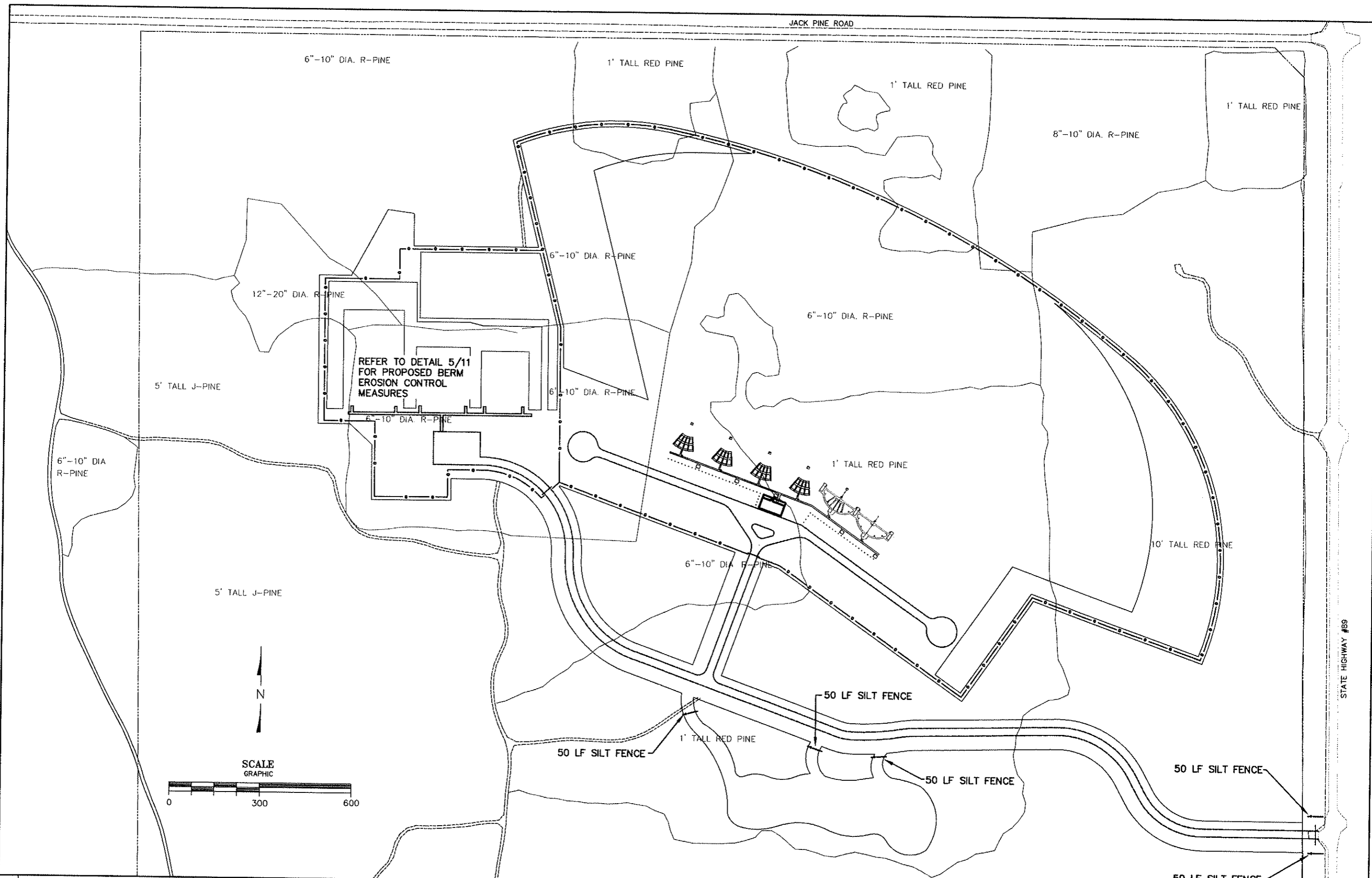
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				DESIGNED MJK	CHECKED JM	I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Certified By:  U.C. No. 44824 Printed Name: <u>Michael J. Karvako</u> Date <u>12/14/09</u>	 144 PAUL BUNYAN DRIVE NW - P.O. BOX 785 - BEMIDJI MN 56619 PHONE: (218) 444-8004 FAX: (218) 444-8562	 BELTRAMI COUNTY DEPARTMENT	BELTRAMI COUNTY SHOOTING SPORTS PARK PHASE 1		SHEET 27
				DRAWN SWH	APPROVED MJK				GENERAL AREA LANDSCAPE PLAN		OF 28
NO.	REVISIONS	BY	APR	DATE	12/14/09				08-011		

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NO.	REVISIONS	BY	APR.	DATE

DESIGNED MJK	CHECKED JM
DRAWN SWH	APPROVED MJK
DATE 12/14/09	JOB NO. 08-011

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Certified By: *Michael J. Karvako* Lic. No. 44624
 Printed Name: Michael J. Karvako Date 12/14/09

KARVAKKO Engineering
 144 PAUL BUNYAN DRIVE NW - P.O. BOX 785 - BEMIDJI MN 56619
 PHONE: (218) 444-8004 FAX: (218) 444-8562



BELTRAMI COUNTY SHOOTING SPORTS PARK SHOOTING RANGE PLANS

GENERAL CONCRETE NOTES:

- ALL WORK SHALL CONFORM TO THE REQS. OF THE MN. STATE BUILDING CODE, AND THE INCORPORATED 2008 INT'L BUILDING CODE.
 - DESIGN IS IN CONFORMANCE WITH ACI 318-02
 - GEN. CONSTRUCTION SHALL BE IN CONFORMANCE WITH ACI 301-98
 - SLAB CONSTRUCTION SHALL BE IN CONFORMANCE WITH ACI 302-98
- CONCRETE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE:

FOOTINGS	3500 PSI
WALLS AND SLABS AND PIERS	3500 PSI
- CONCRETE EXPOSED TO WEATHER SHALL BE AIR ENTRAINED.
- REINFORCING:
 - REINFORCING STEEL-DEFORMED BARS CONFORMING TO ASTM A 615 GR.60
 - WELDED WIRE FABRIC REINFORCING SHALL CONFORM TO ASTM A 185.
 - MINIMUM CONCRETE COVER OVER REINFORCING BARS SHALL BE:
 - CONCRETE DEPOSITED AGAINST SOIL 3 in.
 - CONCRETE IN CONTACT WITH SOIL OR WEATHER 2 in.
 - BEAMS & COLUMNS (STIRRUPS, TIE) 1 1/2"
 - SLABS 1 in.
 - ALL FOOTING, WALL, SLAB & BOND BM. LONGITUDINAL REINFORCING SHALL BE CONTINUOUS UNLESS NOTED OTHERWISE. CARRY CONTINUITY OF LONGITUDINAL BARS AROUND CORNERS. MINIMUM LAP SPLICES SHALL BE: IN ACCORD WITH CURRENT ACI CRITERIA AND MINIMUMS OF:

FTGS. & BOND BMS.	#4 - 16", #5 - 20", #6 - 23"
DOW. & VERT. WALL STL.	#4 - 20", #5 - 26", #6 - 31"
 - REINFORCING BARS, CHAIRS, SPACERS BARS AND OTHER ACCESSORIES SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE (CURRENT EDITION).
 - TAG ALL REINFORCING BUNDLES, ANCHOR BOLTS ETC. WITH WATER-PROOF MARKINGS ON DURABLE TAG MATERIAL.
- METAL FORM DECK (NOT APPLICABLE)
- DOWELS (NOT APPLICABLE)
- ALL EMBEDDED PLATES, BARS AND STEEL SHAPES SHALL BE ASTM A36 AND SHOP PRIMED WITH ONE COAT OF ALKYD RUST-INHIBITIVE PRIMER, TNEPEC 10-99 OR APPROVED EQUAL EXCEPT FOR SURFACES IN CONTACT WITH CONCRETE OR WITH-IN 2 INCHES OF FIELD WELDS. SURFACE PREPARATION SHALL BE IN ACCORD. WITH SSPC-SP2 AND SP3. MINIMUM DRY FILM THICKNESS SHALL BE 1.5 MILS.
- CONTRACTION OR CONTROL JOINTS (NOTED AS "C. JT.") SHALL BE SPACED AS NOTED OR A MAX. OF 24 FT. O.C. AND A PLANE OF WEAKNESS CREATED BY FORMING, INSERTS OR SAW CUT AND EVERY OTHER REINFORCING BAR OR WIRE SHALL BE CUT OR BE DISCONTINUOUS AT JT.
- CONSTRUCTION JOINTS MAY BE USED IN LIEU OF CONTRACTION JOINTS AND SHALL BE KEYS FOR GRADE SLABS & WALLS TO INSURE SHEAR TRANSFER. (NO KEYS IN HORIZONTAL WALL TO FOOTING JOINTS ALLOWED)
- EXPANSION JOINTS (NOTED AS "EXP. JT.") SHALL BE INSTALLED WHERE NOTED ON THE DRAWINGS IN CONFORMANCE WITH ACI 301-99 6.2.
- CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EMBEDDED PLATES, SLEEVES, FLOOR DRAINS, CONDUITS, BLOCK OUTS, ETC. BEFORE CONCRETE IS PLACED
- DESIGN LIVE LOADS:

DESIGN ALLOWABLE SOIL BEARING PRESSURE	= 3000 PSF.
(SEE BRAUN INTERTEC PROJECT SOIL REPORT DATED 4/1/06)	
BUILDING ROOF SNOW LOAD	= 42 PSF.
DESIGN WIND LOAD VELOCITY	= 90 MPH
BLDG. FLOOR LOADS:	
STORAGE: TARGETS, CLAY PIGEONS ETC.	= 175 PSF.
OCCUPANTS: PUBLIC GATHERINGS	= 100 PSF.
OCCUPANTS: OFFICE & OTHER	= 60 PSF.

GENERAL STEEL NOTES:

- MATERIALS, FABRICATIONS, CONSTRUCTION AND WORKMANSHIP FOR ALL STRUCTURAL STEEL FRAMING, JOISTS, AND RELATED STEEL WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
- DESIGN FABRICATION AND ERECTION SHALL BE IN CONFORMANCE WITH THE 2006 INTERNATIONAL BUILDING CODE CHAPTER 22 AND THE FOLLOWING:
- THE "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), 9TH EDITION, MANUAL OF STEEL CONSTRUCTION (ALLOWABLE STRESS DESIGN).
- GENERAL:
 - ALL STRUCTURAL STEEL PLATES AND SHAPES SHALL CONFORM TO ASTM A 992 - 50, UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS.
 - CONNECTIONS:
 - ALL SHOP CONNECTIONS MAY BE BOLTED OR WELDED
 - ALL FIELD CONNECTIONS SHALL BE BOLTED UNLESS DETAILED OTHERWISE ON THE DWGS.
 - WHERE REACTIONS ARE NOT INDICATED ON DRAWINGS, SHOP AND FIELD BEAM CONNECTIONS SHALL BE DETAILED FOR HALF THE TOTAL ALLOWABLE UNIFORM LOAD CAPACITY OF THE BEAM AS TABULATED ON PAGE 2 37 THROUGH 2- 140 OF THE A.I.S.C. "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION.
 - MEMBER CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM FORCE OF NO LESS THAN 6 KIPS AS PER A.I. S.C SPEC. SECT. J1.6
 - GUSSET PLATES SHALL BE A MINIMUM THICKNESS OF 3/8".
 - BOLTED CONNECTIONS:
 - ALL BOLTED CONNECTIONS, SHOP AND FIELD, SHALL CONFORM TO "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM BOLTS WITH 3/4" DIAMETER ASTM A - 325 HEAVY HEX HEAD, HIGH STRENGTH BOLTS UNLESS NOTED OTHERWISE. SECONDARY MEMBERS, INCLUDING MISCELLANEOUS METAL, STAIR TREADS, HANDRAIL POSTS ETC. MAY BE CONNECTED WITH ASTM A 307, STD. MACHINE BOLTS.
 - HIGH STRENGTH BOLTED CONNECTIONS SHALL BE BEARING TYPE WITH THREADS ALLOWED IN THE SHEAR PLANE UNLESS NOTED OTHERWISE ON THE DRAWINGS, WITH A MINIMUM OF TWO PER CONNECTION.
 - HIGH STRENGTH BOLTS (ASTM A-325) SHALL BE TIGHTENED TO THE REQUIRED LOAD EITHER WITH A CALIBRATED TORQUE WRENCH OR BY THE "TURN OF THE NUT" METHOD.
 - SLOTTED HOLE DIMENSION CALLS INDICATED ARE OUTSIDE OF SLOTS UNLESS DETAILED OTHERWISE.
 - WELDED CONNECTIONS:
 - WELDED CONNECTIONS SHALL BE WITH ELECTRIC ARC E70XX ELECTRODES IN ACCORDANCE WITH LATEST AMERICAN WELDING SOCIETY (AWS) SPECIFICATIONS.
 - MINIMUM SIZE OF WELD SHALL BE 3/16" UNLESS NOTED OTHERWISE AND A MINIMUM CONNECTION CAPACITY SHALL BE 6000 LBS
 - SURFACES TO BE FIELD WELDED SHALL BE CLEAN AND FREE OF PAINT, DIRT, GREASE OF OTHER FOREIGN MATERIAL.
 - WELDED CONNECTIONS:
 - WELDED CONNECTIONS SHALL BE WITH ELECTRIC ARC E70XX ELECTRODES IN ACCORDANCE WITH LATEST AMERICAN WELDING SOCIETY (AWS) SPECIFICATIONS.
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 - SURFACES TO BE FIELD WELDED SHALL BE CLEAN AND FREE OF PAINT, DIRT, GREASE OF OTHER FOREIGN MATERIAL.
- CONSTRUCTION PROCEDURES:

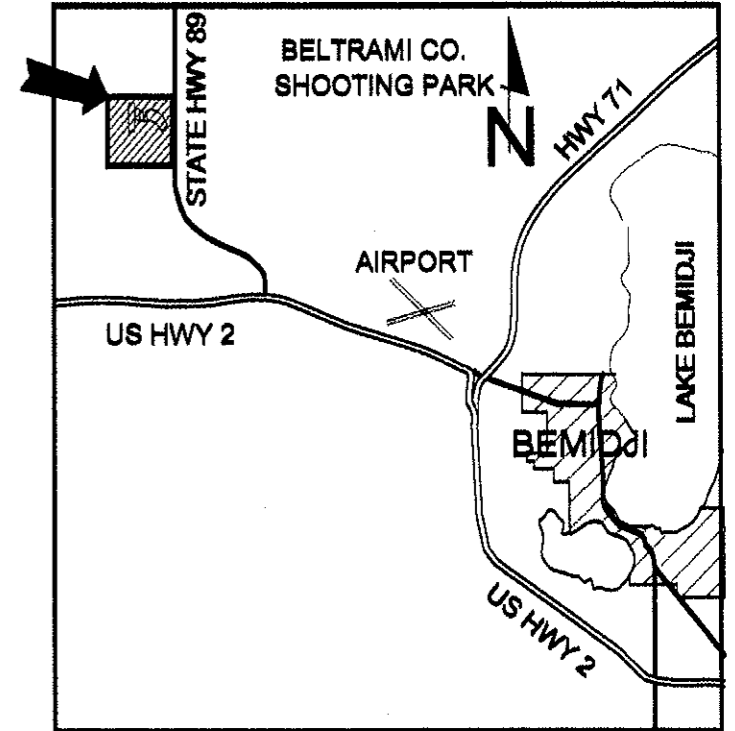
TEMPORARY BRACING AND GUYING SHALL BE FURNISHED BY THE CONTRACTOR TO INSURE STABILITY OF FRAMES, TRUSSES, ROOF ASSEMBLY AND COLUMN BRACING PRIOR TO THE STABILIZING OF THE STRUCTURAL UNIT BY THE COMPLETION OF THE BRACING INSTALLATIONS AND FLOOR, ROOF AND WALL DIAPHRAGMS. SUCH TEMPORARY BRACING SHALL BE ADEQUATE TO RESIST NORMAL WIND LOADS AT EXTERIOR UNITS FOR WINDS UP TO 60 MPH.
- METAL ROOF DECK:

METAL ROOF DECK SHALL BE 24 GAGE FLEXIBR ROOF PANELS AS MANF. BY FLEXOSPAN CORP. OF SANDY LAKE, PA., OR APPROVED EQUAL. FINISH SHALL BE FLEXOSPAN'S FLEXSHIELD OR EQUAL IN NO.240 GREEN.
- METAL SIDING: SKEET HOUSE FASCIA TRIM, SAME AS ROOF PANELS. FINISH:
- PRIMER: ALL STRUCTURAL AND MISCELLANEOUS METAL SHALL BE SHOP PAINTED WITH ONE COAT OF RUSTOLEUM NO. 678 QUICK DRY RED PRIMER AS MANUFACTURED BY THE RUSTOLEUM CORPORATION OF EVANSTON IL. OR AN APPROVED EQUAL. A DRY FILM THICKNESS OF ONE MIL MINIMUM TO TWO MILS IS REQUIRED.
- FINISH COAT: ALL STRUCTURAL AND MISCELLANEOUS METAL SHALL BE FINISH COAT PAINTED WITH TWO COATS OF RUSTOLEUM "NEW COLOR HORIZONS" SEMI GLOSS FINISHES IN # 782 BROWN COLOR, AS MANUFACTURED BY THE RUSTOLEUM CORPORATION.

FOUNDATIONS & EARTHWORK:

- ALL EARTHWORK AND FOUNDATION WORK SHALL BE IN CONFORMANCE WITH THE PROJECT SPECIFICATIONS, THEIR INCORPORATED MN DOT STANDARDS AND THE REQUIREMENTS OF THE MN STATE BLDG. CODE AND ITS INCORPORATED INTERNATIONAL BUILDING CODE, CHAP. 18, AND THE FOLLOWING:
 - EARTHWORK BERMS MAY BE OF IMPORTED BORROW OR SITE RANDOM EXCAVATION MATERIAL, AND SHALL BE COMPACTED IN PLACE TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY, (ASTM 698). FIRING LINE BERMS WITH ENCLOSURE STRUCTURES AND FOUNDATION SLABS SHALL BE COMPACTED TO 98% OF STANDARD PROCTOR FOR THEIR TOP TWO FEET.
 - ALL BERMS SHALL BE PLACED TO A MINIMUM SLOPE OF 1.75 HORIZONTAL TO 1.0 VERTICAL. ALL SLOPES SHALL BE SEEDED WITH APPROPRIATE GRASSES TO PREVENT FUTURE EROSION
 - ALL IMPACT BACKSTOP BERMS BEHIND RESPECTIVE TARGET LINES SHALL CONTAIN NO ROCKS OR STONES OVER 3/4" IN SIZE IN THE IMPACT AREAS FOR A DEPTH OF TWO FEET TO PREVENT RICOCHETS.
 - ALL ROADWAYS, PARKING AREAS, SHOOTING RANGE AREAS THAT ARE EXCAVATED OR ALTERED SHALL HAVE THEIR FINAL GRADES ADJUSTED TO INSURE PROPER DRAINAGE AND TO PREVENT PONDING (SEE SEPARATE CIVIL SITE DWGS).
 - EXISTING CONTOURS & GRADES ARE SET FROM THE PRELIMINARY PROJECT SITE TOPO SURVEY. DUE TO MINOR SHIFTING OF THE LAYOUT PLANS AS THE PROJECT DEVELOPED, THE FINAL GRADES DEFINED MAY VARY SLIGHTLY FROM THEIR RELATIONSHIP TO THE EXISTING CONTOUR GRADES NOW SHOWN.

ADJUST FINAL SET GRADE CONTROL FOR THE TRAP & SKEET HOUSES & SHOOTING STATIONS TO FIT THE ACTUAL SITE CONDITIONS. HOWEVER, FOR ANY GRADE ADJUSTMENTS, INSURE THERE IS GOOD DRAINAGE.
 - A PROJECT GEOTECHNICAL EVALUATION REPORT COVERING THE PROJECT SITE WAS PREPARED BY BRAUN INTERTEC CORP. AND IS INCLUDED IN THE PROJECT SPECIFICATIONS.

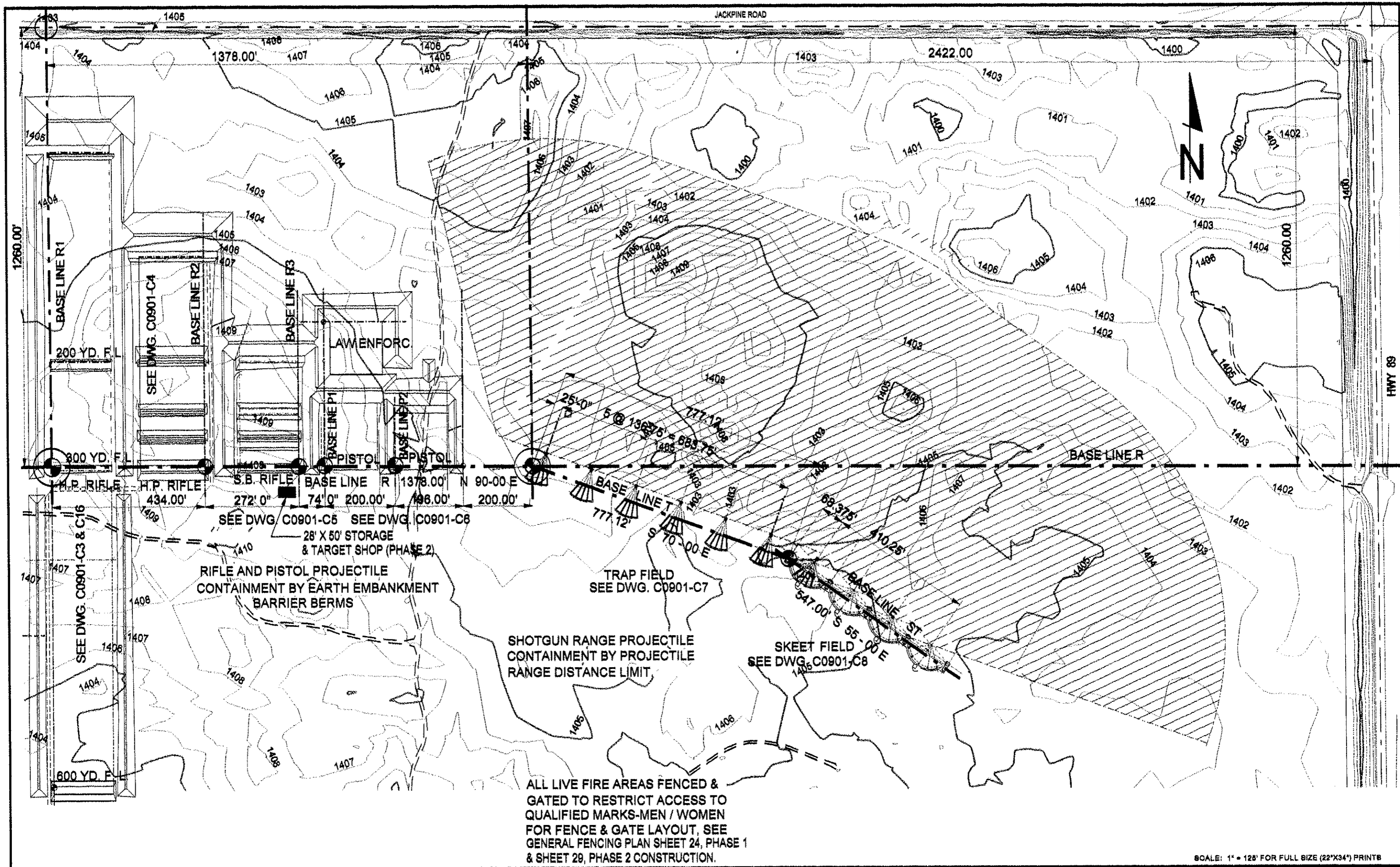


KEY LOCATION PLAN

DRAWING SCHEDULE: SHOOTING RANGE PLANS

NO.	DESCRIPTION	PHASE
C0901 - C1	KEY PLAN, GEN. NOTES & DWG. SCHEDULE	PHASE ONE & PHASE TWO WORK
C0901 - C2	GENERAL SITE RANGE SAFETY PLAN, BASE LINE LAYOUT & PROJECTILE CONTAINMENT DIAGRAM	PHASE ONE & PHASE TWO WORK SHOWN
C0901 - C3	300 YD. HIGH POWER RIFLE RANGE PLAN, PROFILE & DETAILS	PHASE TWO WORK ONLY SHOWN
C0901 - C4	200 YD. HIGH POWER RIFLE RANGE PLAN, PROFILE & DETAILS	PHASE TWO WORK ONLY SHOWN
C0901 - C5	100 YD. SMALL BORE RIFLE RANGE PLAN, PROFILE & DETAILS	PHASE ONE WORK ONLY SHOWN
C0901 - C6	50 YD. PISTOL & LAW ENFORCEMENT RANGE PLANS & PROFILES	PHASE ONE & PHASE TWO WORK SHOWN
C0901 - C7	SHOTGUN RANGE FIRING LINE PLAN & TRAP RANGE DETAILS	PHASE ONE & PHASE TWO WORK SHOWN
C0901 - C8	SKEET RANGE FIRING LINE SINGLE UNIT PLAN & SKEET HSE. PLANS	PHASE ONE & PHASE TWO WORK SHOWN
C0901 - C9	SKEET/TRAP COMBO RANGE FIRING LINE PLAN & SKEET HSE. ELEVNS.	PHASE ONE & PHASE TWO WORK SHOWN
C0901 - C10	SKEET HOUSE & RIFLE RANGE FIRING LINE STRUCTURE DETAILS	PHASE ONE & PHASE TWO WORK SHOWN
C0901 - C11	PISTOL RANGE COVER STRUCTURE & BULLET CATCHER DETAILS	PHASE ONE & PHASE TWO WORK SHOWN
C0901 - C12	50 YD. PISTOL RANGE SECTION-ELEVATIONS & DETAILS	PHASE ONE WORK ONLY SHOWN
C0901 - C13	RIFLE RANGE CROSS SECTION-ELEVATION VIEWS FROM THE FIRING LINE	PHASE ONE & PHASE TWO WORK SHOWN
C0901 - C14	RIFLE RANGE PIT RETAINING WALL & MISC. DETAILS	PHASE TWO WORK ONLY SHOWN
C0901 - C15	MISCELLANEOUS SHOOTING RANGE DETAILS	PHASE ONE & PHASE TWO WORK SHOWN
C0901 - C16	500 YARD EXPANSION TO THE 300 YARD RANGE, PLAN, PROFILE & DETAILS	PHASE TWO WORK ONLY SHOWN

DESIGNED SCA 11/30/09	CHECKED SCA 11/30/09	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. <i>Stuart C. Anderson</i> STUART C. ANDERSON REG. NO. 5721 DATE: 11/30/09	STUART ANDERSON PROFESSIONAL ENGINEERING SERVICES INC. 35840 CO. RD. 236, DEER RIVER, MN 55824 TEL 218-246-2396	KEKARVAKKO Engineering 144 PAUL BUNYAN DRIVE N.W.P.O. BOX 785 BEMIDJI, MN 56616 TEL 218-444-8004, FAX 218-444-8882	BELTRAMI COUNTY SHOOTING SPORTS PARK SHOOTING RANGE CONSTRUCTION PLANS KEY PLAN, GENERAL NOTES & DRAWING SCHEDULE	DWG. NO. C0901 REV. C1 0
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ALL LIVE FIRE AREAS FENCED & GATED TO RESTRICT ACCESS TO QUALIFIED MARKS-MEN / WOMEN FOR FENCE & GATE LAYOUT, SEE GENERAL FENCING PLAN SHEET 24, PHASE 1 & SHEET 29, PHASE 2 CONSTRUCTION.

SCALE: 1" = 128' FOR FULL SIZE (22"x34") PRINTS

NO.	REVISION DESCRIPTION	BY	APPR.	DATE
0	REV. 0 ISSUED FOR CONSTRUCTION	SCA		11/30/09
B	REV. SPACING & WIDTH TO FIT BERM WIDTHS	SCA		6/28/09
A	ISSUED FOR APPROVAL	SCA		5/27/09
P1	PRELIM. STUDY REVIEW ISSUE	SCA		3/28/08

DESIGNED	CHECKED	DATE	JOB NO.
SCA	SCA	11/30/09	C0901

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

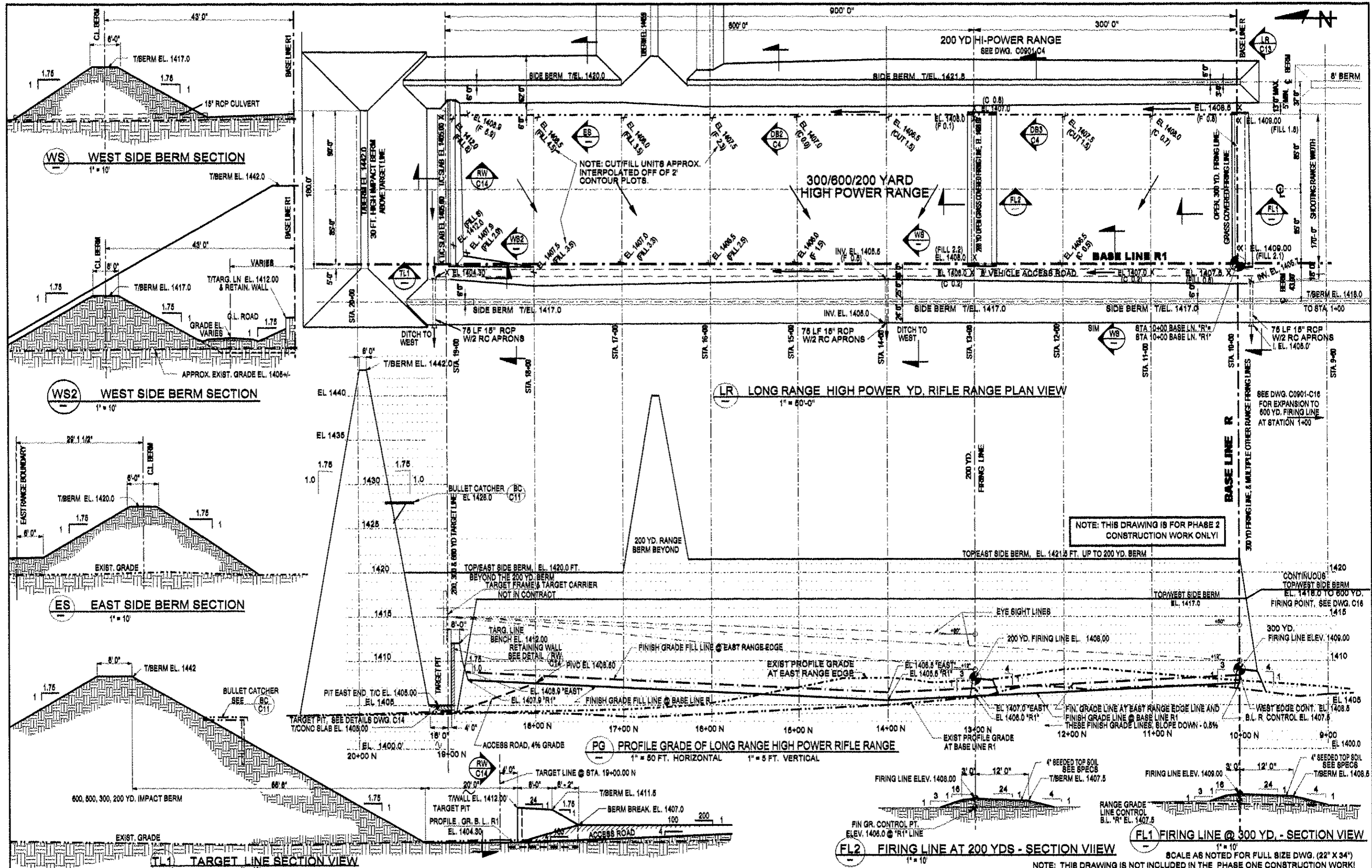
STUART ANDERSON
 DATE: 11/30/09

STUART ANDERSON
SAPES
 PROFESSIONAL ENGINEERING SERVICES INC.
 35840 CO. RD. 238, DEER RIVER, MN
 TEL: 218-248-2396

KARVAKKO Engineering
 144 PAUL BUNYAN DRIVE NW - P.O. BOX 785 - BEMIDJI MN 56619
 PHONE: (218) 444-8004 FAX: (218) 444-4882

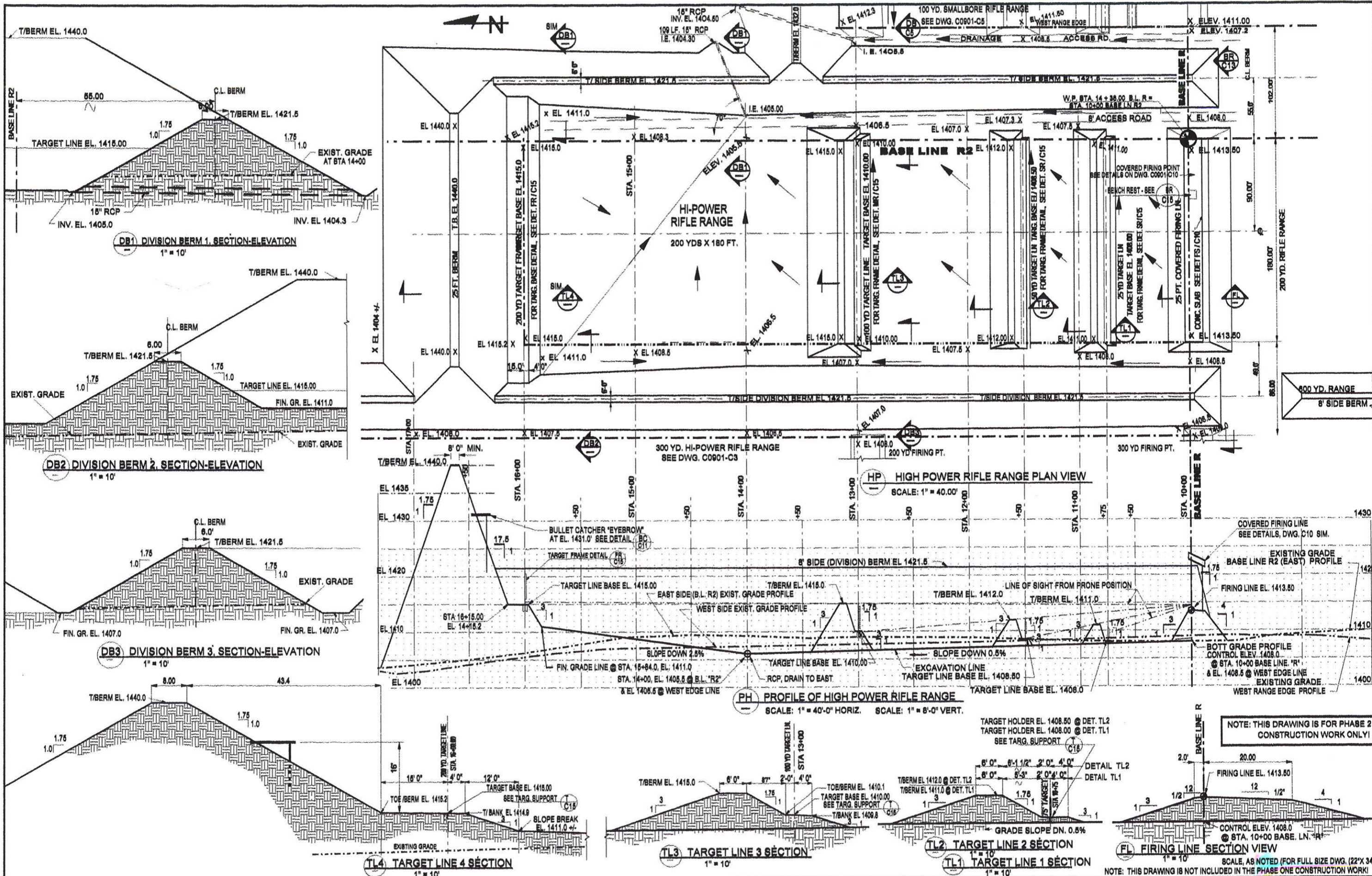
BELTRAMI COUNTY SHOOTING SPORTS PARK
 SHOOTING RANGE CONSTRUCTION PLANS
 GENERAL SITE SAFETY PLAN & BASE LINE LAYOUT & PROJECTILE CONTAINMENT DIAGRAM

DWG. NO. C0901
 REV. C2 0



NO.	REVISION DESCRIPTION	BY	APPR.	DATE	DESIGNED	CHECKED	DATE	JOB NO.	DATE
0	REV. 0 ISSUED FOR CONSTRUCTION	SCA		11/30/09	SCA	SCA			
B	REV. WIDTH TO FIT WITH BERMS	SCA		6/30/09	SCA	SCA			
A	ISSUED FOR APPROVAL	SCA		6/27/09	SCA	SCA			
P1	PRELIM. STUDY REVIEW ISSUE	SCA		3/2/09	SCA	SCA			
				11/30/09					

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. Stuart Anderson REGISTERED PROFESSIONAL ENGINEER NO. 113009	Stuart Anderson REGISTERED PROFESSIONAL ENGINEER NO. 113009 35840 CO. RD. 235, DEER RIVER, MN	KARVAKKO Engineering 144 PAUL HUNTER DRIVE NW, P.O. BOX 785 MINNETONKA, MN 55345 TEL 218-248-2398 TEL 218-444-8004, FAX 218-444-8982	BELTRAMI COUNTY SHOOTING SPORTS PARK SHOOTING RANGE CONSTRUCTION PLANS 300 YD. HIGH POWER RANGE PLAN, PROFILE & DETAILS	DWG. NO. C0901 REV. C3 0
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NO.	REVISION DESCRIPTION	BY	APPR.	DATE
0	REV. 0 ISSUED FOR CONSTRUCTION	SCA		12/01/09
B	REV. WIDTH TO 180'	SCA		6/18/09
A	ISSUED FOR APPROVAL	SCA		8/27/09
P1	PRELIM. STUDY REVIEW ISSUE	SCA		5/18/09

DESIGNED: SCA
 CHECKED: SCA
 DRAWN: SCA
 DATE: 12/01/09
 JOB NO.: C0901
 I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

STUART ANDERSON
SAPES
 PROFESSIONAL ENGINEERING SERVICES INC.
 36840 CO. RD. 238, DEER RIVER, MN 55321
 TEL 218-444-8004, FAX 218-444-8862

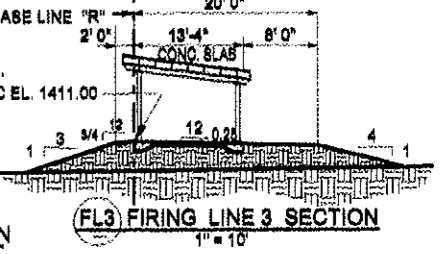
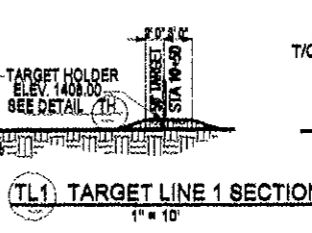
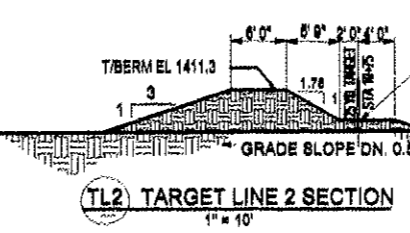
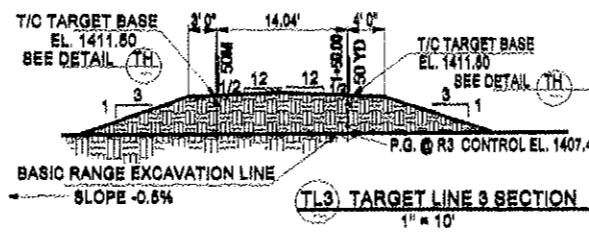
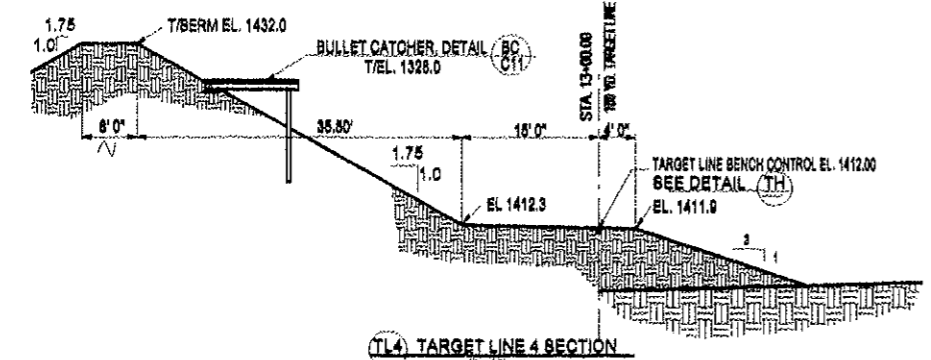
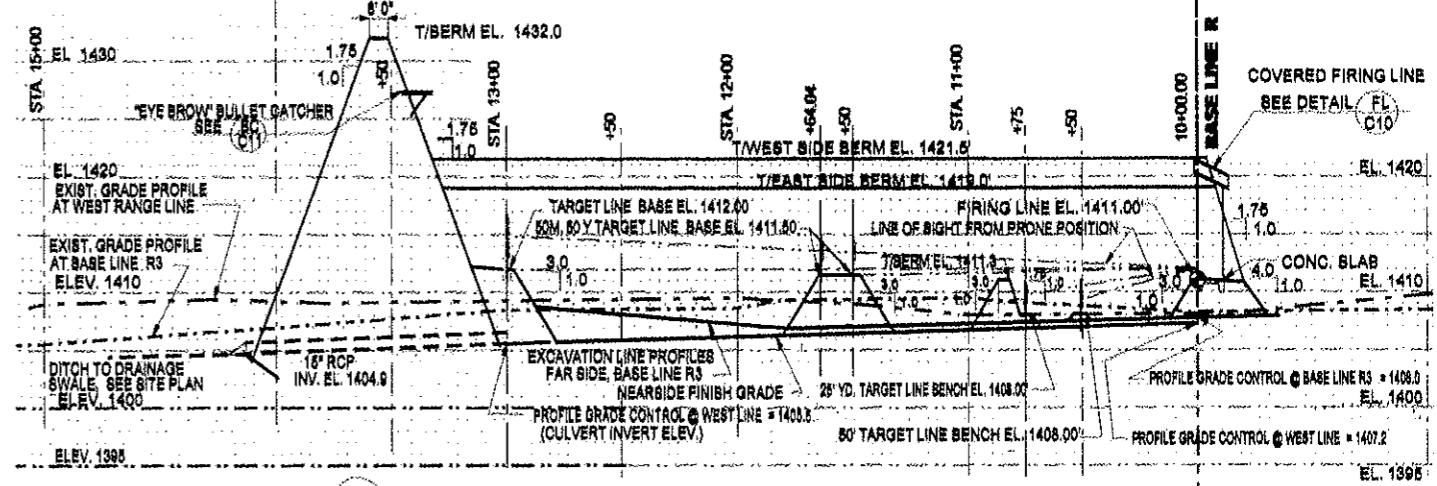
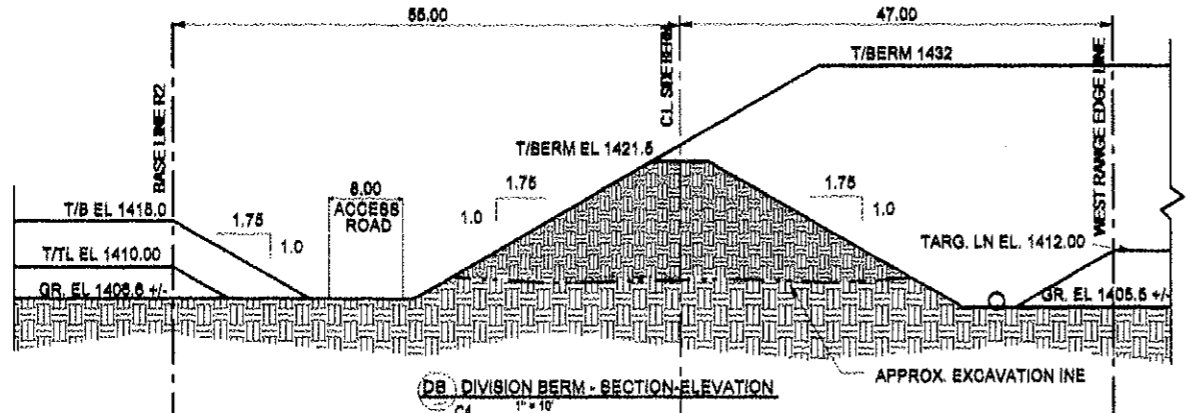
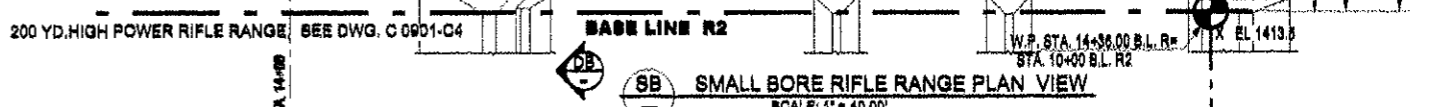
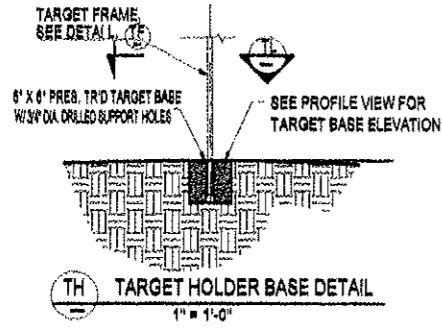
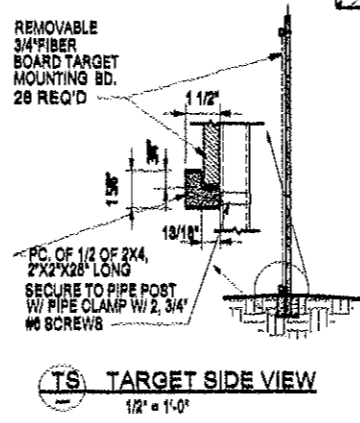
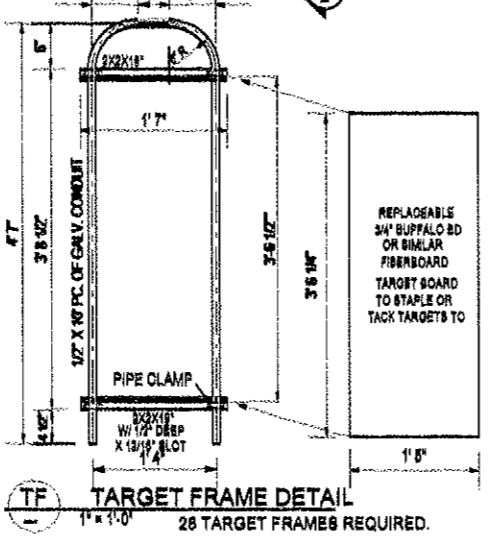
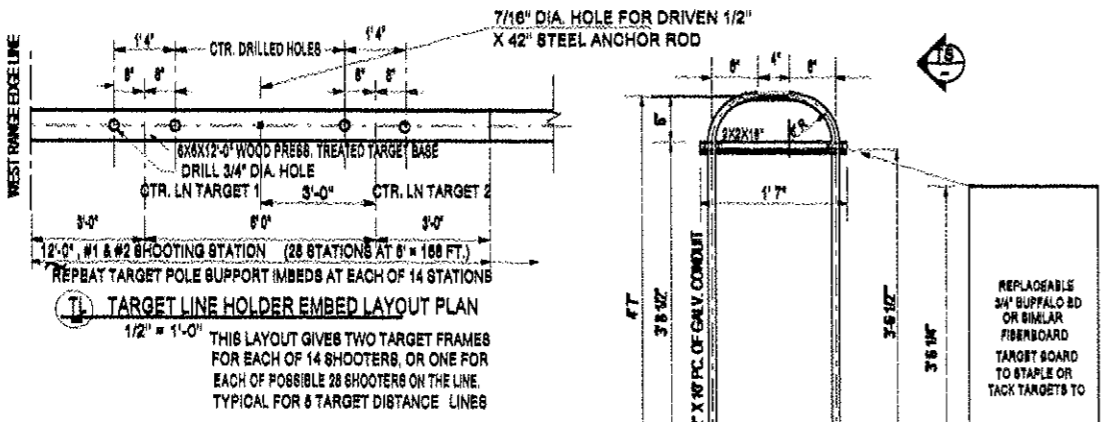
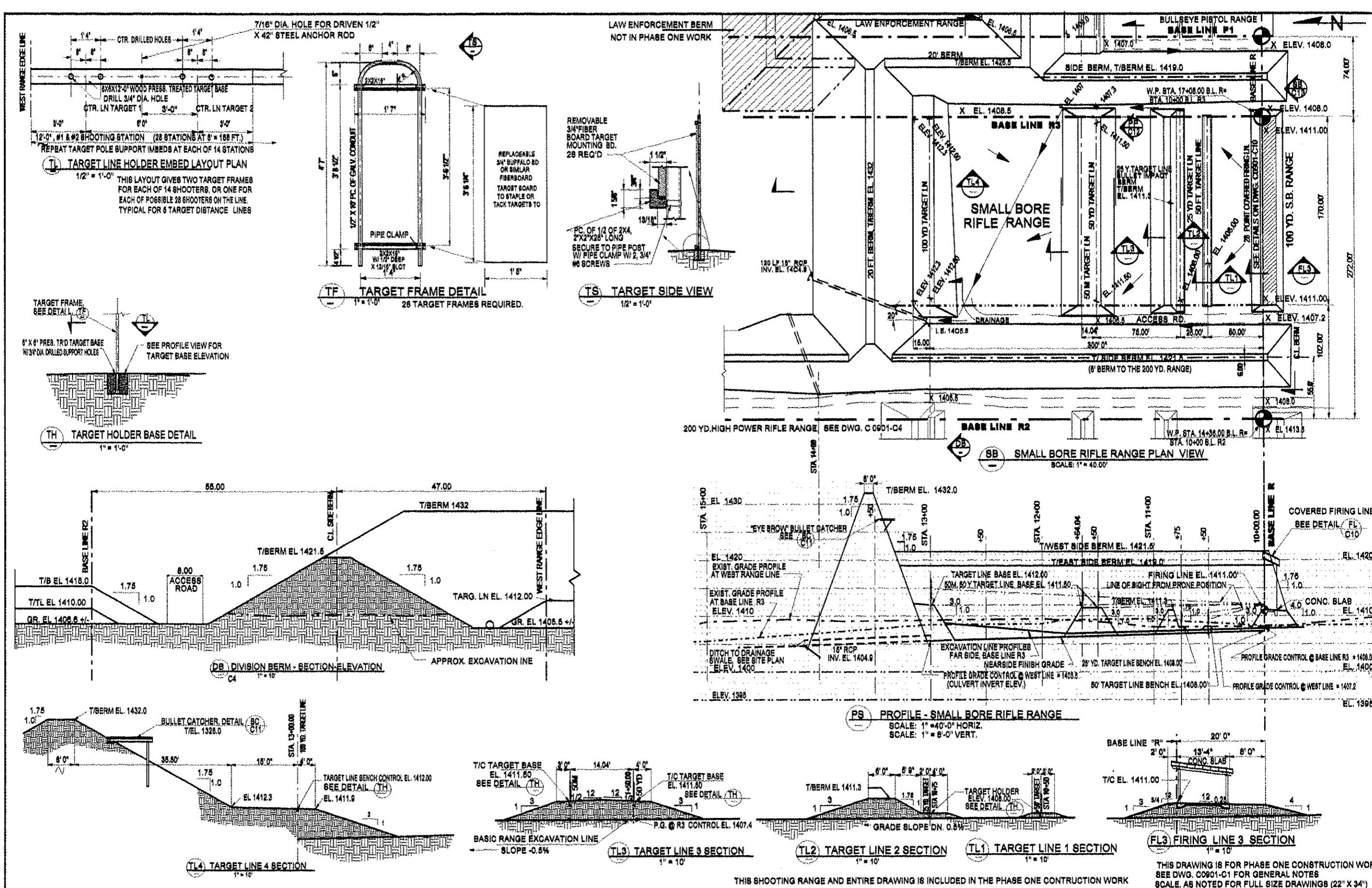
KARVAKKO Engineering
 144 PAUL BUNYAN DRIVE NW, P.O. BOX 786
 MINNETONKA, MN 55345
 TEL 218-444-8004, FAX 218-444-8862

BELTRAMI COUNTY SHOOTING SPORTS PARK
 SHOOTING RANGE CONSTRUCTION PLANS
 200 YD. HIGH POWER RIFLE RANGE PLAN, PROFILE & DETAILS

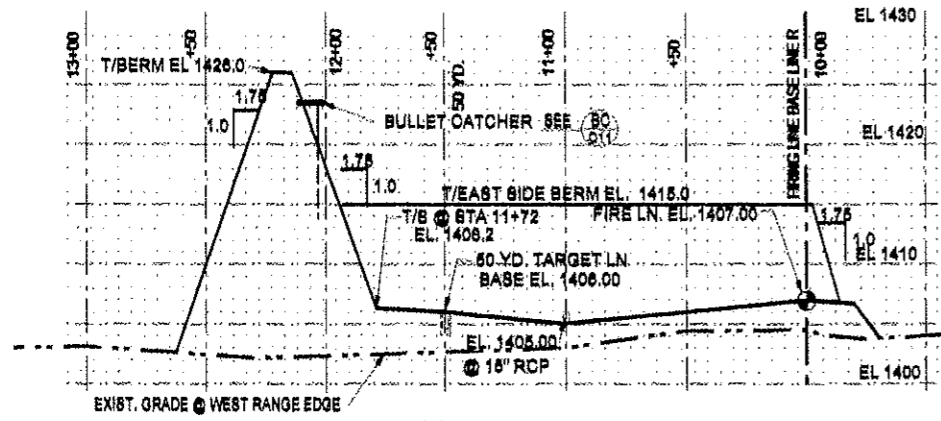
DWG. NO. C0901
 REV. C4 0

NOTE: THIS DRAWING IS FOR PHASE 2 CONSTRUCTION WORK ONLY!

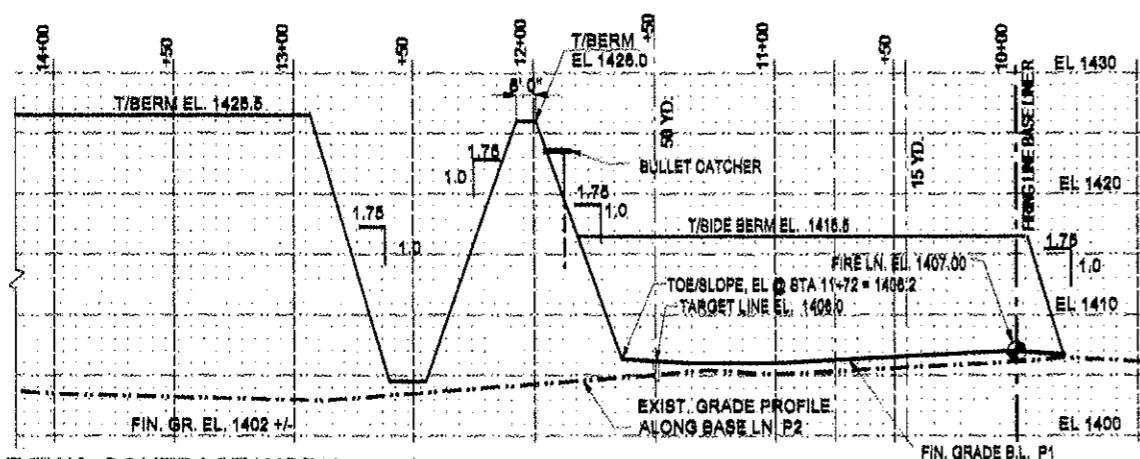
NOTE: THIS DRAWING IS NOT INCLUDED IN THE PHASE ONE CONSTRUCTION WORK!



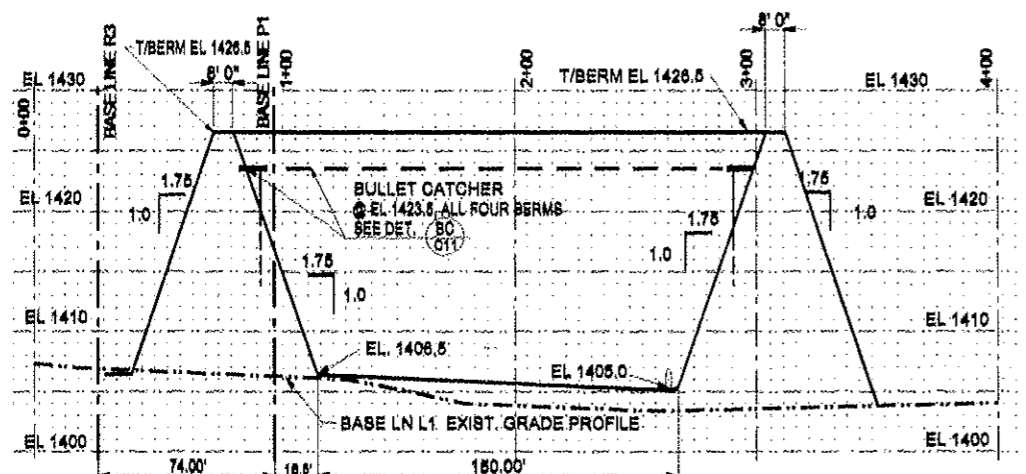
DESIGNED		CHECKED		I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		STUART ANDERSON PROFESSIONAL ENGINEERING SERVICES INC. 144 PAUL BUNNY DRIVE, WYLLIE, P.O. BOX 788 DEER RIVER, MN 55329 TEL 218-248-2398	KARVAKKO Engineering 144 PAUL BUNNY DRIVE, WYLLIE, P.O. BOX 788 DEER RIVER, MN 55329 TEL 218-444-8004 FAX 218-444-8262	BELTRAMI COUNTY SHOOTING SPORTS PARK SHOOTING RANGE CONSTRUCTION PLANS	100 YARD SMALLBORE RIFLE RANGE PLAN, PROFILE & DETAILS	DWG. NO. C0901 REV. C5 0
0	REV. 0 ISSUED FOR CONSTRUCTION	SCA	12/01/08	SCA	12/01/08					
B	REVISED FIRE LINE SPACING TO 8'-0"	SCA	7/7/08	SCA	7/7/08	THIS DRAWING IS FOR PHASE ONE CONSTRUCTION WORK. SEE DWG. C0901-C1 FOR GENERAL NOTES. SCALE, AS NOTED FOR FULL SIZE DRAWINGS (22" X 34")				
A	ISSUED FOR APPROVAL	SCA	6/27/08	SCA	6/27/08					
P-1	PRELIM. STUDY REVIEW/ISSUE	SCA	3/2/08	SCA	3/2/08					
NO.	REVISION DESCRIPTION	BY	APPR.	DATE	JOB NO. C0901					



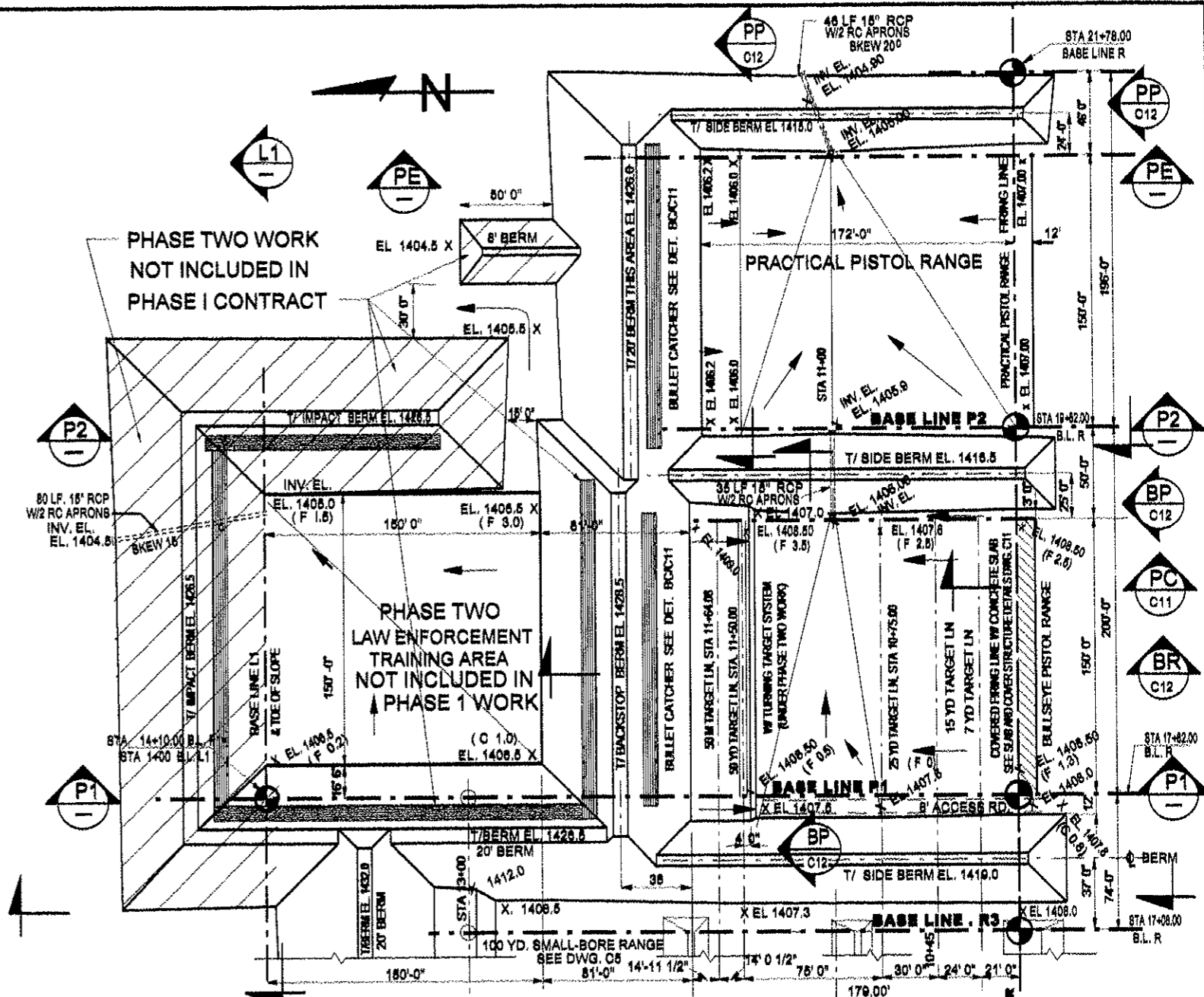
PE PROFILE ALONG EAST EDGE, ACTION PISTOL RANGE
SCALE: 1" = 40' HORIZ., 1" = 8' VERT. LOOKING EAST



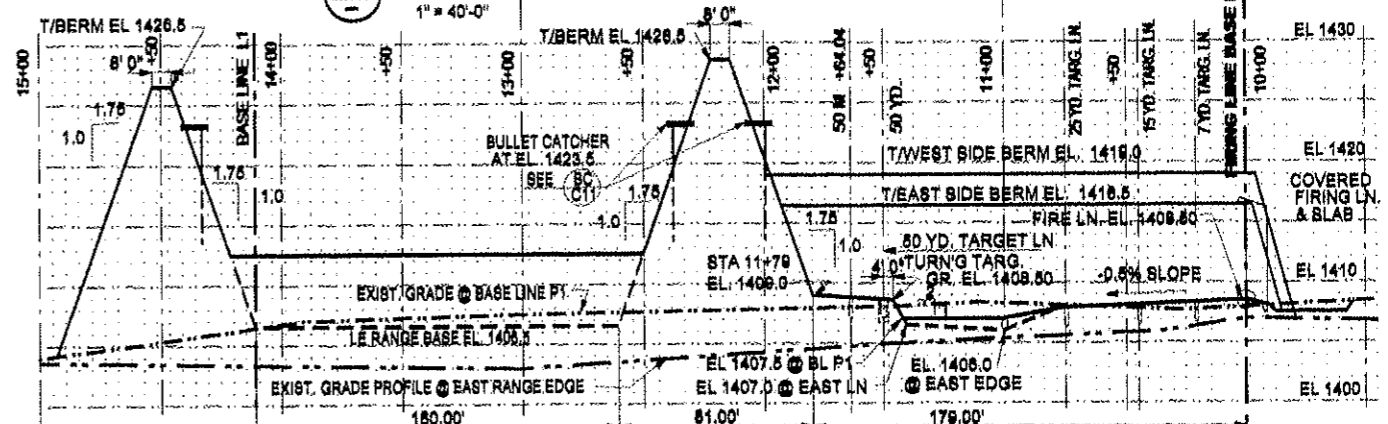
P2 PROFILE ALONG ACTION PISTOL RANGE BASE LINE P2
SCALE: 1" = 40' HORIZ., 1" = 8' VERT. LOOKING EAST



L1 PROFILE ALONG LAW ENFORCEMENT TRNG. AREA, BASE LINE L1
SCALE: 1" = 40' HORIZ., 1" = 8' VERT. LOOKING NORTH

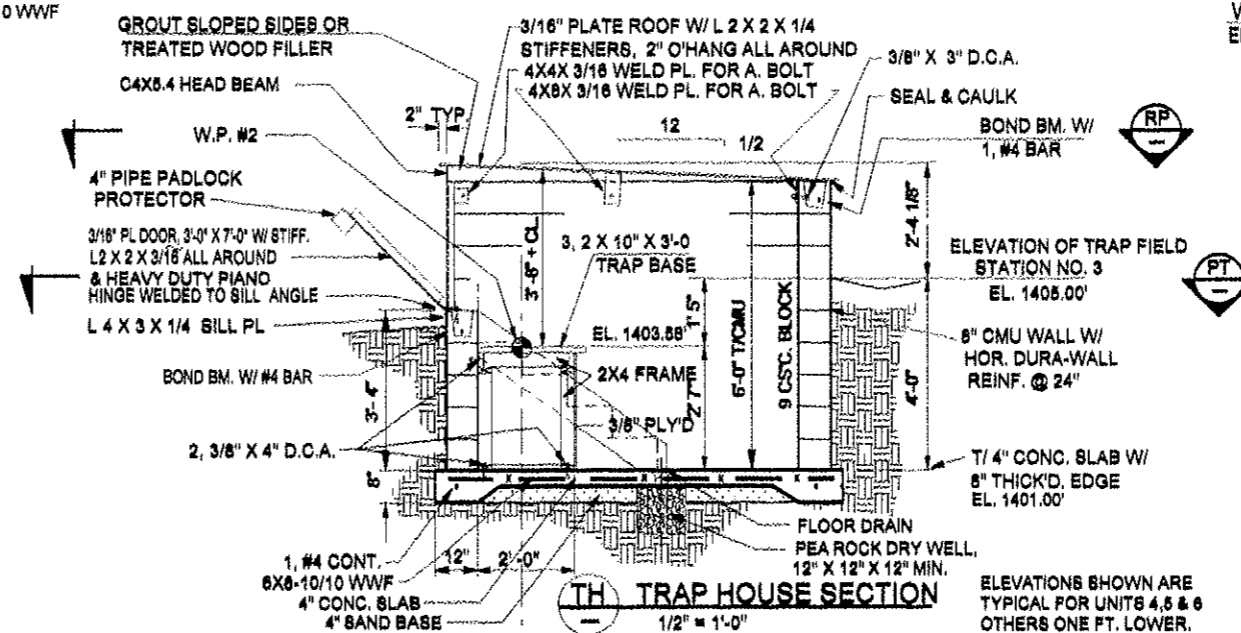
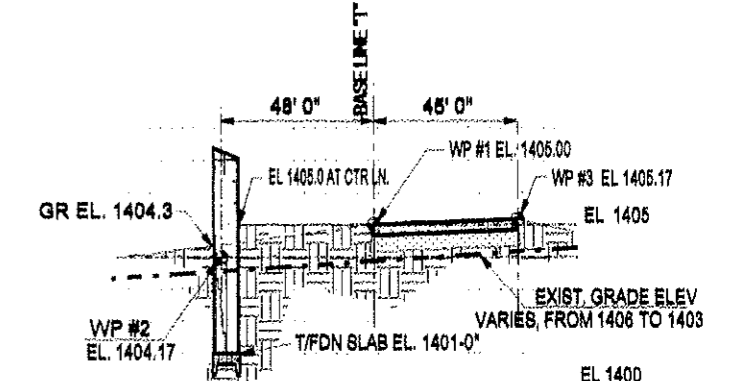
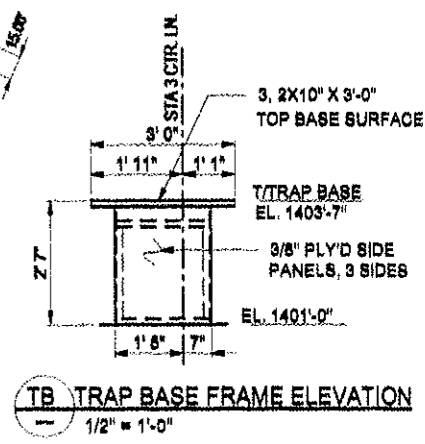
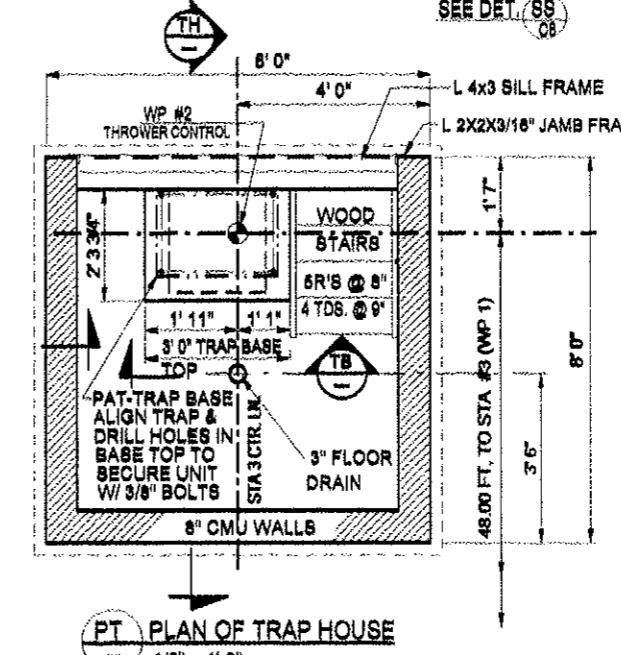
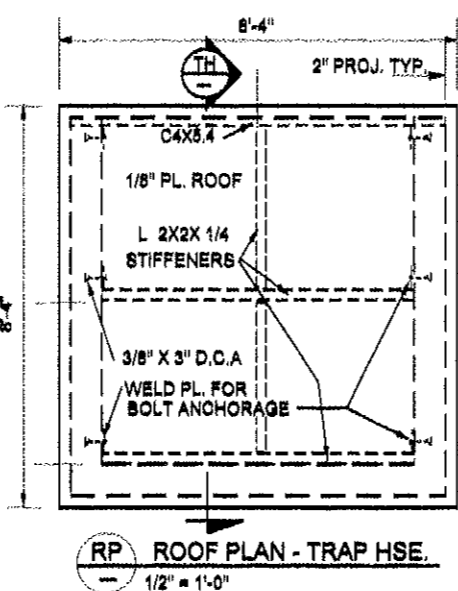
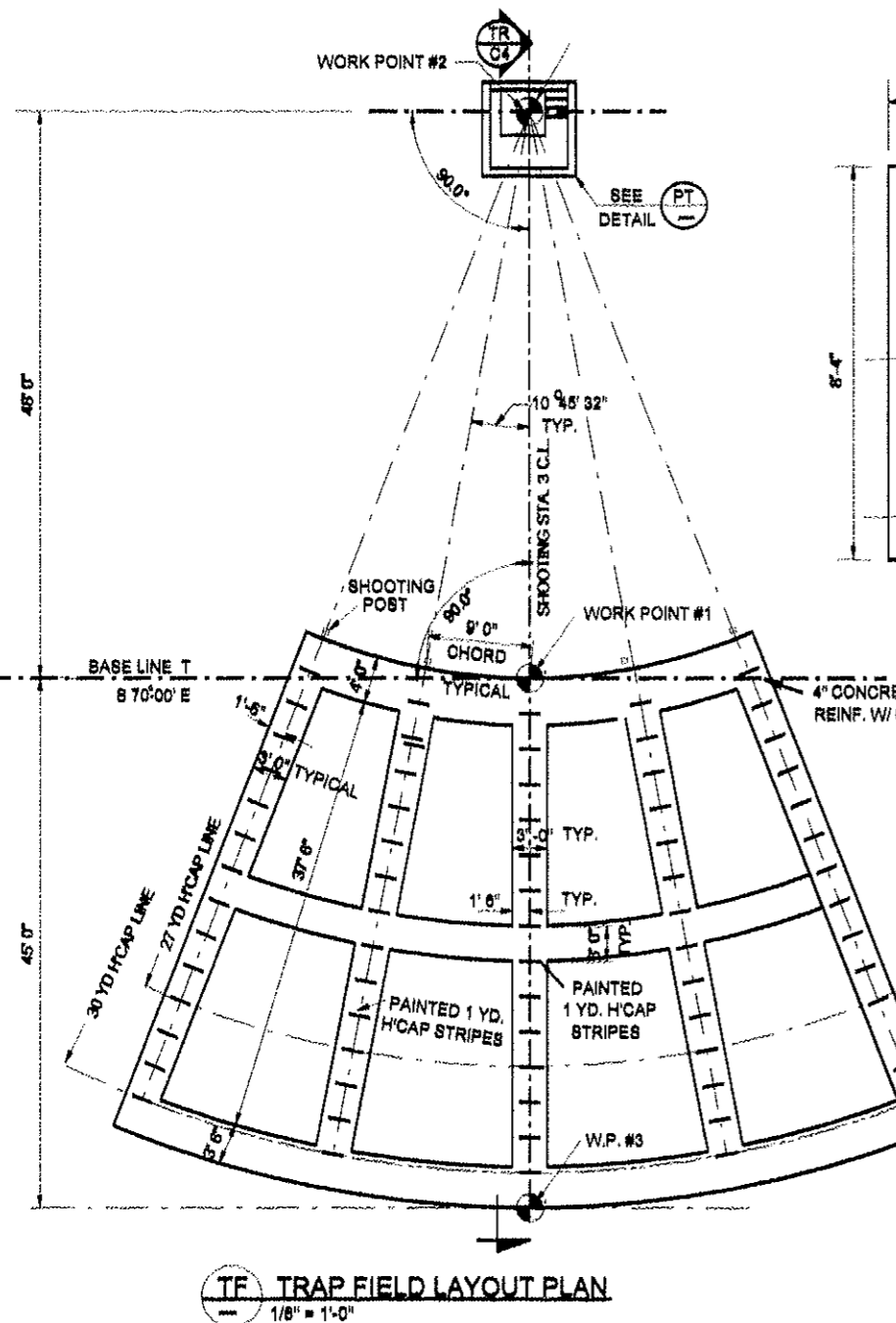
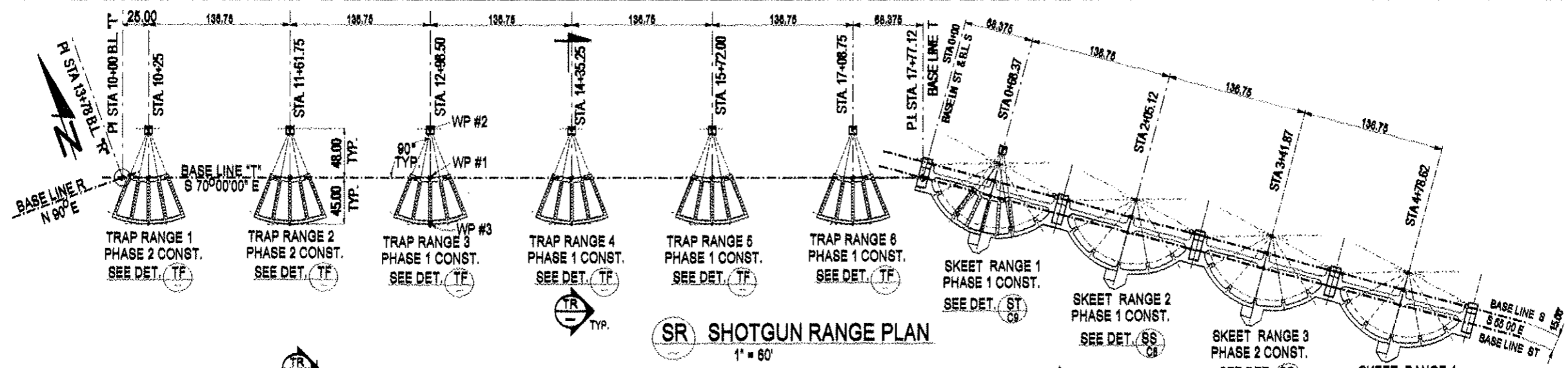


PL PISTOL & LAW ENFORCEMENT RANGE PLAN VIEWS
SCALE: 1" = 40'-0"



P1 PROFILE ALONG BULLSEYE PISTOL RANGE, BASE LINE P1
SCALE: 1" = 40' HORIZ., 1" = 8' VERT. LOOKING EAST

0	REV. 0 ISSUED FOR CONSTRUCTION	SCA	12/01/09	SCA	SCA	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. STUART G. ANDERSON REG. NO. 6121 DATE: 12/01/09	 STUART G. ANDERSON PROFESSIONAL ENGINEERING SERVICES INC. 144 PAUL BUNYAN DRIVE NW, P.O. BOX 785 MINNEDI, MN. 56616 TEL. 218-248-2308 TEL. 218-444-8004, FAX 218-444-8062	BELTRAMI COUNTY SHOOTING SPORTS PARK SHOOTING RANGE CONSTRUCTION PLANS 50 YD. PISTOL & LAW ENFORCEMENT RANGES PLAN & PROFILES	DWG. NO.	
B	REV. SPACING TO FIT BERM SLOPE & MISC.	SCA	7/8/09	SCA	APPR'D				C0901	REV.
A	ISSUED FOR APPROVAL	SCA	8/12/08	SCA	SCA				C6	0
P1	PRELIM. STUDY REVIEW ISSUE	SCA	3/2/08	SCA	SCA					
NO.	REVISION DESCRIPTION	BY	APPR.	DATE						



FOR GENERAL RANGE NOTES, SEE DWG. C0901-C1
ADJUST FINAL GRADE CONTROL FOR THE TRAP HOUSES & SHOOTING STATIONS TO FIT THE FINAL SITE DRAINAGE CONTROL ELEVATIONS.
SHOOTING STATIONS ON EACH TRAP RANGE UNIT MAY NOT VARY IN ELEVATION BY MORE THAN TWO INCHES.
ALL WOOD MEMBERS TO BE PRESSURE TREATED
ALL FILL FOR THE SHOOTING STATION WALKWAYS SHALL BE PLACED IN MAXIMUM LIFT DEPTHS OF 12" AND BE COMPACTED TO A MINIMUM OF 90% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST (ASTM 698)

SCALE, AS NOTED FOR FULL SIZE (22"X34") DWG.

NO.	REVISION DESCRIPTION	BY	APPR.	DATE
0	REV. 0 ISSUED FOR CONSTRUCTION	SCA		12/13/09
B	REV. TO FIT 10' SKEET HSE-139.78' SPO.	SCA		08/09
A	ISSUED FOR APPROVAL	SCA		02/27/09
P1	PRELIM. STUDY REVIEW ISSUE	SCA		03/2/09
NO.	REVISION DESCRIPTION	BY	APPR.	DATE

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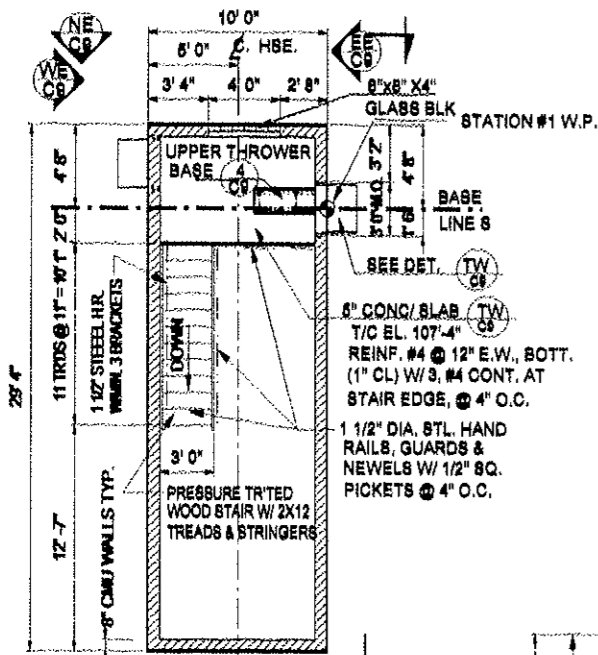
STUART C. ANDERSON
REG. NO. 6721
DATE: 12/13/09

STUART ANDERSON PROFESSIONAL ENGINEERING SERVICES INC.
TEL. 218-240-2390
38540 CO. RD. 238, DEER RIVER, MN

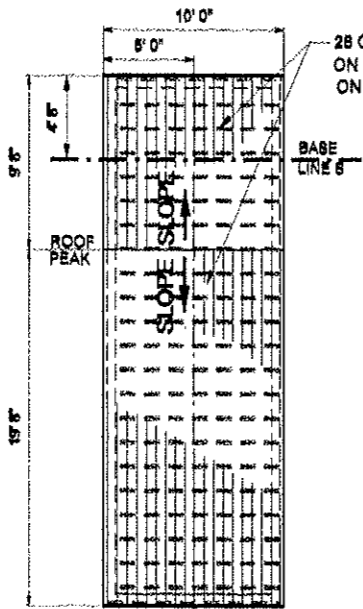
KARVAKKO Engineering
144 PAUL BUNYAN DRIVE NW, P.O. BOX 786
MINNIDI, MN, 55816
TEL. 218-444-8004, FAX 218-444-8562

BELTRAMI COUNTY SHOOTING SPORTS PARK
SHOOTING RANGE CONSTRUCTION PLANS
SHOTGUN RANGE FIRING LINE PLAN & TRAP RANGE DETAILS

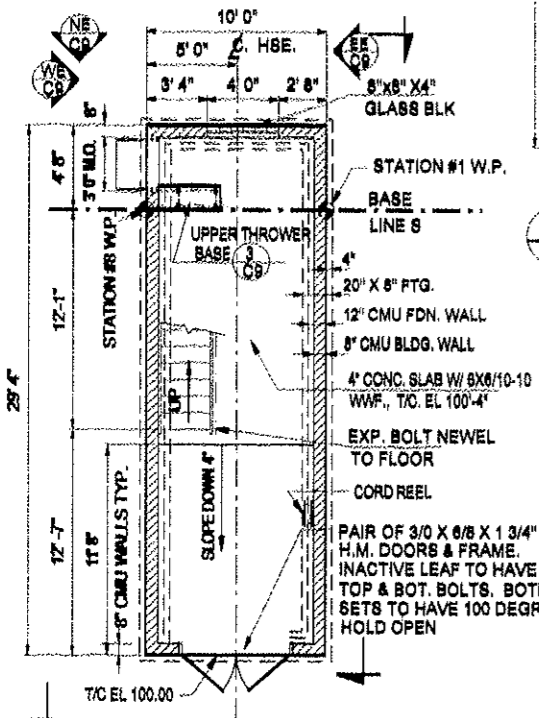
DWG. NO. C0901
REV. C7 0



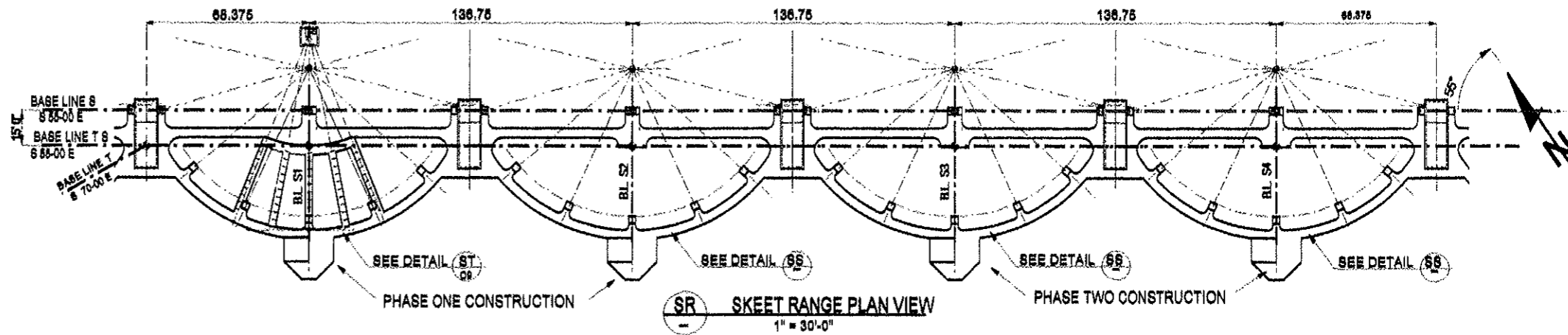
HH HIGH HOUSE FLOOR PLAN
3/16" = 1'-0"



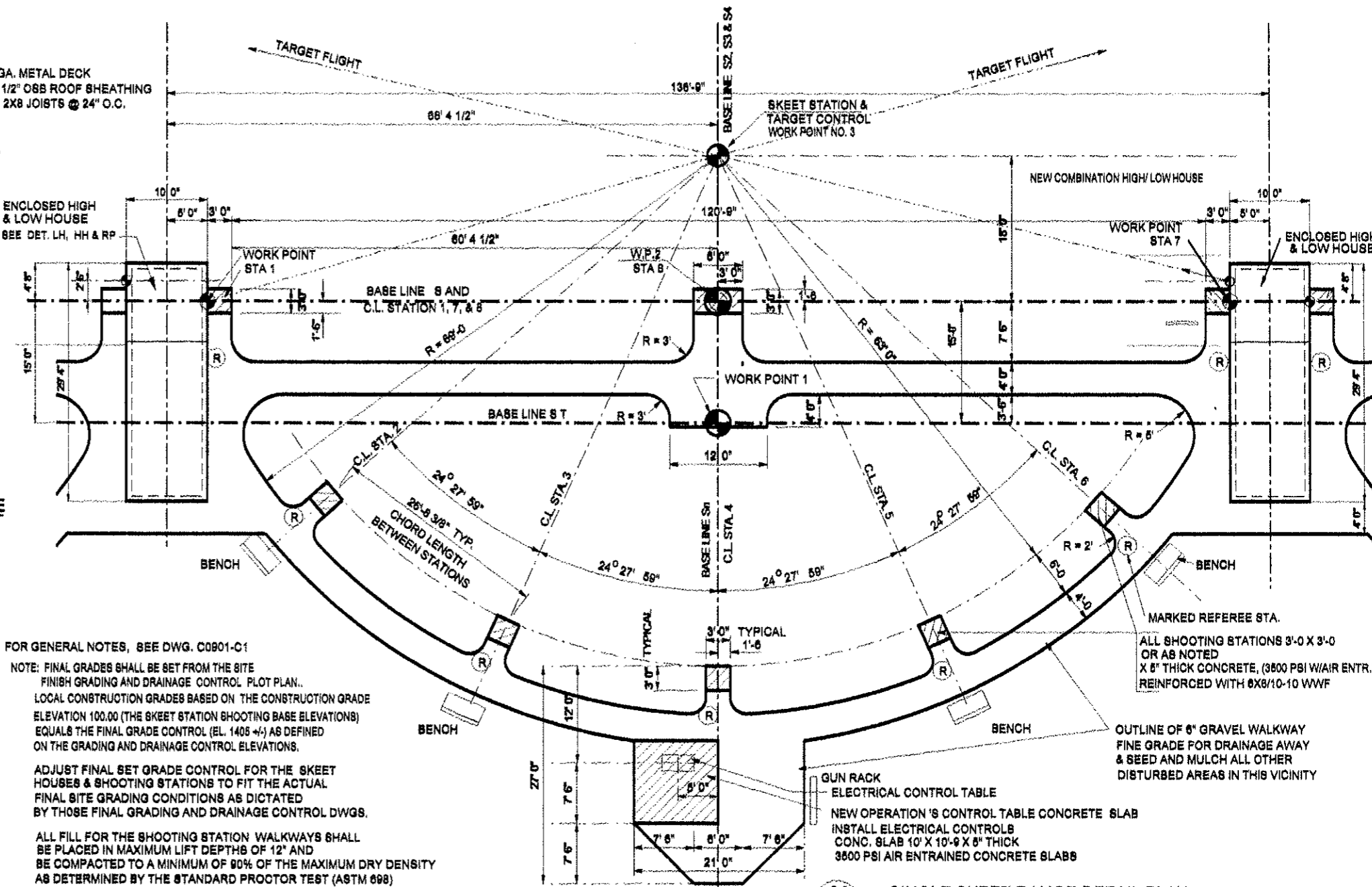
RP ROOF PLAN-SKEET HOUSE
3/16" = 1'-0"



LH LOW HOUSE FLOOR PLAN
3/16" = 1'-0"



SR SKEET RANGE PLAN VIEW
1" = 30'-0"



SS SINGLE SKEET RANGE DETAIL PLAN
& C7 SCALE 1" = 8'-0"

FOR GENERAL NOTES, SEE DWG. C0901-C1

NOTE: FINAL GRADES SHALL BE SET FROM THE SITE FINISH GRADING AND DRAINAGE CONTROL PLOT PLAN. LOCAL CONSTRUCTION GRADES BASED ON THE CONSTRUCTION GRADE ELEVATION 100.00 (THE SKEET STATION SHOOTING BASE ELEVATION) EQUALS THE FINAL GRADE CONTROL (EL. 1405 +/-) AS DEFINED ON THE GRADING AND DRAINAGE CONTROL ELEVATIONS.

ADJUST FINAL SET GRADE CONTROL FOR THE SKEET HOUSES & SHOOTING STATIONS TO FIT THE ACTUAL FINAL SITE GRADING CONDITIONS AS DICTATED BY THOSE FINAL GRADING AND DRAINAGE CONTROL DWGS.

ALL FILL FOR THE SHOOTING STATION WALKWAYS SHALL BE PLACED IN MAXIMUM LIFT DEPTHS OF 12" AND BE COMPACTED TO A MINIMUM OF 90% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST (ASTM 698)

ALL SKEET HOUSE FILL BELOW THE BASE SLAB SHALL BE COMPACTED TO 95% MAX. DRY DENSITY STD. PROCTOR TEST.

NO.	REVISION DESCRIPTION	BY	APPR.	DATE
0	REV. 0 ISSUED FOR CONSTRUCTION	SCA		12/02/08
B	REV. TO 10' SKEET HSE	SCA		6/7/09
A	ISSUED FOR APPROVAL	SCA		8/27/08
P1	PRELIM. STUDY REVIEW ISSUE	SCA		3/2/09

DESIGNED	CHECKED	DATE	JOB NO.
SCA	SCA	12/02/08	C0901

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

STUART C. ANDERSON REG. NO. 5721 DATE: 12/02/08

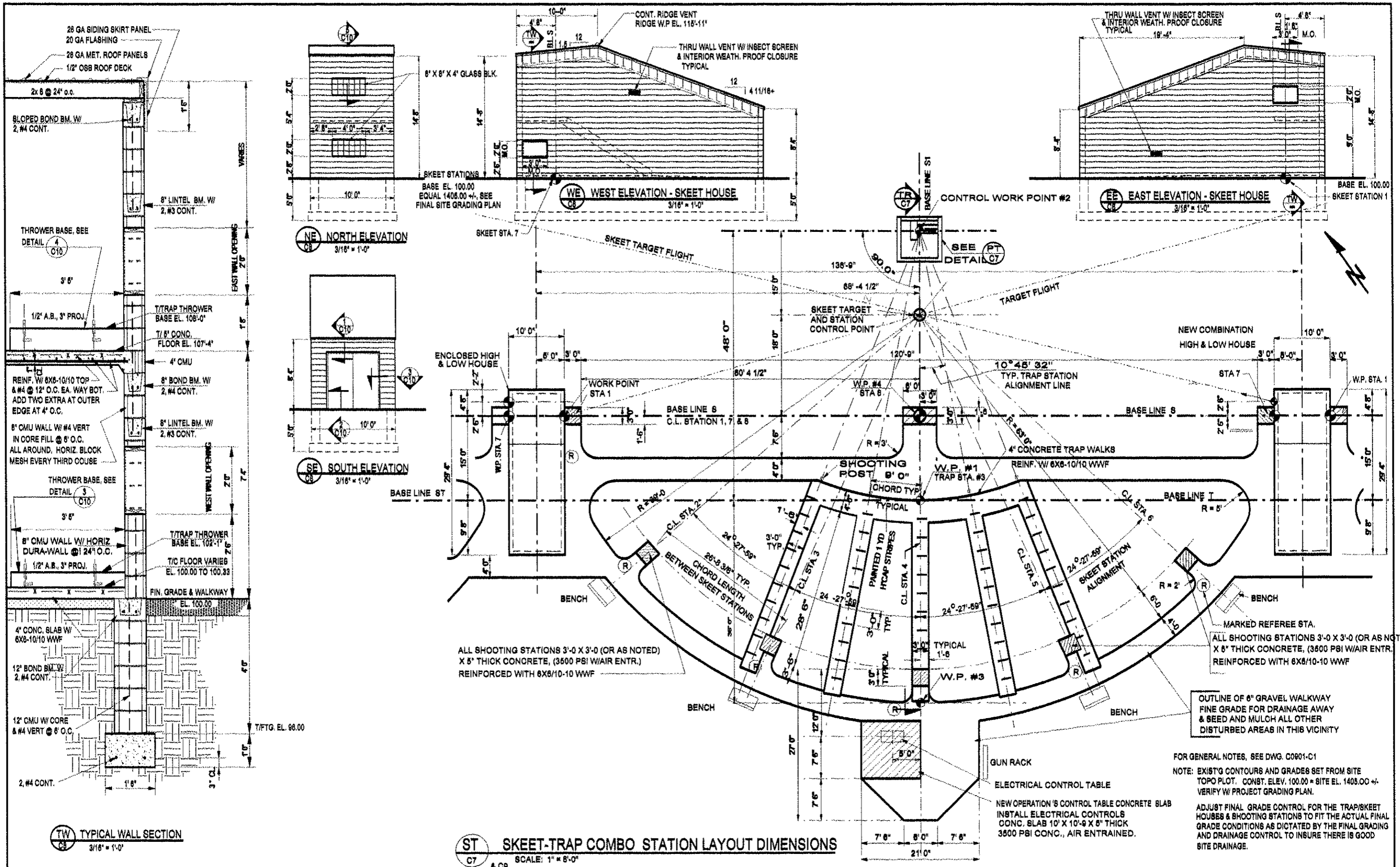
STUART ANDERSON PROFESSIONAL SERVICES INC.
ENGINEERING
35840 CO. RD. 236, DEER RIVER, MN
TEL. 218-246-2388

KARVAKKO Engineering
144 PAUL BUNYAN DRIVE NW P.O. BOX 788
BEMIDJIE, MN 56618
TEL. 218-444-8004, FAX 218-444-8662

BELTRAMI COUNTY SHOOTING SPORTS PARK
SHOOTING RANGE CONSTRUCTION PLANS
SKEET RANGE FIRING LINE SINGLE UNIT PLAN & SKEET HSE PLAN VIEWS

DWG. NO. **C0901**
REV. **C8**
0

SCALE, AS NOTED FOR FULL (22" X 34") PRINTS



ST SKEET-TRAP COMBO STATION LAYOUT DIMENSIONS
 SCALE: 1" = 8'-0"

FOR GENERAL NOTES, SEE DWG. C0901-C1
 NOTE: EXIST'G CONTOURS AND GRADES SET FROM SITE TOPO PLOT. CONST. ELEV. 100.00 = SITE EL. 1405.00 +/- VERIFY W/ PROJECT GRADING PLAN.
 ADJUST FINAL GRADE CONTROL FOR THE TRAP/SKEET HOUSES & SHOOTING STATIONS TO FIT THE ACTUAL GRADE CONDITIONS AS DICTATED BY THE FINAL GRADING AND DRAINAGE CONTROL TO INSURE THERE IS GOOD SITE DRAINAGE.

SCALE, AS NOTED FOR FULL (22" X 34") PRINTS

NO.	REVISION DESCRIPTION	BY	APPR.	DATE
0	REV. 0 ISSUED FOR CONSTRUCTION	SCA		12/02/09
B	REV. SKEET HSE TO 10' WIDTH	SCA		6/12/09
A	ISSUED FOR APPROVAL	SCA		5/27/09
P1	PRELIM. STUDY REVIEW ISSUE	SCA		3/2/09

DESIGNED	CHECKED	DATE
SCA	SCA	12/02/09
SCA	SCA	09/01

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

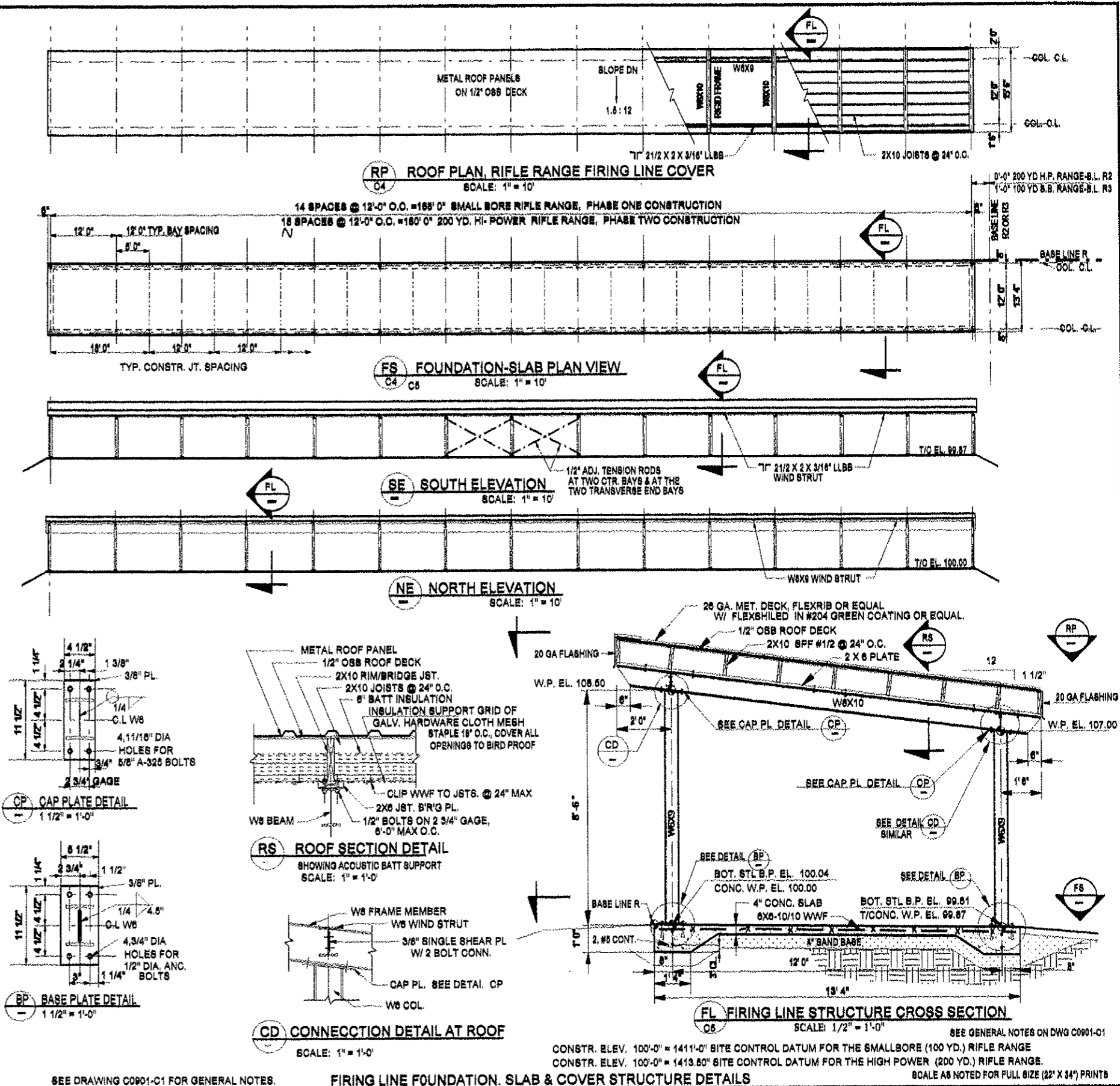
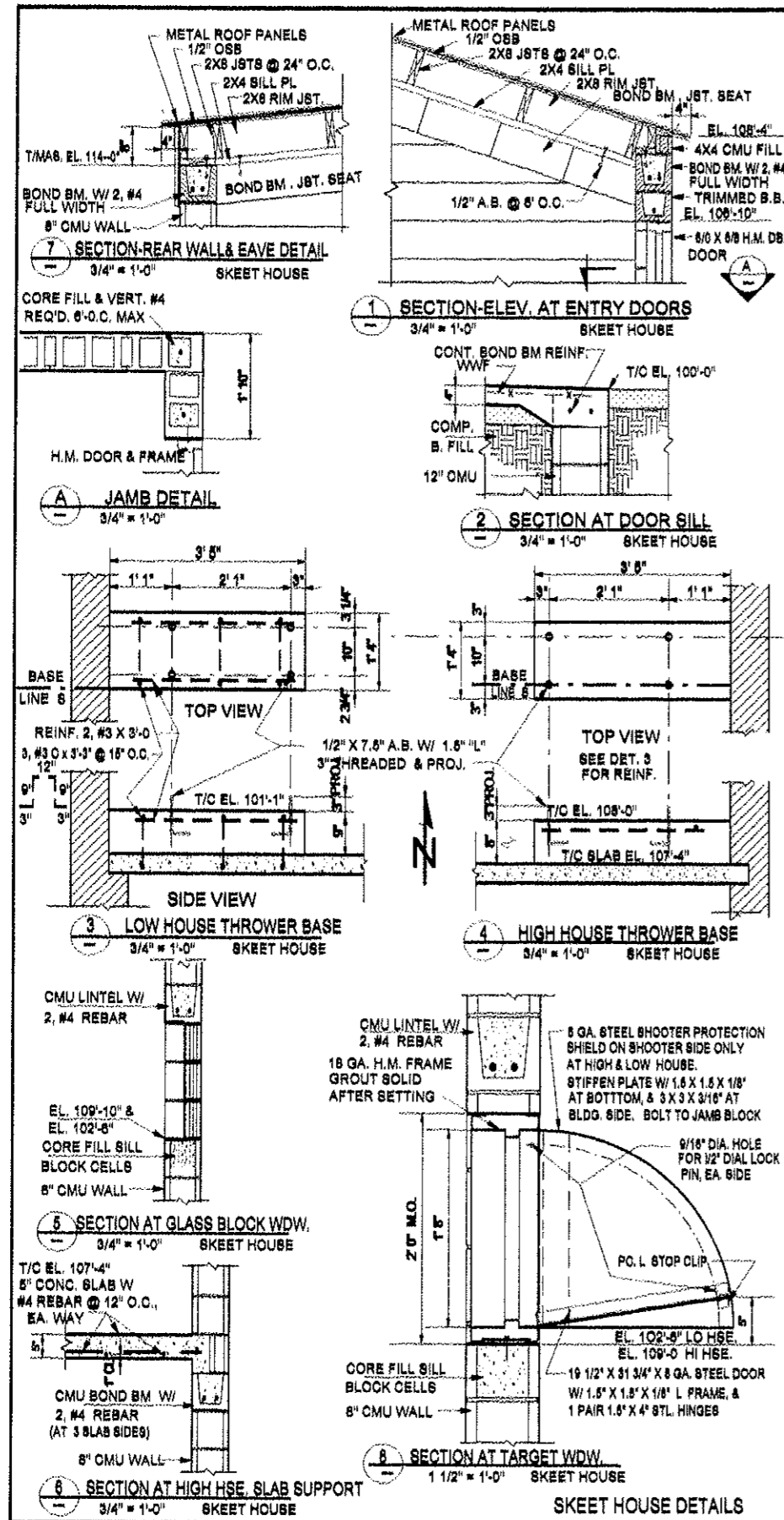
STUART O. ANDERSON REG. NO. 9721 DATE 1/10/09

STUART O. ANDERSON
 35540 CO. RD. 238, DEER RIVER, MN

KARVAKKO Engineering
 144 PAUL BUNYAN DRIVE NW, P.O. BOX 785
 MINNAPOLIS, MN, 55412
 TEL. 218-245-2398
 TEL. 218-444-8004, FAX 218-444-8062

BELTRAMI COUNTY SHOOTING SPORTS PARK
 SHOOTING RANGE CONSTRUCTION PLANS
 SKEET/TRAP COMBO FIRING LINE PLAN & SKEET HOUSE, ELEV'S.

DWG. NO. **C0901**
 REV. **C9 0**



SEE DRAWING C0901-C1 FOR GENERAL NOTES.

FIRING LINE FOUNDATION, SLAB & COVER STRUCTURE DETAILS

CONSTR. ELEV. 100'-0" = 1411'-0" BITE CONTROL DATUM FOR THE SMALLBORE (100 YD.) RIFLE RANGE
CONSTR. ELEV. 100'-0" = 1413.80' BITE CONTROL DATUM FOR THE HIGH POWER (200 YD.) RIFLE RANGE.
SCALE AS NOTED FOR FULL SIZE (22" X 34") PRINTS

0	REV. 0 ISSUED FOR CONSTRUCTION	SCA	12/01/09
B	REV. SKEET HSE. ADDED RIFLE RANGE COVER	SCA	8/23/09
A	ISSUED FOR APPROVAL	SCA	9/27/09
P1	PRELIM. STUDY REVIEW ISSUE	SCA	9/22/09
NO.	REVISION DESCRIPTION	BY	APPR. DATE

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

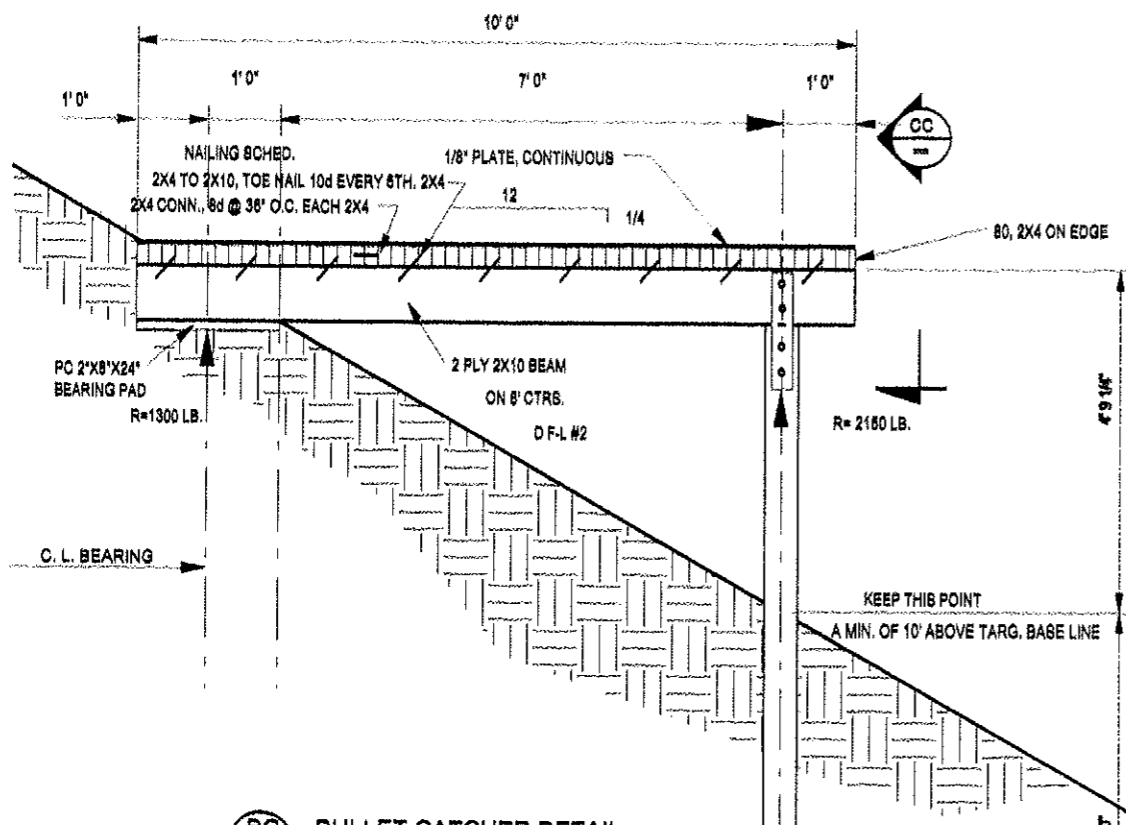
STUART ANDERSON
REGISTERED PROFESSIONAL ENGINEER
NO. 1781
DATE: 12/01/09

STUART ANDERSON
REGISTERED PROFESSIONAL ENGINEER
SERVICES INC.
144 PAUL HUNYAN DRIVE NW, P.O. BOX 785
SHINGO, MN. 55619
TEL. 218-248-2396
35840 CO. RD. 23B, DEER RIVER, MN.

KARVAKKO Engineering
144 PAUL HUNYAN DRIVE NW, P.O. BOX 785
SHINGO, MN. 55619
TEL. 218-444-8004, FAX 218-444-3662

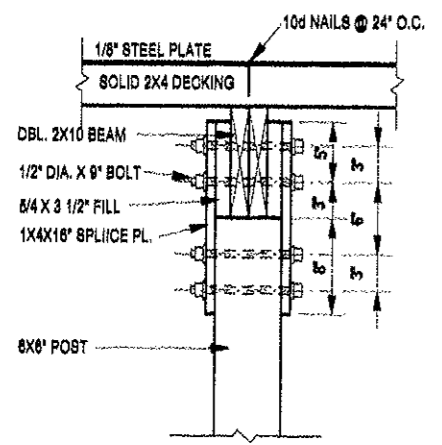
BELTRAMI COUNTY SHOOTING SPORTS PARK
SHOOTING RANGE CONSTRUCTION PLANS
SKEET HOUSE & RIFLE RANGE FIRING LINE STRUCTURE DETAILS

DWG. NO.
C0901
REV.
C100

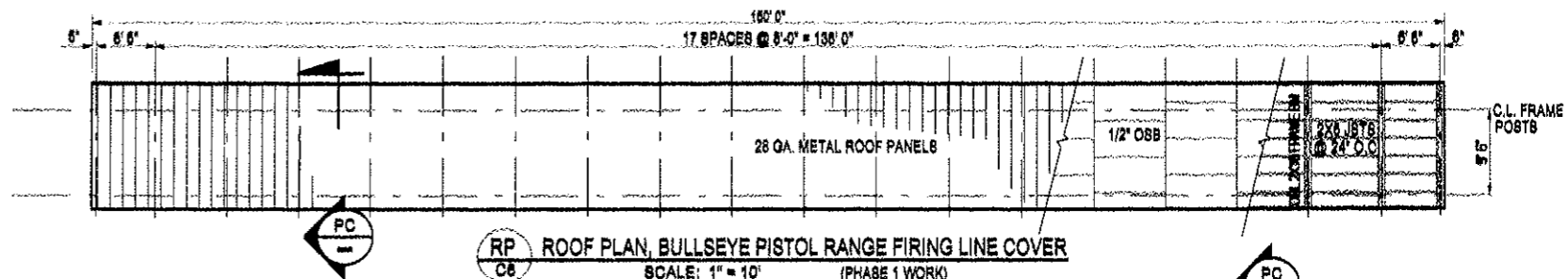


BC BULLET CATCHER DETAIL
 03 3/4" = 1'-0" MOUNT NEAR TOP OF BERM
 C4
 C5
 C6

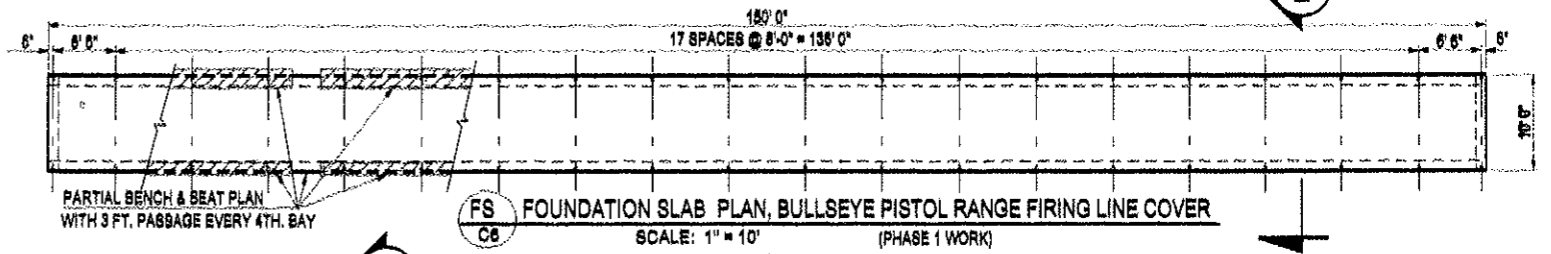
BULLET CATCHERS REQUIRED FOR BOTH PHASE 1 AND PHASE 2 WORK
 SEE RANGE PLAN VIEWS, DWG. 03 THROUGH 06 FOR LOCATIONS
 SUGGESTED INSTALLATION PROCEDURE:
 1. BUILD UP BERM TO 'CATCHER' BEARING ELEVATION.
 2. INSTALL POSTS & 'CATCHER' STRUCTURE FROM BERM SURFACE
 3. COMPLETE BERM INSTALLATION



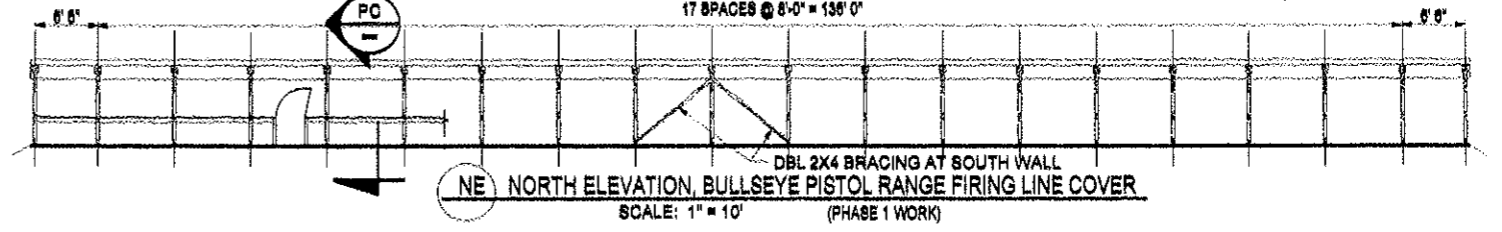
CC COLUMN CONNECTION DETAIL
 1 1/2" = 1'-0"



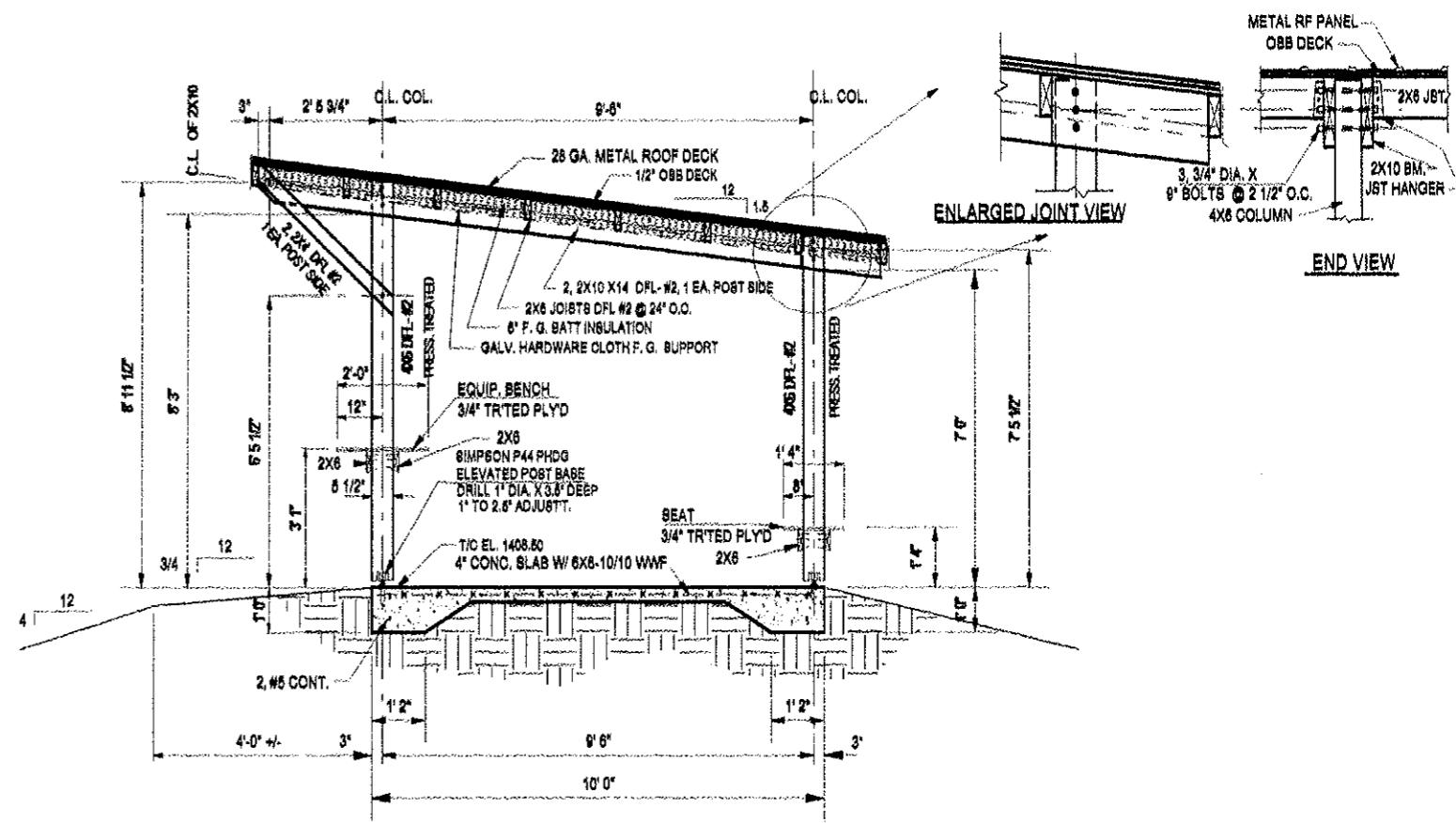
RP ROOF PLAN, BULLSEYE PISTOL RANGE FIRING LINE COVER
 C6 SCALE: 1" = 10' (PHASE 1 WORK)



FS FOUNDATION SLAB PLAN, BULLSEYE PISTOL RANGE FIRING LINE COVER
 C6 SCALE: 1" = 10' (PHASE 1 WORK)



NE NORTH ELEVATION, BULLSEYE PISTOL RANGE FIRING LINE COVER
 C6 SCALE: 1" = 10' (PHASE 1 WORK)



PC PISTOL COVERED FIRING LINE
 C6 1/2" = 1'-0" (PHASE 1 WORK)

SEE DWG. C1 FOR GENERAL NOTES
 SCALE, AS NOTED FOR FULL (22" X 34") PRINTS

NO.	REVISION DESCRIPTION	BY	APPR.	DATE
0	REV. 0 ISSUED FOR CONSTRUCTION	SCA		12/01/09
B	ADDED PISTOL COVERED FIRING LINE	SCA		7/30/09
A	ADDED BULLET CATCHER REVISED SECTIONS	SCA		8/22/09
P1	PRELIM. STUDY REVIEW ISSUE	SCA		8/27/09

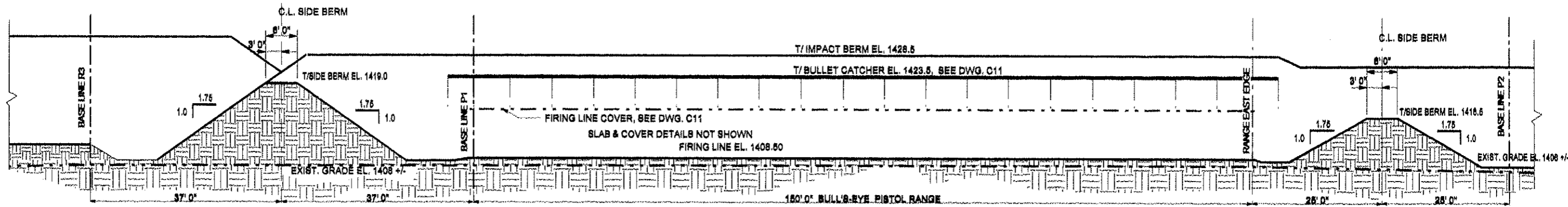
DESIGNED: SCA
 CHECKED: SCA
 DRAWN: SCA
 APP'D: SCA
 DATE: 12/01/09
 JOB NO. C0901
 I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 STUART C. ANDERSON REG. NO. 4721 DATE: 12/01/09

STUART ANDERSON PROFESSIONAL ENGINEERING SERVICES INC.
 38840 CO. RD. 288, DEER RIVER, MN 55810
 TEL 218-248-2396

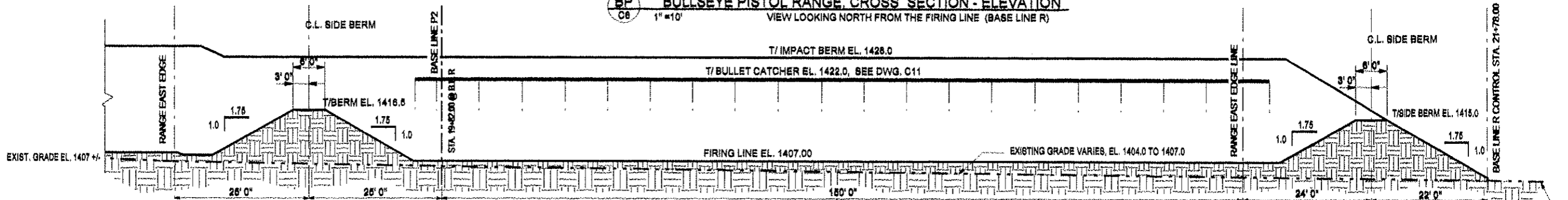
KARVAKKO Engineering
 144 PAUL BUNYAN DRIVE NW P.O. BOX 785
 MINNIDJI, MN 55819
 TEL 218-444-8004, FAX 218-444-8862

BELTRAMI COUNTY SHOOTING SPORTS PARK
 SHOOTING RANGE CONSTRUCTION PLANS
 IMPACT BERM BULLET CATCHER & BULL'S-EYE PISTOL RANGE STRUCTURE DETAILS

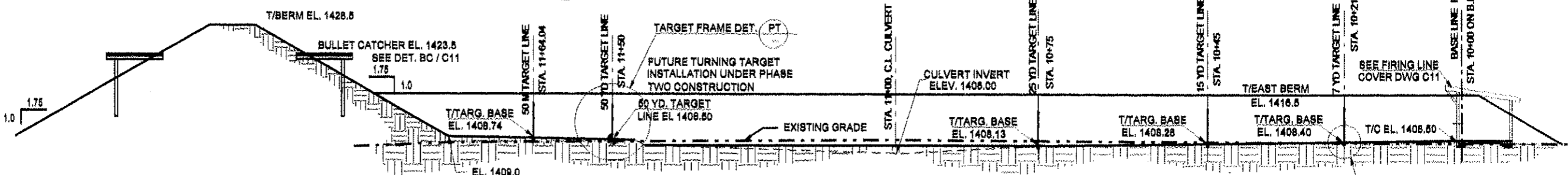
DWG. NO. C0901
 REV. C11
 0



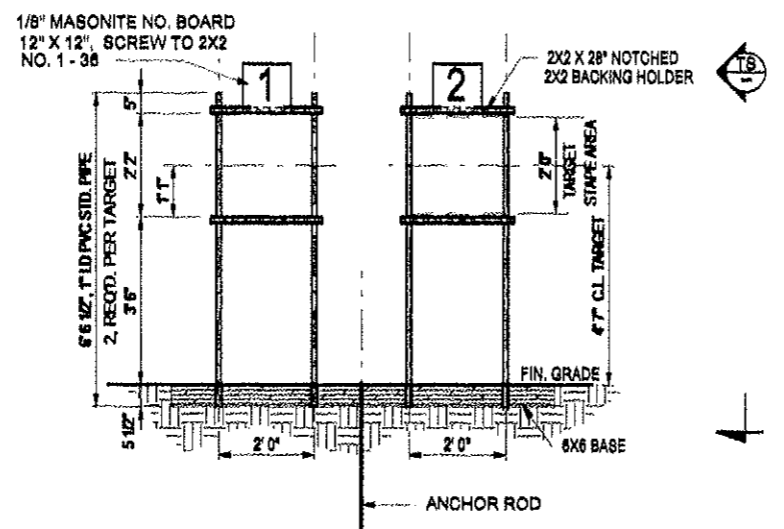
BP BULLSEYE PISTOL RANGE, CROSS SECTION - ELEVATION
 1" = 10'
 VIEW LOOKING NORTH FROM THE FIRING LINE (BASE LINE R)



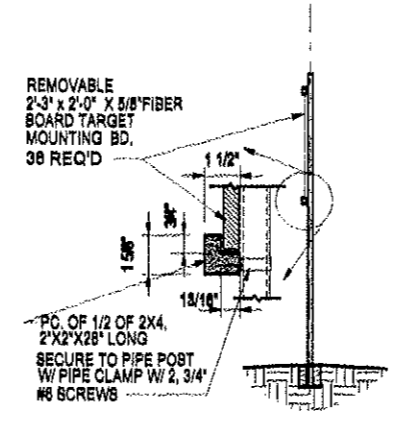
PP PRACTICAL PISTOL RANGE, CROSS SECTION - ELEVATION
 1" = 10'
 VIEW LOOKING NORTH FROM THE FIRING LINE (BASE LINE R)



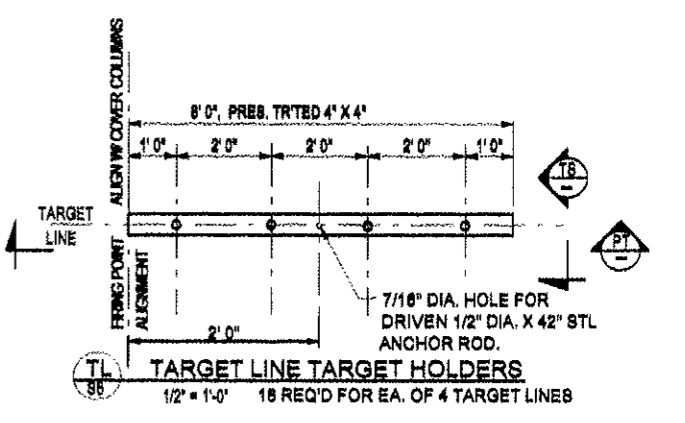
BR BULLSEYE RANGE LONGITUDINAL SECTION - ELEVATION
 1" = 10'
 VIEW LOOKING EAST FROM THE PISTOL BASE LINE P1
 PRACTICAL PISTOL RANGE SIMILAR, WITHOUT DESIGNATED TARGET LINES AND COVER AT FIRING LINE.



PT PISTOL TARGET FRAME ELEVATION VIEW
 1/2" = 1'-0"
 36 TARGET FRAMES REQ'D.



TS TARGET SIDE VIEW
 1/2" = 1'-0"



TL TARGET LINE TARGET HOLDERS
 1/2" = 1'-0"
 16 REQ'D FOR EA. OF 4 TARGET LINES

WORK THIS DRAWING WITH DWG. C0901-C8
 SEE DWG. C1 FOR GENERAL NOTES
 SCALE AS NOTED FOR FULL SIZE (22" X 34") PRINT

NO.	REVISION DESCRIPTION	BY	APPR.	DATE
0	ISSUED FOR CONSTRUCTION	BCA	SCA	12/01/08
B	GENERAL REVISION	BCA	SCA	7/7/09
A	ISSUED FOR APPROVAL	BCA	SCA	8/27/08
P1	PRELIM. STUDY REVIEW ISSUE	BCA	SCA	3/2/08

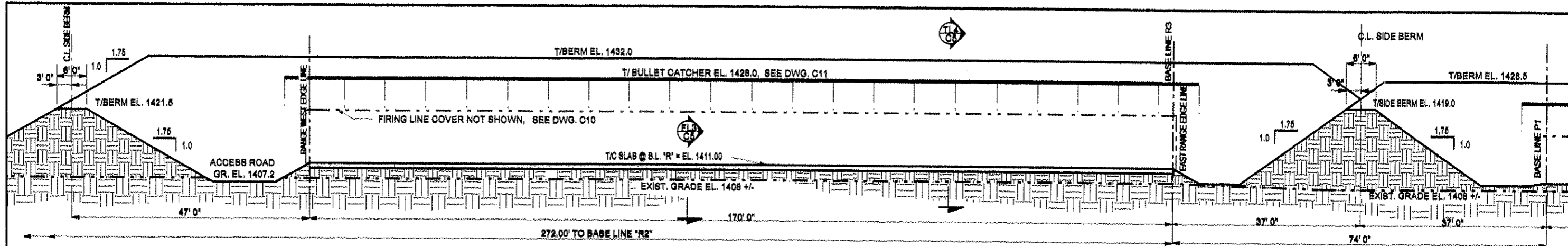
DESIGNED: SCA
 CHECKED: SCA
 DRAWN: SCA
 DATE: 12/01/08
 JOB NO.: C0901
 I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 STUART C. ANDERSON
 REG. NO. 8771
 DATE: 12/01/08

STUART ANDERSON
SAPES
 PROFESSIONAL ENGINEERING SERVICES INC.
 35840 CO. RD. 235, DEER RIVER, MN
 TEL. 218-248-2398

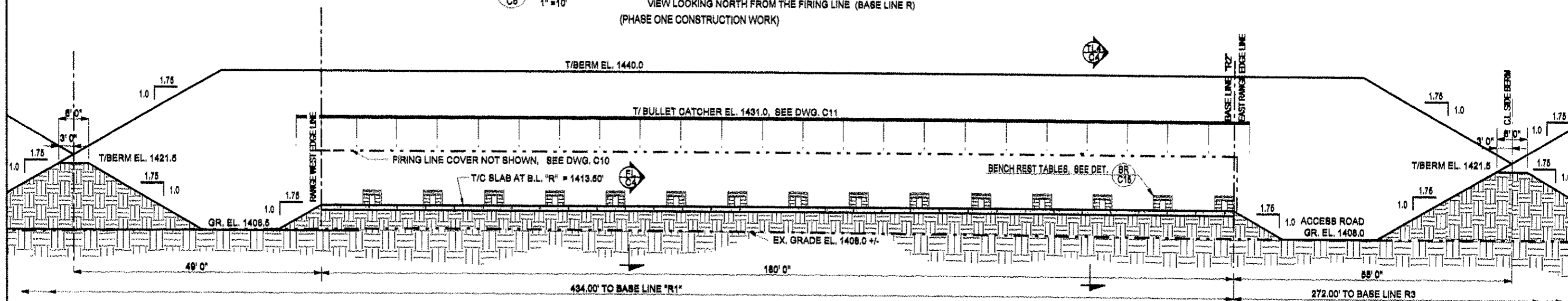
KARVAKKO Engineering
 144 PAUL BUNYAN DRIVE NW, P.O. BOX 785
 BRIMDI, MN. 56816
 TEL. 218-444-8004, FAX 218-444-8562

BELTRAMI COUNTY SHOOTING SPORTS PARK
 SHOOTING RANGE CONSTRUCTION PLANS
 50 YARD PISTOL RANGE SECTION-ELEVATIONS AND DETAILS

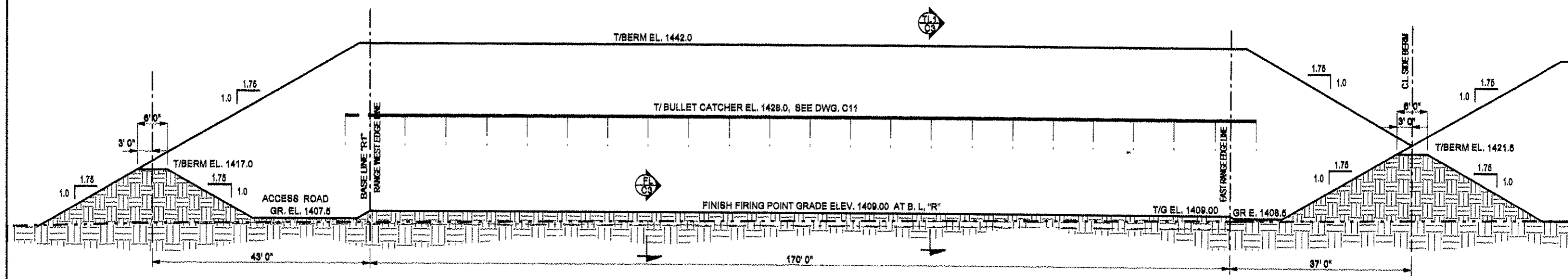
DWG. NO. C0901
 REV. **C120**



SB SMALL BORE RIFLE RANGE CROSS SECTION-ELEVATION
 C5 1" = 10'
 VIEW LOOKING NORTH FROM THE FIRING LINE (BASE LINE R)
 (PHASE ONE CONSTRUCTION WORK)



BR BENCH REST (200 YD. HI-POWER) RIFLE RANGE CROSS SECTION-ELEVATION
 C4 1" = 10'
 VIEW LOOKING NORTH FROM THE FIRING LINE (BASE LINE R)
 (PHASE TWO CONSTRUCTION WORK)



LR LONG RANGE HI-POWER RIFLE RANGE CROSS SECTION-ELEVATION
 C3 1" = 10'
 VIEW LOOKING NORTH FROM THE FIRING LINE (BASE LINE R)
 (PHASE TWO CONSTRUCTION WORK)

WORK THIS DRAWING WITH DWGS. C0901-C3, C4 & C5
 SEE DWG. C1 FOR GENERAL NOTES
 SCALE AS NOTED FOR FULL SIZE (22" X 34") PRINT

NO.	REVISION DESCRIPTION	BY	APPR.	DATE
0	ISSUED FOR CONSTRUCTION	SCA	SCA	12/01/09
B	GENERAL REVISION & NEW VIEWS	SCA	SCA	7/8/09
A	ISSUED FOR APPROVAL	SCA	SCA	8/27/08
P1	PRELIM. STUDY REVIEW ISSUE	SCA	SCA	3/2/09

DESIGNED	CHECKED	DATE	JOB NO.
SCA	SCA	12/01/09	C0901

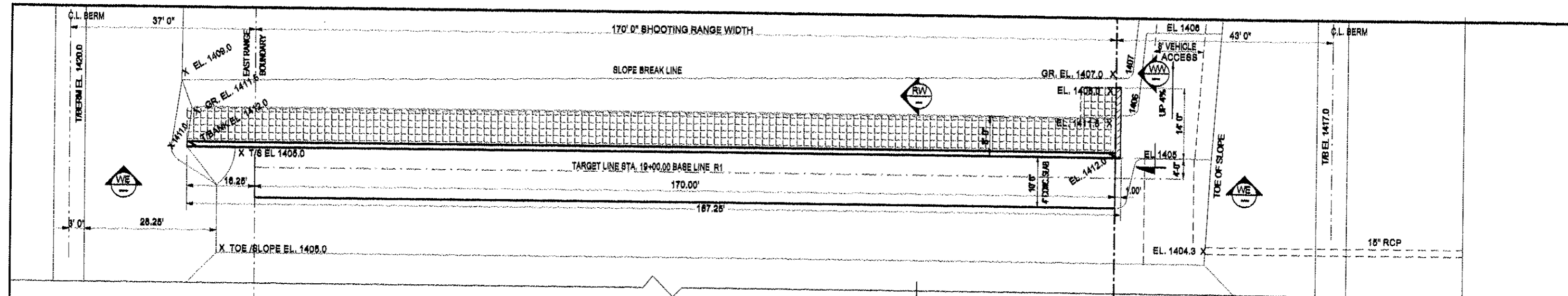
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 STUART C. ANDERSON REG. NO. 6721 DATE: 12/01/09

STUART ANDERSON PROFESSIONAL SERVICES INC.
 36840 CO. RD. 235, DEER RIVER, MN

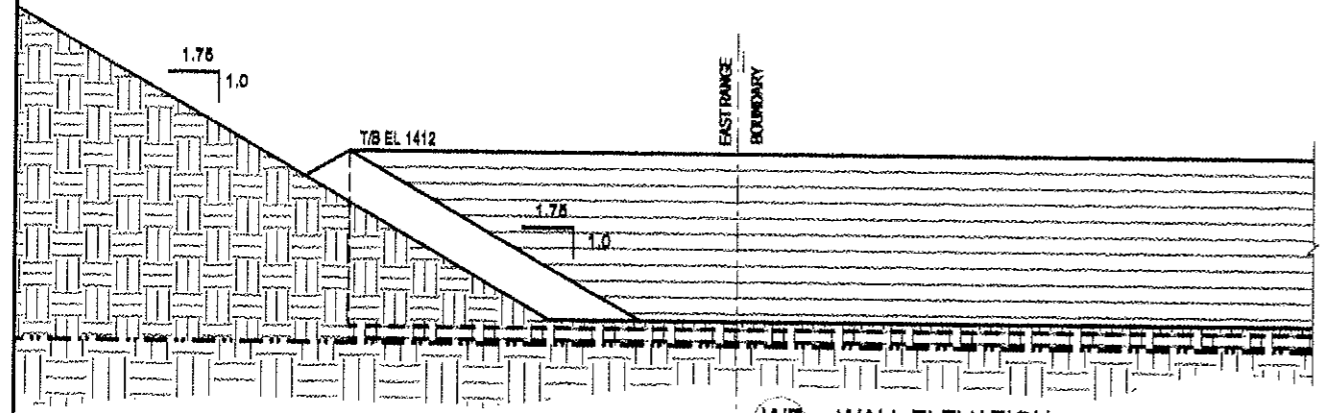
KARVAKKO Engineering
 144 PAUL BUNYAN DRIVE NW, P.O. BOX 785
 BEMIDJIE, MN 56619
 TEL. 218-444-8004, FAX 218-444-8882

BELTRAMI COUNTY SHOOTING SPORTS PARK
 SHOOTING RANGE CONSTRUCTION PLANS
 RIFLE RANGE CROSS SECTION-ELEVATION VIEWS FROM THE FIRING LINE

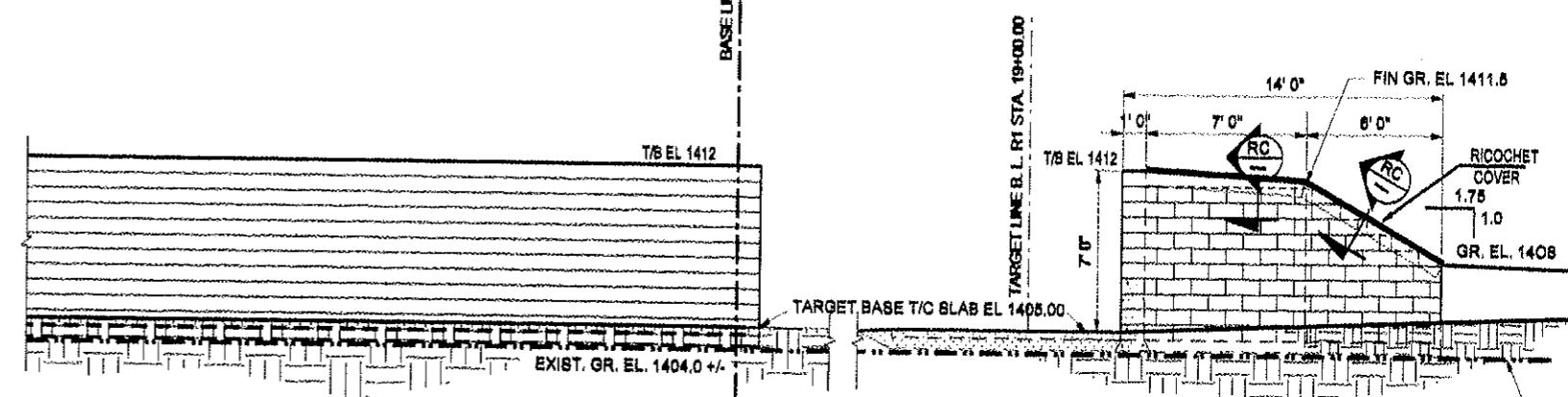
DWG. NO. C0901
 REV. C13 0



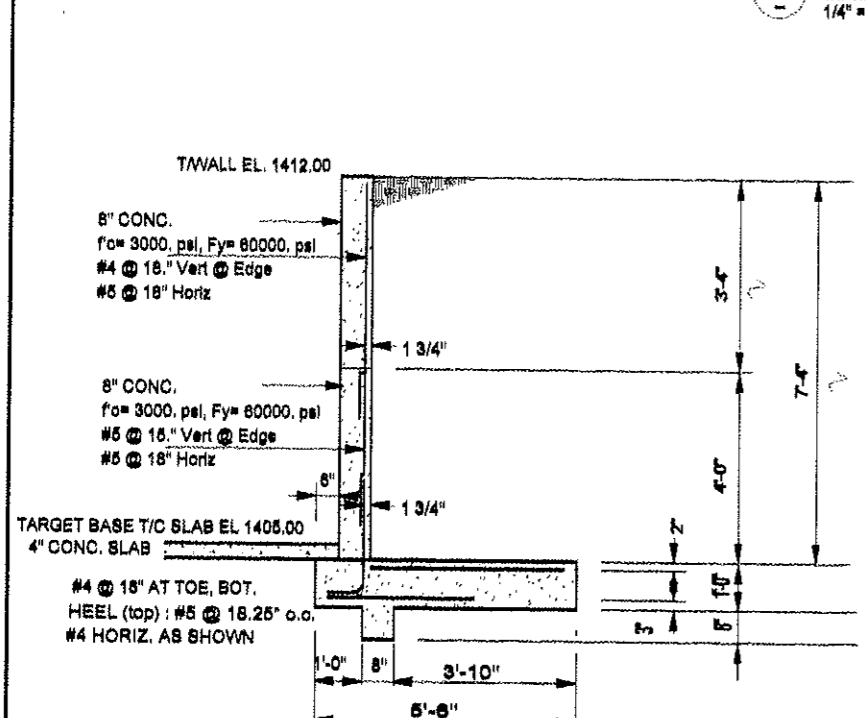
PV PLAN VIEW OF TARGET PIT & RETAINING WALL AT 300 YD. RIFLE RANGE
 1" = 10'



WE WALL ELEVATION
 1/4" = 1'-0" LOOKING SOUTH

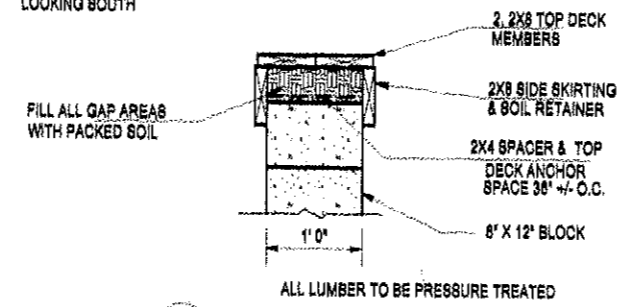


WW WEST WALL ELEVATION
 1/4" = 1'-0" VIEW LOOKING EAST

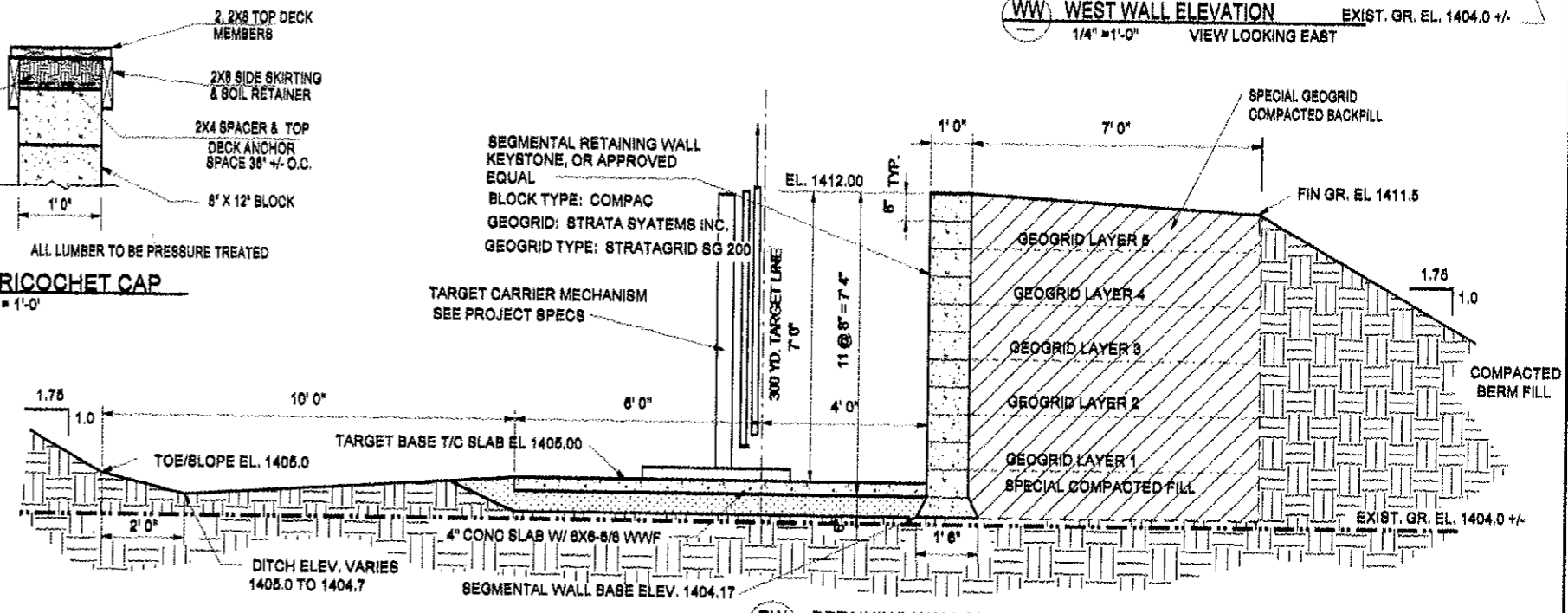


AC ALTERNATE CONCRETE RETAINING WALL
 Scale: 1/4" = 1'-0"

ALTERNATE AT CONTRACTOR'S OPTION, INSTEAD OF SEGMENTAL MASONRY WALL



RC RICOCHET CAP
 1" = 1'-0"



RW RETAINING WALL TYPICAL SECTION
 1/2" = 1'-0" VIEW LOOKING EAST

NO.	REVISION DESCRIPTION	BY	APPR.	DATE
0	ISSUED FOR CONSTRUCTION	BCA	BCA	12/01/09
B	GENERAL REVISION & NEW VIEWS	BCA	BCA	7/1/09
A	ISSUED FOR APPROVAL	BCA	BCA	
NO.	REVISION DESCRIPTION	BY	APPR.	DATE

DESIGNED: SCA
 CHECKED: SCA
 DRAWN: SCA
 DATE: 12/01/09
 JOB NO.: C0901
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 STUART D. ANDERSON, REG. NO. 6721, DATE: 12/01/09

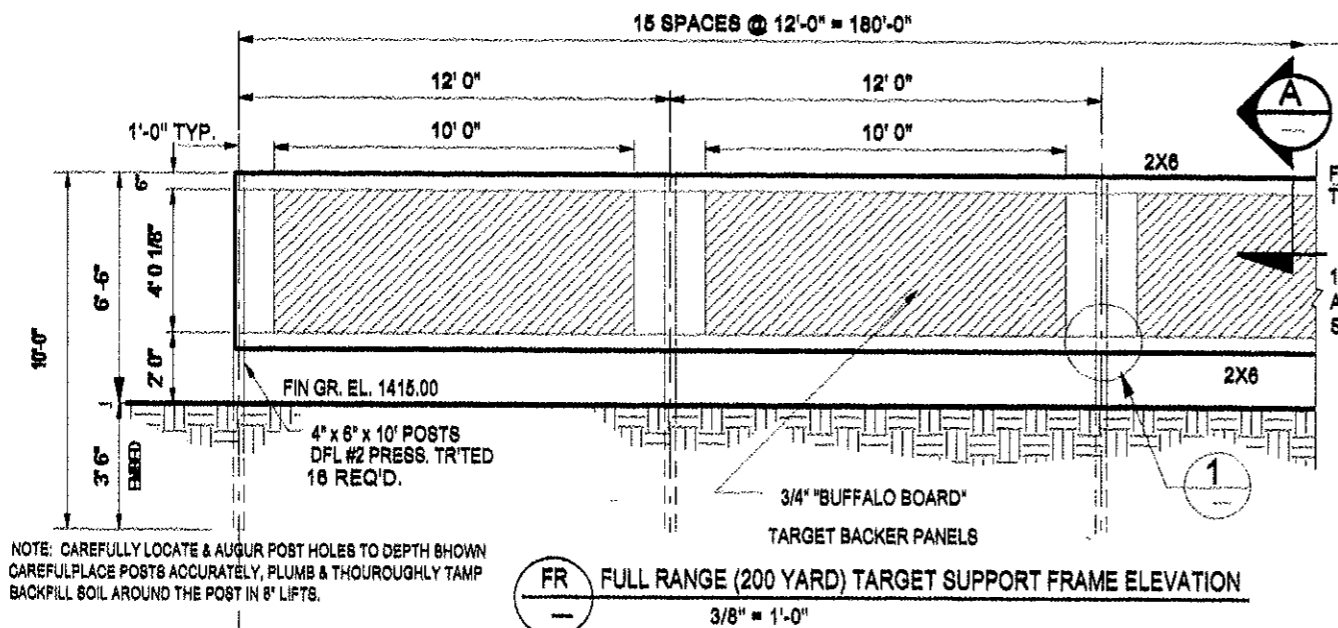
STUART ANDERSON
 PROFESSIONAL ENGINEERING SERVICES INC.
 35840 CO. RD. 238, DEER RIVER, MN
 TEL 218-246-2309

KARVAKKO Engineering
 144 PAUL BUNYAN DRIVE, NW, P.O. BOX 785
 BRIMLEY, MN. 55616
 TEL 218-444-8004, FAX 218-444-8862

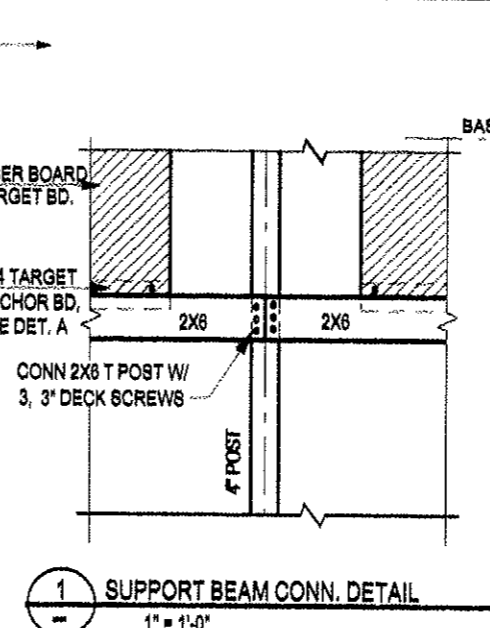
BELTRAMI COUNTY SHOOTING SPORTS PARK
 SHOOTING RANGE CONSTRUCTION PLANS
 RIFLE RANGE PIT RETAINING WALL & MISCELLANEOUS DETAILS

DWG. NO. C0901
 REV. C140

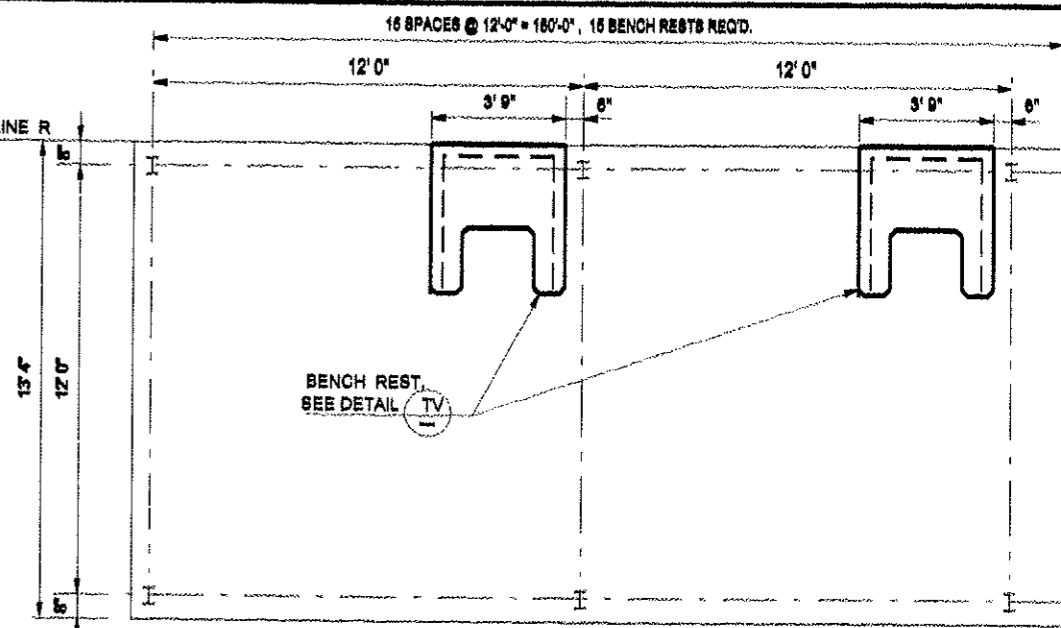
WORK THIS DRAWING WITH DWGS. C0901-C3, C16
 SEE DWG. C1 FOR GENERAL NOTES
 SCALE AS NOTED FOR FULL SIZE (22" X 34") PRINT
 ALL DETAILS ON THIS DRAWING ARE FOR PHASE TWO CONSTRUCTION WORK



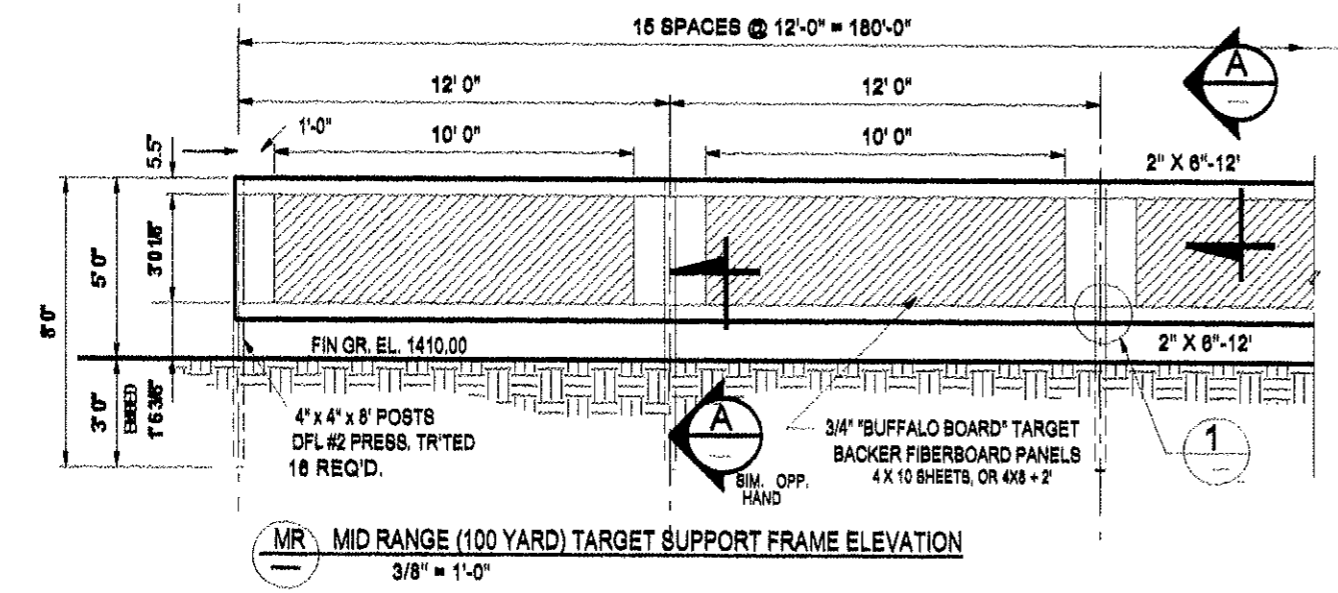
FR FULL RANGE (200 YARD) TARGET SUPPORT FRAME ELEVATION
3/8" = 1'-0"



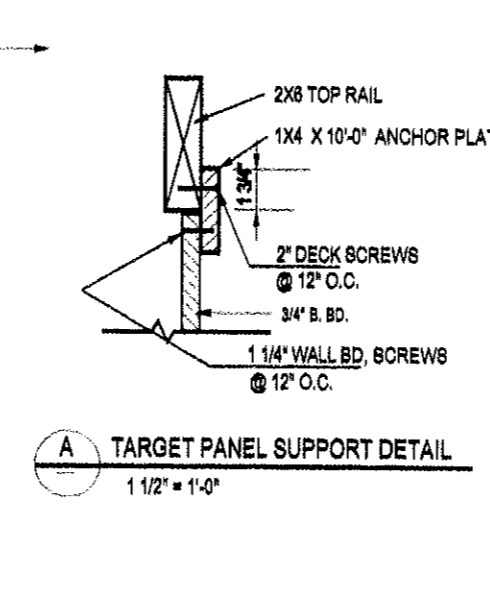
1 SUPPORT BEAM CONN. DETAIL
1" = 1'-0"



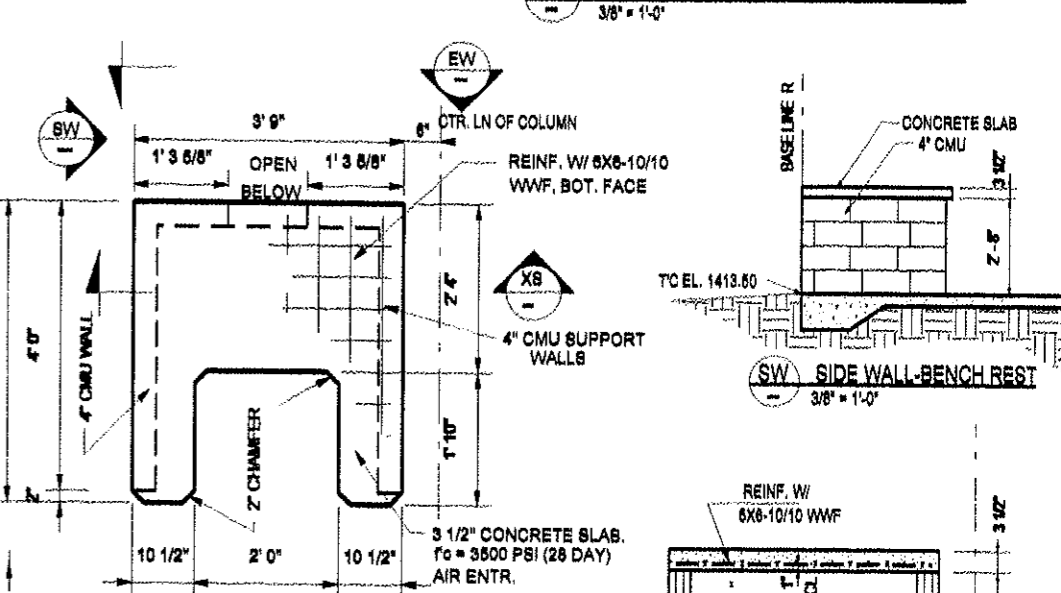
BR BENCH REST PLAN LAYOUT
3/8" = 1'-0"



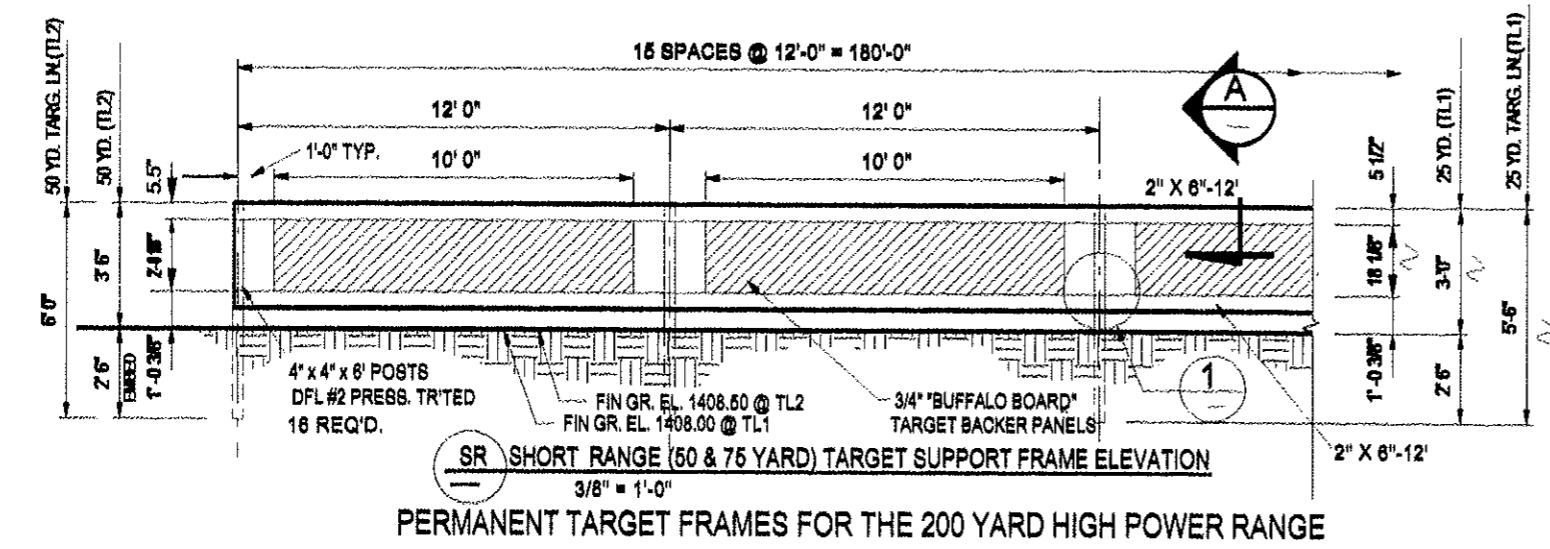
MR MID RANGE (100 YARD) TARGET SUPPORT FRAME ELEVATION
3/8" = 1'-0"



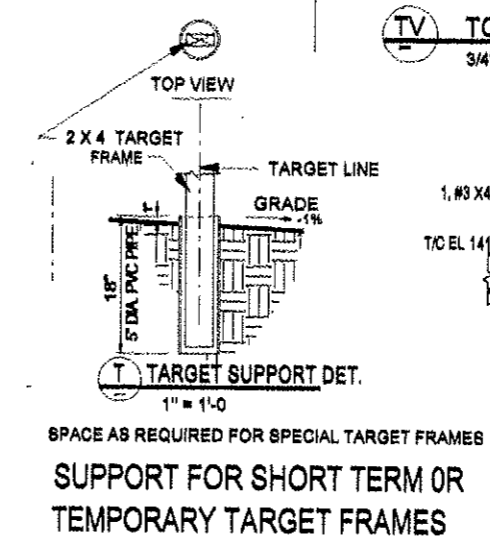
A TARGET PANEL SUPPORT DETAIL
1 1/2" = 1'-0"



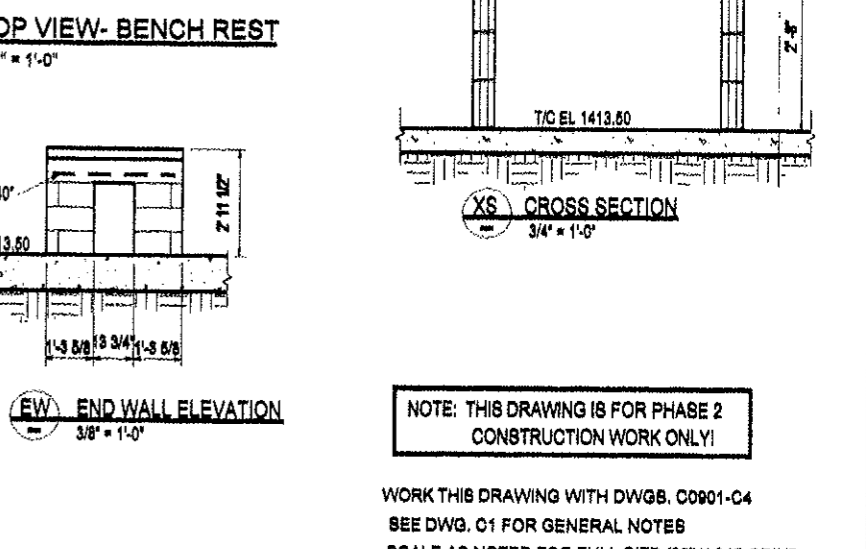
TV TOP VIEW - BENCH REST
3/4" = 1'-0"



SR SHORT RANGE (50 & 75 YARD) TARGET SUPPORT FRAME ELEVATION
3/8" = 1'-0"



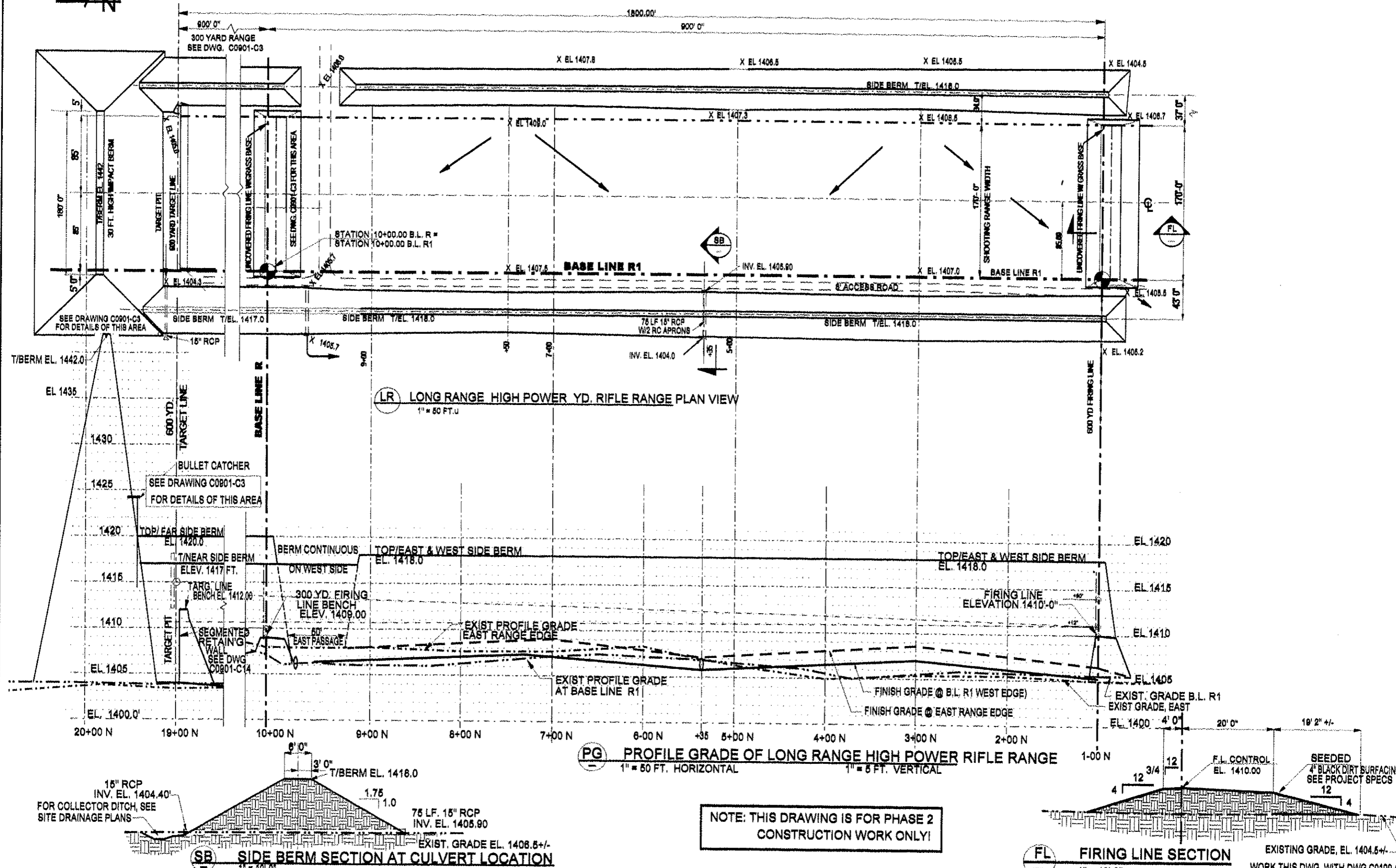
T TARGET SUPPORT DET.
1" = 1'-0"



EW END WALL ELEVATION
3/8" = 1'-0"

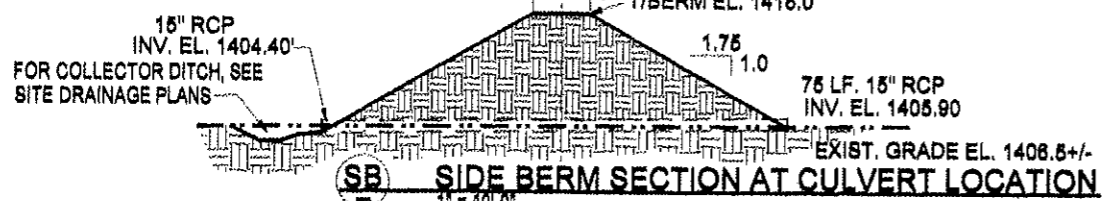
NOTE: THIS DRAWING IS FOR PHASE 2 CONSTRUCTION WORK ONLY!

WORK THIS DRAWING WITH DWG. C0901-C4
SEE DWG. C1 FOR GENERAL NOTES
SCALE AS NOTED FOR FULL SIZE (22" X 34") PRINT

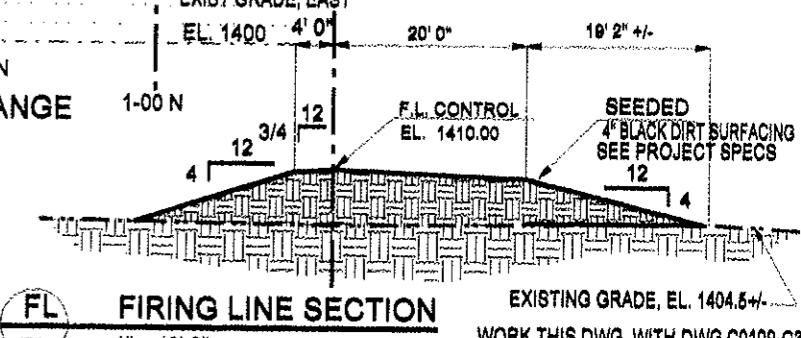


LR LONG RANGE HIGH POWER YD. RIFLE RANGE PLAN VIEW
1" = 50 FT. U

PG PROFILE GRADE OF LONG RANGE HIGH POWER RIFLE RANGE
1" = 50 FT. HORIZONTAL
1" = 5 FT. VERTICAL



SB SIDE BERM SECTION AT CULVERT LOCATION
1" = 10'-0"



FL FIRING LINE SECTION
1" = 10'-0"
EXISTING GRADE, EL. 1404.5+/-

NOTE: THIS DRAWING IS FOR PHASE 2 CONSTRUCTION WORK ONLY!

NO.	REVISION DESCRIPTION	BY	APPR.	DATE
0	ISSUED FOR CONSTRUCTION	SCA	SCA	11/30/09
B	REV. WIDTH TO FIT BERM REQ'TS	SCA	SCA	7/7/09
A	ISSUED FOR APPROVAL	SCA	SCA	8/27/09
P1	PRELIM. STUDY REVIEW ISSUE	SCA	SCA	3/2/09

DESIGNED	DRAWN	CHECKED	APPR'D	DATE	JOB NO.
SCA	SCA	SCA	SCA	11/30/09	C0901

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STUART ANDERSON
PROFESSIONAL ENGINEERING SERVICES INC.
144 PAUL BUNYAN DRIVE, NW, P.O. BOX 785
MEMPHIS, MN 55818
TEL. 218-246-2398
35540 CO. RD. 235, DEER RIVER, MN

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144 PAUL BUNYAN DRIVE, NW, P.O. BOX 785
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35540 CO. RD. 235, DEER RIVER, MN

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TEL. 218-444-8004, FAX 218-444-8882

BELTRAMI COUNTY SHOOTING SPORTS PARK
SHOOTING RANGE CONSTRUCTION PLANS
600 YD. RANGE, 300 YD. EXTENSION TO THE 300 YD. RANGE PLAN & PROFILE

WORK THIS DWG. WITH DWG C0109-C3
SCALE, AS NOTED ON FULL SIZE DWG. (22" X 34")

DWG. NO. **C0901**
REV. **C160**