

CONSTRUCTION PLANS FOR BENTON MUNICIPAL AIRPORT

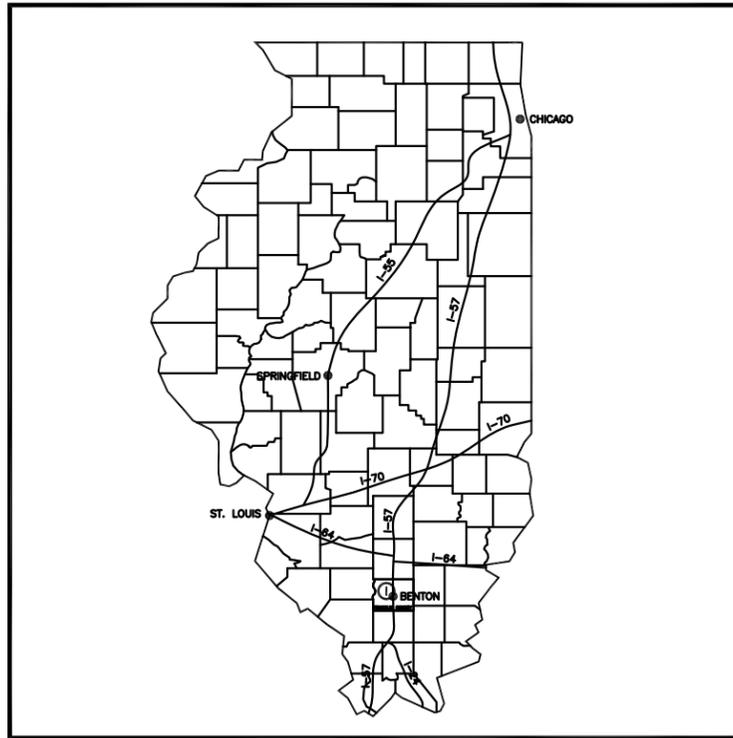
INSTALL PERIMETER SECURITY/WILDLIFE FENCING AROUND ENTIRE AIRPORT

APRIL 28, 2017 LETTING

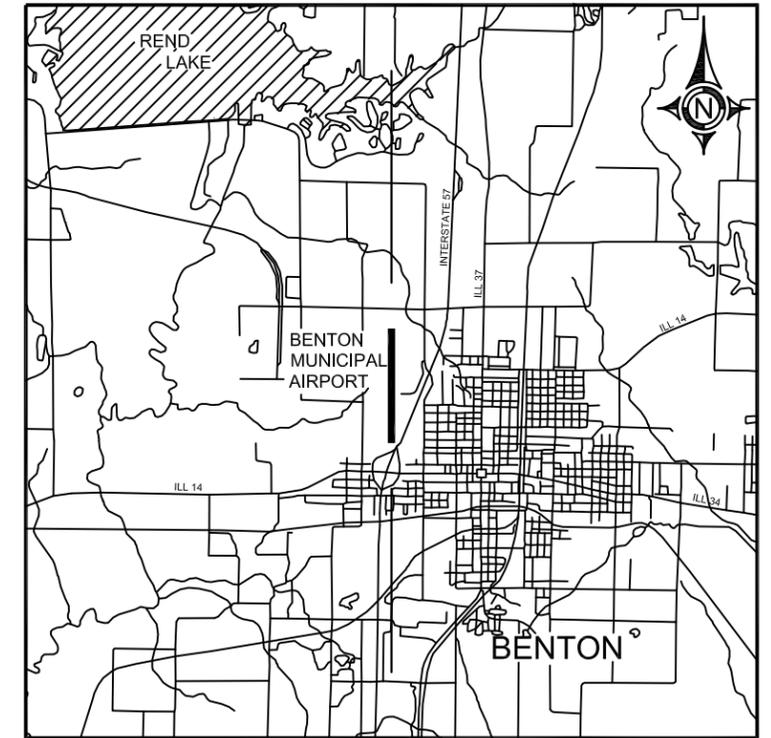
ILLINOIS PROJECT NUMBER: H96-4323

SBG PROJECT NUMBER: 3-17-SBGP-111/120/133

BENTON, ILLINOIS



LOCATION MAP



VICINITY MAP

BROWN AND ROBERTS, INC.
CONSULTING ENGINEERS
PRESIDENT

SUBMITTED BY: *Jim W. Brown*
JIM W. BROWN, AS PRESIDENT

DATE SUBMITTED: 01/09/2017

LISC. NUMBER: 184-002518

LISC. EXP. DATE: APRIL 30, 2017

PLANS PREPARED BY:



BROWN AND ROBERTS, INC.
1 WEST RIDGE ROAD
HARRISBURG, IL. 62946
(618) 252-8111

BENTON MUNICIPAL AIRPORT
CHAIRMAN

APPROVED BY: *Michael J. Wyant* CHAIRMAN
MICHAEL J. WYANT

DATE: 01/09/2017

SUMMARY OF QUANTITIES

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QUANTITY</u>
AR119511	AIRPORT OBSTRUCTION LIGHT - SINGLE	EACH	1
AR151450	CLEARING AND GRUBBING	ACRE	0.5
AR152410	UNCLASSIFIED EXCAVATION	C.Y.	1,500
AR162224	CLASS E MANUAL SLIDE GATE - 24'	EACH	1
AR162508	CLASS E FENCE 8'	L.F.	8,500
AR162510	CLASS E FENCE 10'	L.F.	6,800
AR162604	CLASS E GATE - 4'	EACH	3
AR162624	CLASS E GATE - 24'	EACH	1
AR162628	CLASS E GATE - 28'	EACH	3
AR162900	REMOVE CLASS E FENCE	L.F.	8,800
AR162905	REMOVE GATE	EACH	3
AR162910	REMOVE CLASS E GATE	EACH	3
AR701312	12" RCP, CLASS II	L.F.	8
AR752412	PRECAST REINFORCED CONC. FES 12"	EACH	2
AR901510	SEEDING	ACRE	8.5
AR908510	MULCHING	ACRE	8.5
 <u>ADDITIVE ALTERNATE #1</u>			
AS162761	ELECTRIC GATE UPGRADE	EACH	1

INDEX TO SHEETS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	COVER SHEET
2	SUMMARY OF QUANTITIES
3	RUNWAY SAFETY PLAN
4	GENERAL LAYOUT
5-9	FENCING PLAN VIEWS
10	DITCH PLAN AND TYPICAL SECTIONS
11-12	FENCING TYPICAL DETAILS
13	SLIDE GATE DETAILS
14	OBSTRUCTION LIGHTING DETAILS
15-17	DITCH CROSS SECTIONS

SCOPE OF WORK

THE PROJECT SCOPE CONSISTS OF INSTALLING A PERIMETER FENCE WITH GATES AND OTHER NECESSARY AND RELATED WORK.

PROPOSED SAFETY PLAN

GENERAL- THE BENTON MUNICIPAL AIRPORT CURRENTLY HAS A PAVED NORTH-SOUTH RUNWAY (4000-FT BY 75-FT).

IT IS ANTICIPATED THAT RUNWAY 18-36 WILL REMAIN OPEN FOR THE DURATION OF THIS PROJECT, AS NO CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT WILL BE WITHIN 200' OF THE RUNWAY 18-36 CENTERLINE. ANY WORK WITHIN 200' OF THE CENTERLINE WILL REQUIRE CLOSURE OF THAT RUNWAY.

CONTRACTOR'S RESPONSIBILITIES

IDENTIFICATION- THE CONTRACTOR'S VEHICLES AND EQUIPMENT SHALL BE PROPERLY MARKED WITH 3-FOOT SQUARE INTERNATIONAL ORANGE AND WHITE CHECKERED FLAGS ANYTIME THEY ARE ON AIRPORT PROPERTY.

THE CONTRACTOR AND HIS EMPLOYEES SHALL BE RESTRICTED TO THE WORK AREA.

EQUIPMENT PARKING AND STORAGE- THE CONTRACTOR'S EQUIPMENT PARKING, STORAGE, AND EMPLOYEE PARKING WILL BE AT THE LOCATION SHOWN ON THIS SHEET. ONLY CONTRACTOR VEHICLES AND EQUIPMENT REQUIRED FOR CONSTRUCTION WILL BE ALLOWED OUTSIDE THIS AREA.

BARRICADES AND TRAFFIC CONES- IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PLACE AND MAINTAIN BARRICADES AND TRAFFIC CONES AS REQUIRED AND AS DIRECTED BY THE RESIDENT ENGINEER. BARRICADES, THEIR MAINTENANCE, PLACEMENT, AND REMOVAL WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

THE CONTRACTOR WILL NOT BE ALLOWED ON ANY AIRFIELD PAVEMENT. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING PAVEMENTS CAUSED BY HIS PERSONNEL OR EQUIPMENT.

HAUL ROUTE AND EQUIPMENT PARKING

THE CONTRACTOR WILL USE THE DESIGNATED HAUL ROUTE AND EQUIPMENT PARKING AREA SHOWN ON THIS SAFETY PLAN. THE PROPOSED EQUIPMENT PARKING AREA WILL BE APPROXIMATELY 100-FT BY 200-FT. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THE PROPOSED HAUL ROUTE AND PARKING AREA THROUGHOUT THE COURSE OF THE PROJECT. AT THE CONCLUSION OF THE PROJECT, ALL AREAS DISTURBED WILL BE RESTORED AS NEEDED TO ITS ORIGINAL STATE. RESTORATION OF THE HAUL ROUTE AND EQUIPMENT PARKING AREA WILL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

UTILITY NOTE

THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES AND ORGANIZATIONS THAT HAVE LINES OR CONDUITS IN THE PROPOSED WORK AREA. ALL LINES AND CONDUITS SHALL BE LOCATED AND IDENTIFIED FOR DEPTH BEFORE ANY EXCAVATION BEGINS. THE CONTRACTOR SHALL CALL JULIE (1-800-892-0123) TO ACCOMPLISH THESE REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL NON-JULIE UTILITIES AND AIRPORT UTILITIES LOCATED WITHIN THE PROPOSED CONSTRUCTION LIMITS. THESE UTILITIES ARE TO BE LOCATED PRIOR TO THE START OF CONSTRUCTION.

JULIE INFORMATION

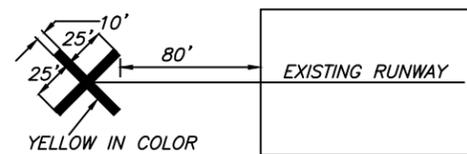
COUNTY.....FRANKLIN
 CITY.....BENTON
 TOWNSHIP.....BROWNING
 SECTION NO.....12 & 13
 NEAREST MAJOR ROAD INTERSECTION...RT 37 PETROFF RD.
 AIRPORT ADDRESS...BENTON MUNICIPAL AIRPORT
 P.O. BOX 158
 BENTON, IL. 62812

AIRPORT SECURITY

AIRPORT SECURITY WILL BE MAINTAINED AT ALL TIMES. THE PROPOSED HAUL ROUTE SHOWN ON THIS SAFETY PLAN IS THE ONLY ACCESS CONTRACTOR EQUIPMENT AND PERSONNEL WILL BE ALLOWED TO USE. THE CONTRACTOR SHALL PROVIDE BARRICADES AT THIS ACCESS AND ENSURE THE BARRICADES ARE IN PLACE AT THE END OF EACH WORKING DAY.

AIRCRAFT OPERATIONAL AREA

THE CONTRACTOR, HIS EMPLOYEES, OR ANY EQUIPMENT WILL NOT PROCEED WITH ANY WORK WITHIN THE AIRCRAFT OPERATIONAL AREA WITHOUT FIRST CLOSING THE RUNWAY.



DETAIL OF CROSS FOR CLOSED RUNWAY

"NOT TO SCALE"

NOTE:

THE COST OF CONSTRUCTING, PLACING, MAINTAINING, AND REMOVING CROSSES WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. THE CROSSES WILL BE YELLOW IN COLOR AND SHALL BE MADE OF A SUITABLE MATERIAL AS APPROVED BY THE RESIDENT ENGINEER. THE CROSSES WILL BE PLACED AT THE ENDS OF THE RUNWAY AND SECURED IN A MANNER APPROVED BY THE RESIDENT ENGINEER. THE PROPOSED CROSSES WILL BE PLACED WHEN THE RUNWAY IS CLOSED AND REMOVED WHEN THE RUNWAY IS RE-OPENED. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PLACEMENT AND REMOVAL OF THE CROSSES AT NO ADDITIONAL COST TO THE CONTRACT.

RUNWAY CLOSURE PROCEDURES:

- * CONTACT THE AIRPORT MANAGER OR HIS ASSIGNED REPRESENTATIVE.
- * ISSUANCE OF NOTAM BY THE AIRPORT MANAGER OR HIS ASSIGNED REPRESENTATIVE.
- * PLACEMENT OF CROSSES (SEE DETAIL THIS SHEET).
- * PLACEMENT OF LIGHTED BARRICADES. ONLY AT THE TIME THAT ALL OF THE ABOVE ARE COMPLETED MAY ANY CONSTRUCTION OPERATIONS WITHIN 200-FT OF THE AFFECTED RUNWAY CENTERLINE AND WITHIN 600 FT OF THE RUNWAY END BEGIN.
- * RUNWAY LIGHTS SHALL BE DISABLED

RUNWAY RE-OPENING PROCEDURES:

- * REMOVE CROSSES.
- * REMOVE LIGHTED BARRICADES.
- * NOTIFY THE AIRPORT MANAGER OR HIS REPRESENTATIVE TO CANCEL THE NOTAM.
- * CANCELLATION OF THE NOTAM. A CLOSED RUNWAY WILL NOT BE RE-OPENED UNTIL ALL EQUIPMENT AND WORK ARE FURTHER THAN 200 FT. FROM THE AFFECTED RUNWAY CENTERLINE
- * RUNWAY LIGHTS SHALL BE REACTIVATED.

HEIGHT OF CONSTRUCTION EQUIPMENT

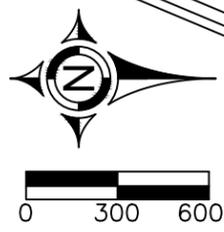
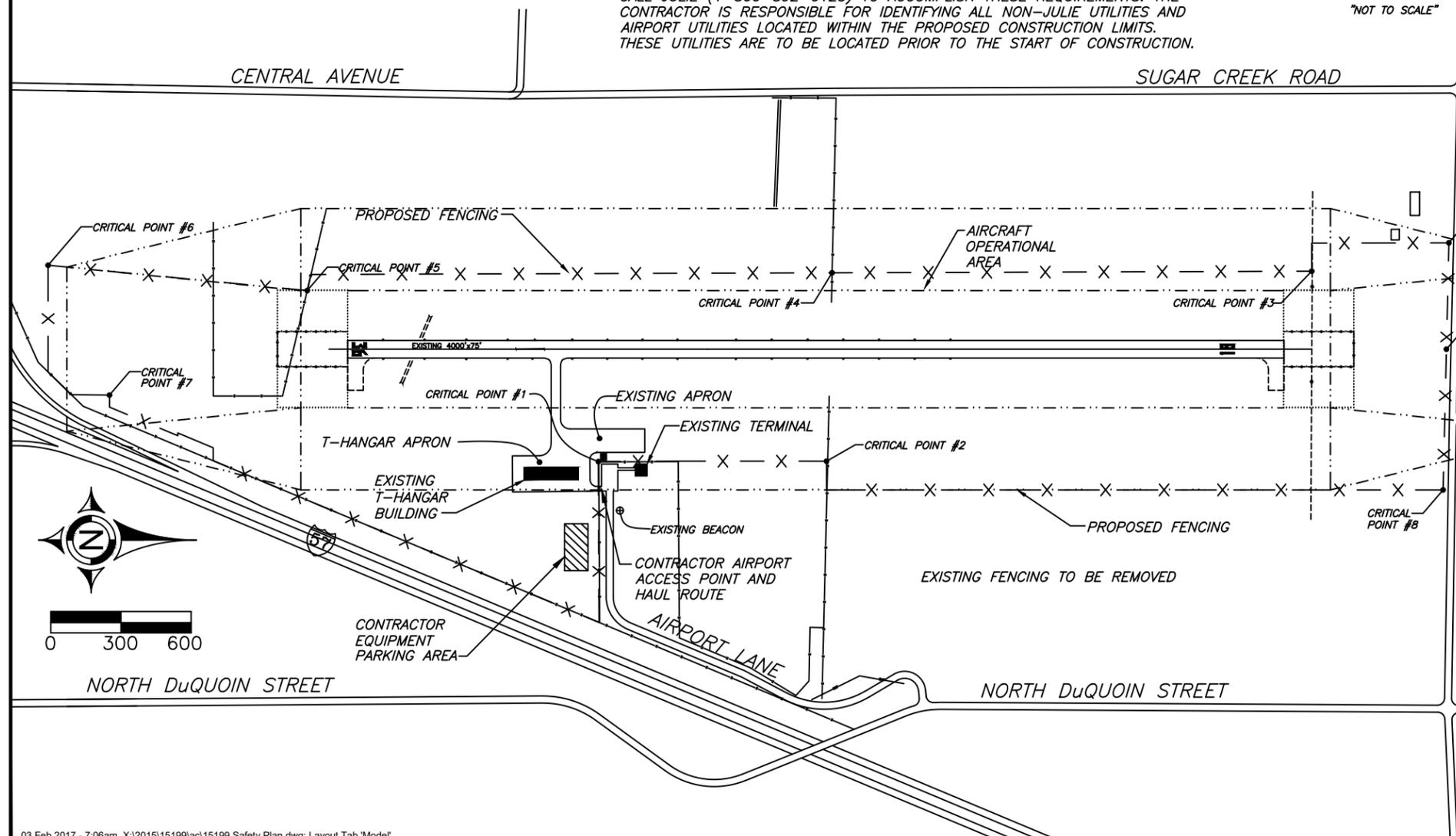
THE MAXIMUM ANTICIPATED HEIGHT OF THE CONSTRUCTION EQUIPMENT IS 15 FEET. THE TALLEST EQUIPMENT IS EXPECTED TO BE A CONCRETE TRUCK.

CRITICAL POINT LIST

CRITICAL PT. NO.	DESCRIPTION	LATITUDE	LONGITUDE	GROUND ELEVATION	TOP EQUIPMENT ELEVATION
1	FENCE CORNER SOUTH OF TERMINAL	38°00'21.52"N	88°55'57.84"W	442.3	457.3
2	FENCE CORNER NORTH OF TERMINAL	38°00'31.16"N	88°55'58.02"W	443.7	458.7
3	FENCE CORNER NW OF 18 END	38°00'51.55"N	88°56'08.47"W	439.5	454.5
4	FENCE CORNER SE OF MARIAH BLDG.	38°00'31.29"N	88°56'08.06"W	442.6	457.6
5	FENCE CORNER SW OF 36 END	38°00'09.13"N	88°56'06.76"W	443.0	458.0
6	FENCE CORNER SW OF 36 END	37°59'58.36"N	88°56'08.17"W	454.0	469.0
7	FENCE CORNER SE OF 36 END	38°00'00.82"N	88°56'01.56"W	451.8	466.8
8	FENCE CORNER NE OF 18 END	38°00'57.23"N	88°55'57.11"W	431.8	446.8
9	FENCE CORNER N OF 18 END	38°00'57.28"N	88°56'04.41"W	433.5	448.5
10	FENCE CORNER NW OF 18 END	38°00'57.33"N	88°56'09.83"W	440.0	455.0

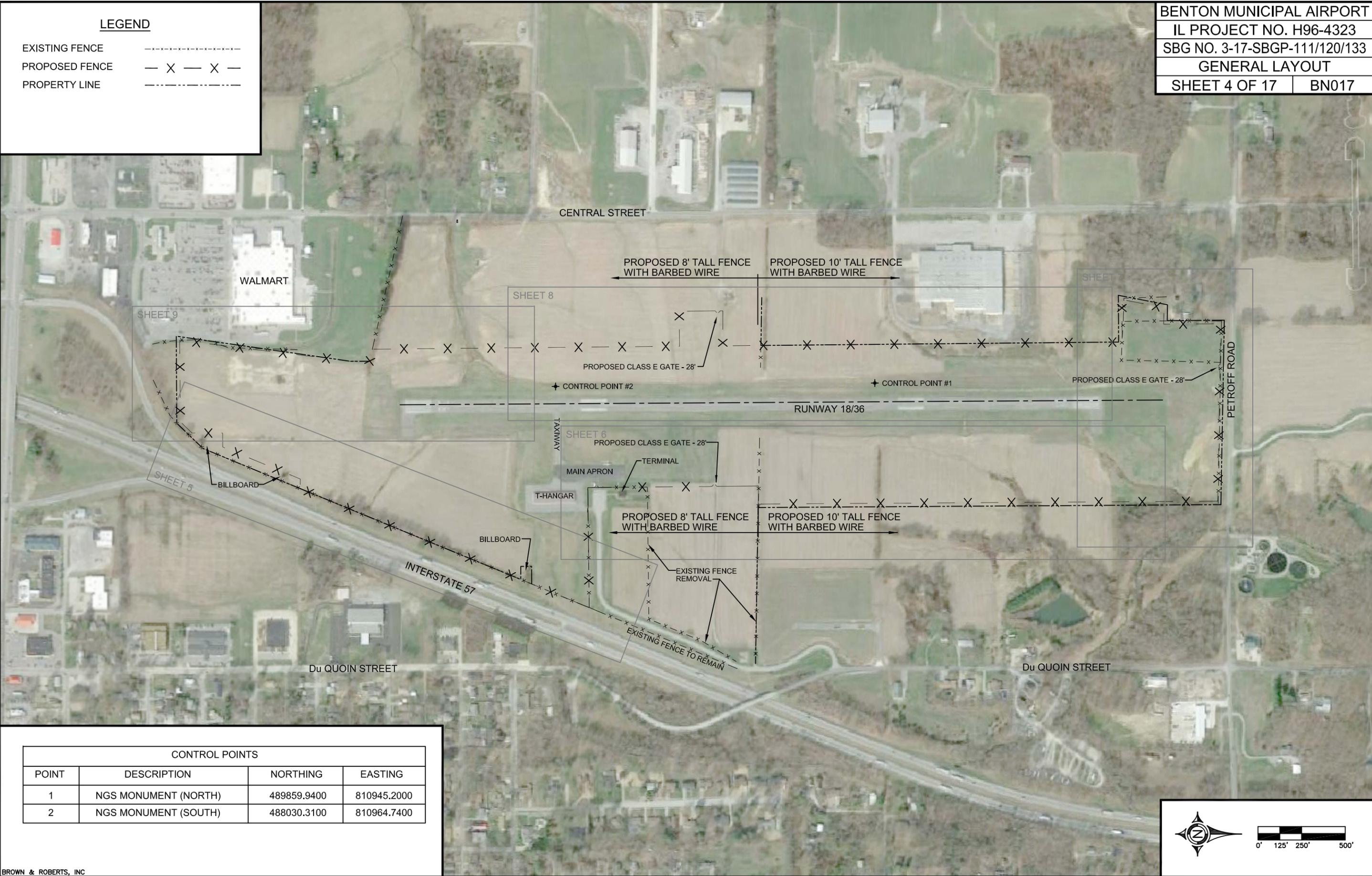
AIRPORT REFERENCE POINT:

LATITUDE: 38° 00' 24.334"N
 LONGITUDE: 88° 56' 03.910"W
 ELEVATION: 444 MSL

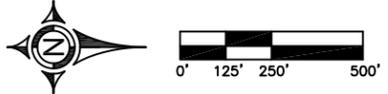


LEGEND

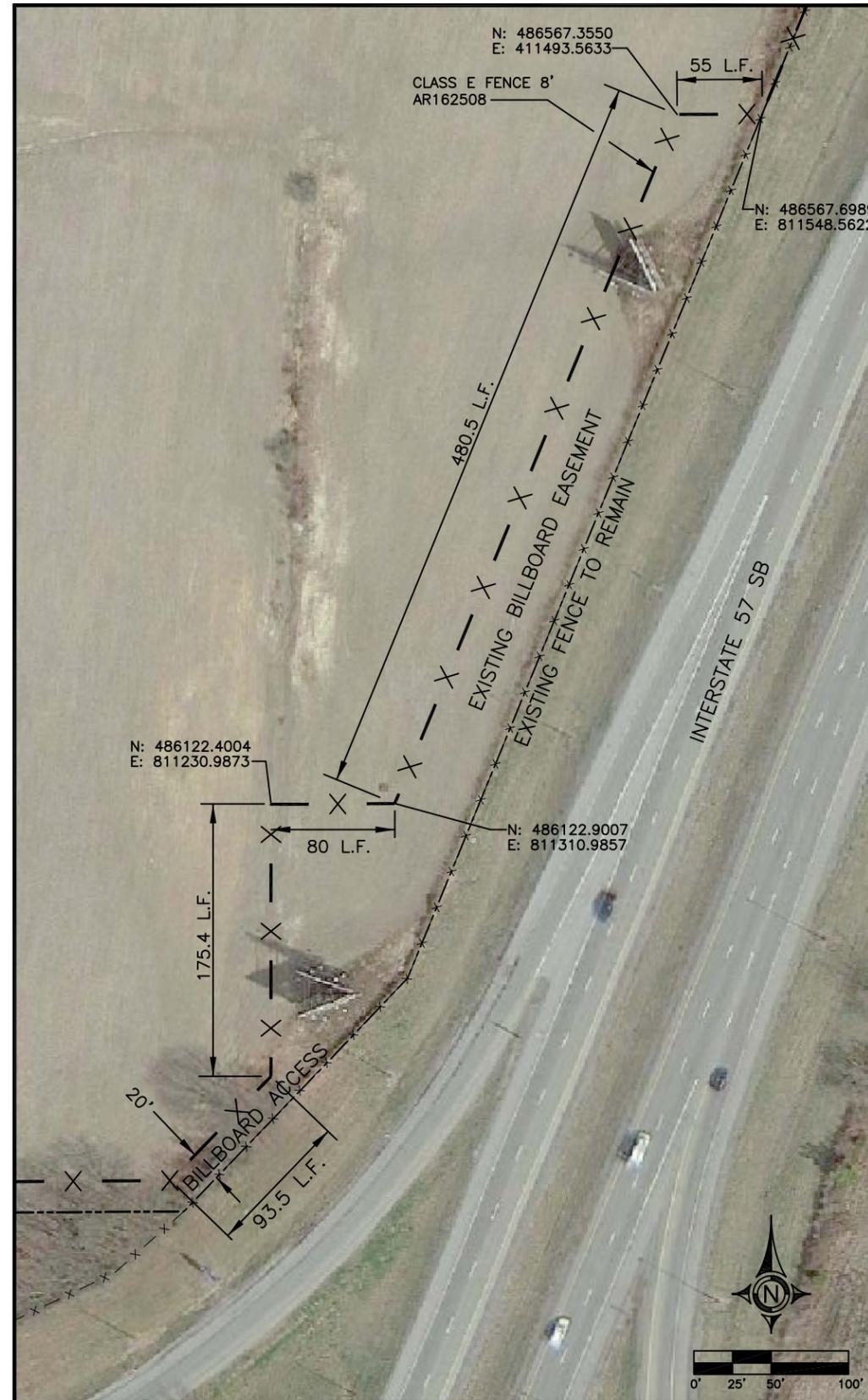
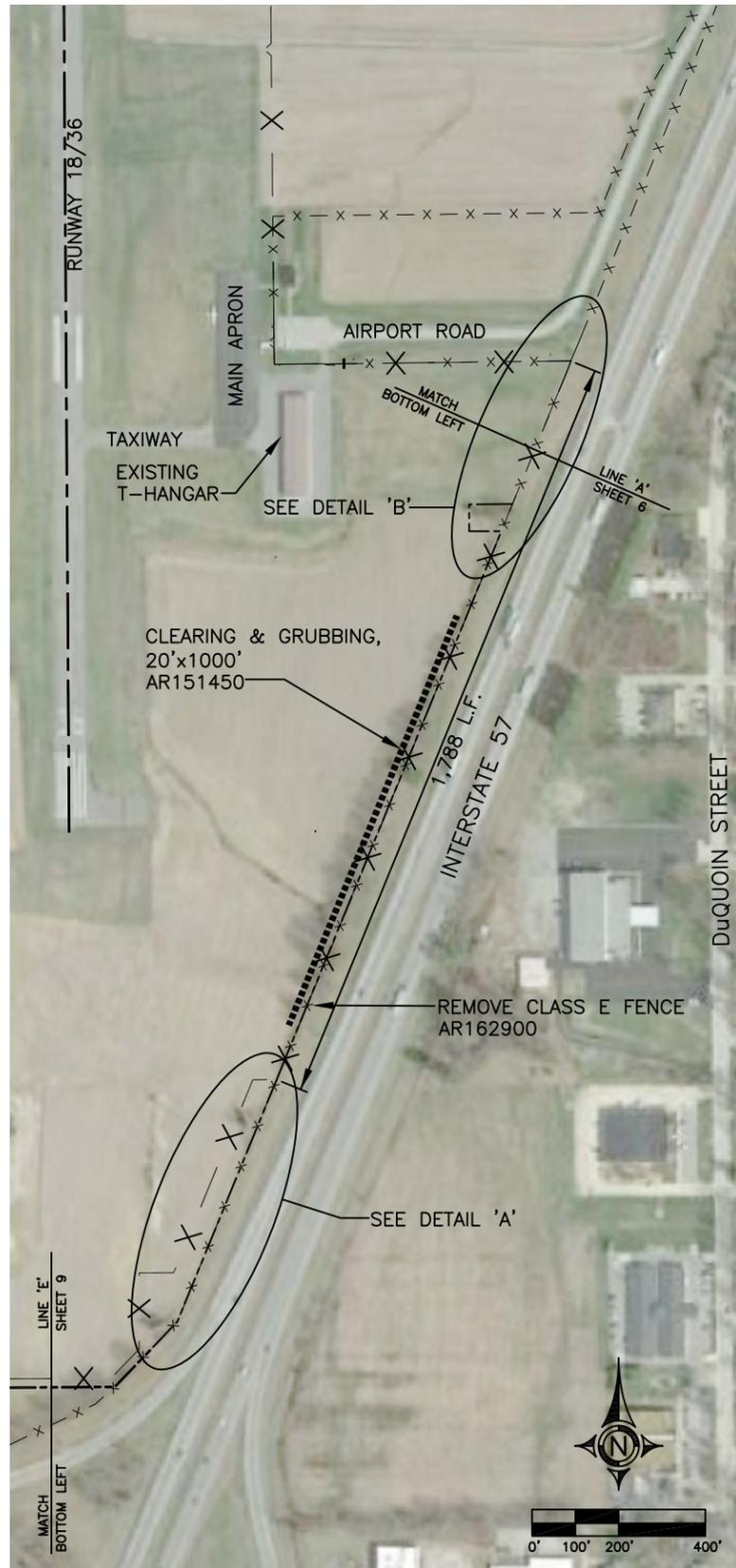
- EXISTING FENCE - - - - -
- PROPOSED FENCE - X - X -
- PROPERTY LINE - - - - -



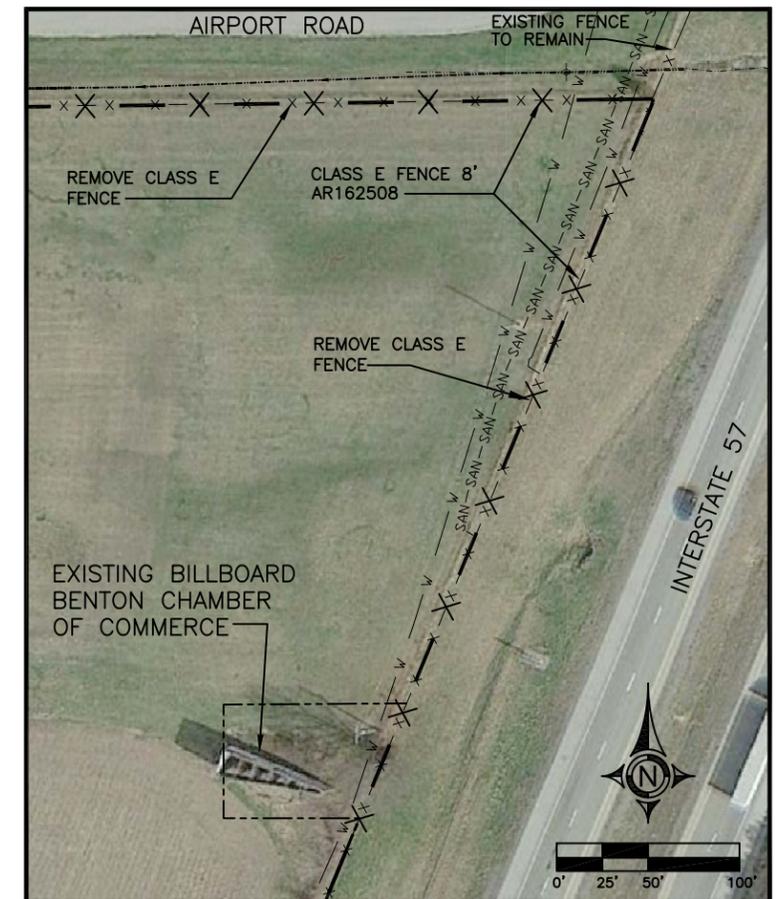
CONTROL POINTS			
POINT	DESCRIPTION	NORTHING	EASTING
1	NGS MONUMENT (NORTH)	489859.9400	810945.2000
2	NGS MONUMENT (SOUTH)	488030.3100	810964.7400



27 Jan 2017 - 9:42am X:\2015\15199\ac\15199 Base.dwg: Layout Tab '4 General Layout'



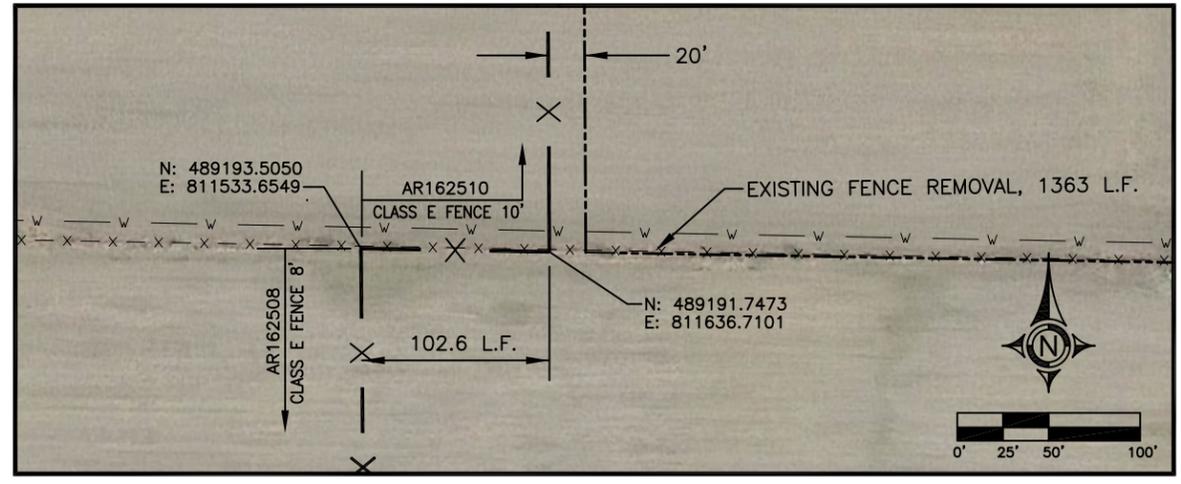
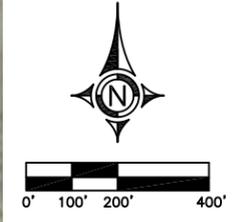
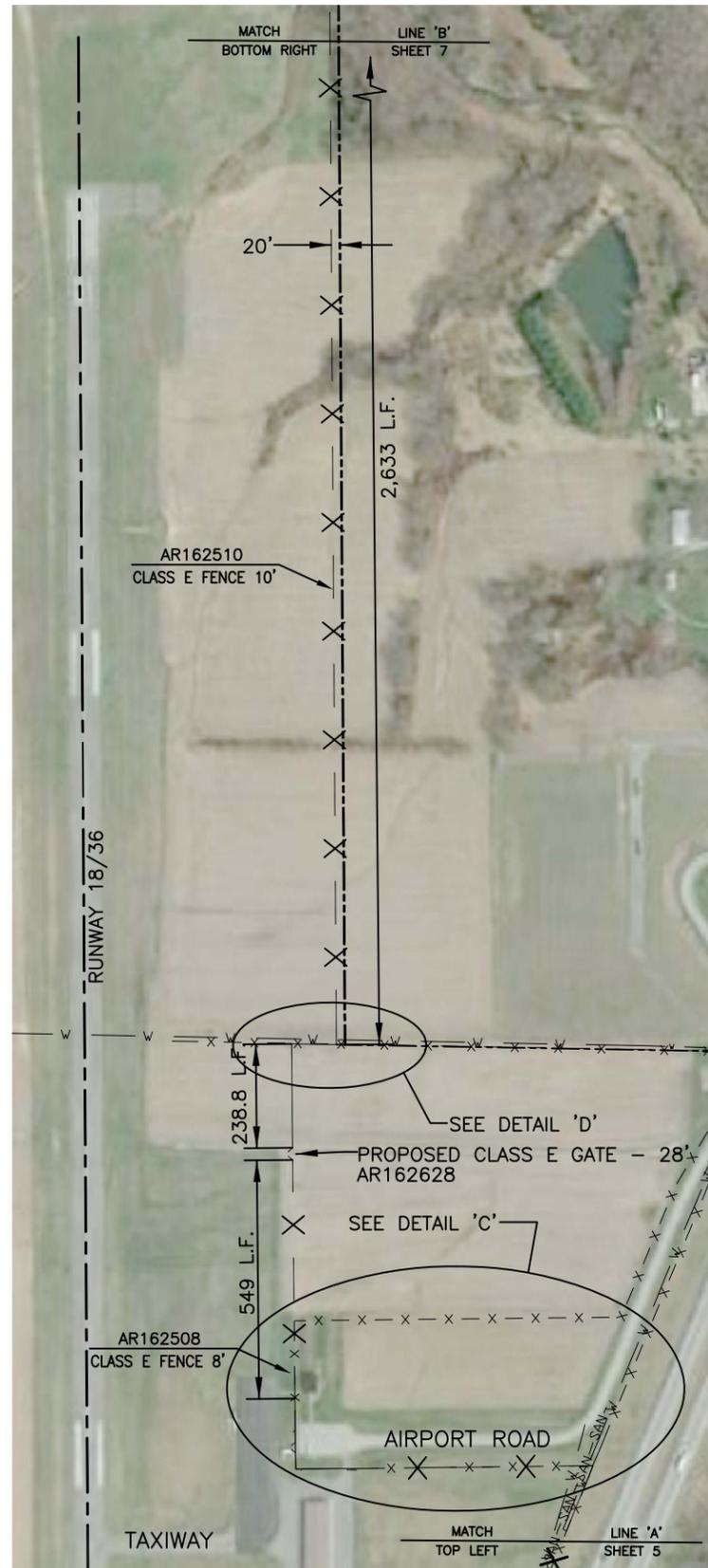
DETAIL 'A'



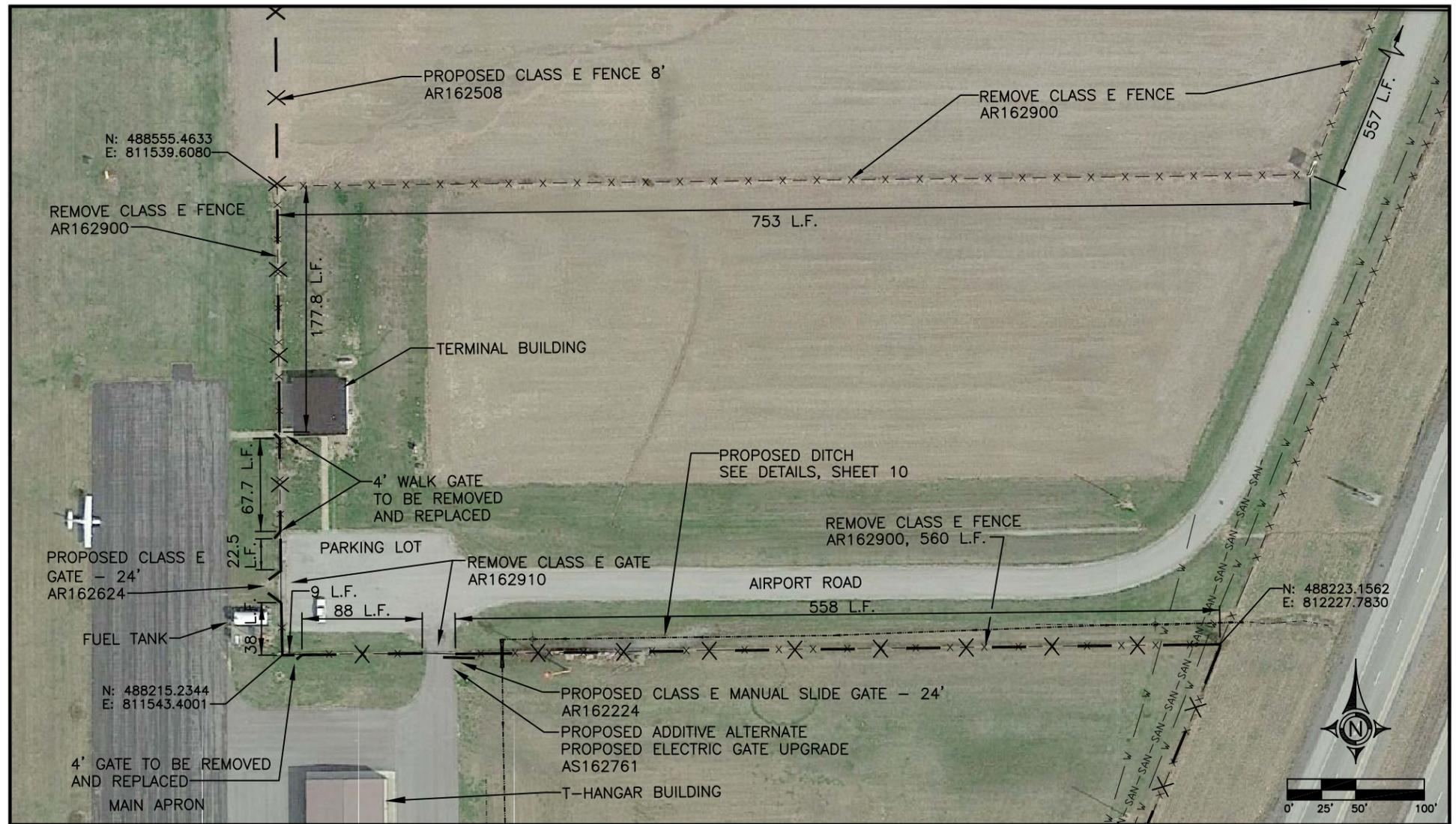
DETAIL 'B'

LEGEND

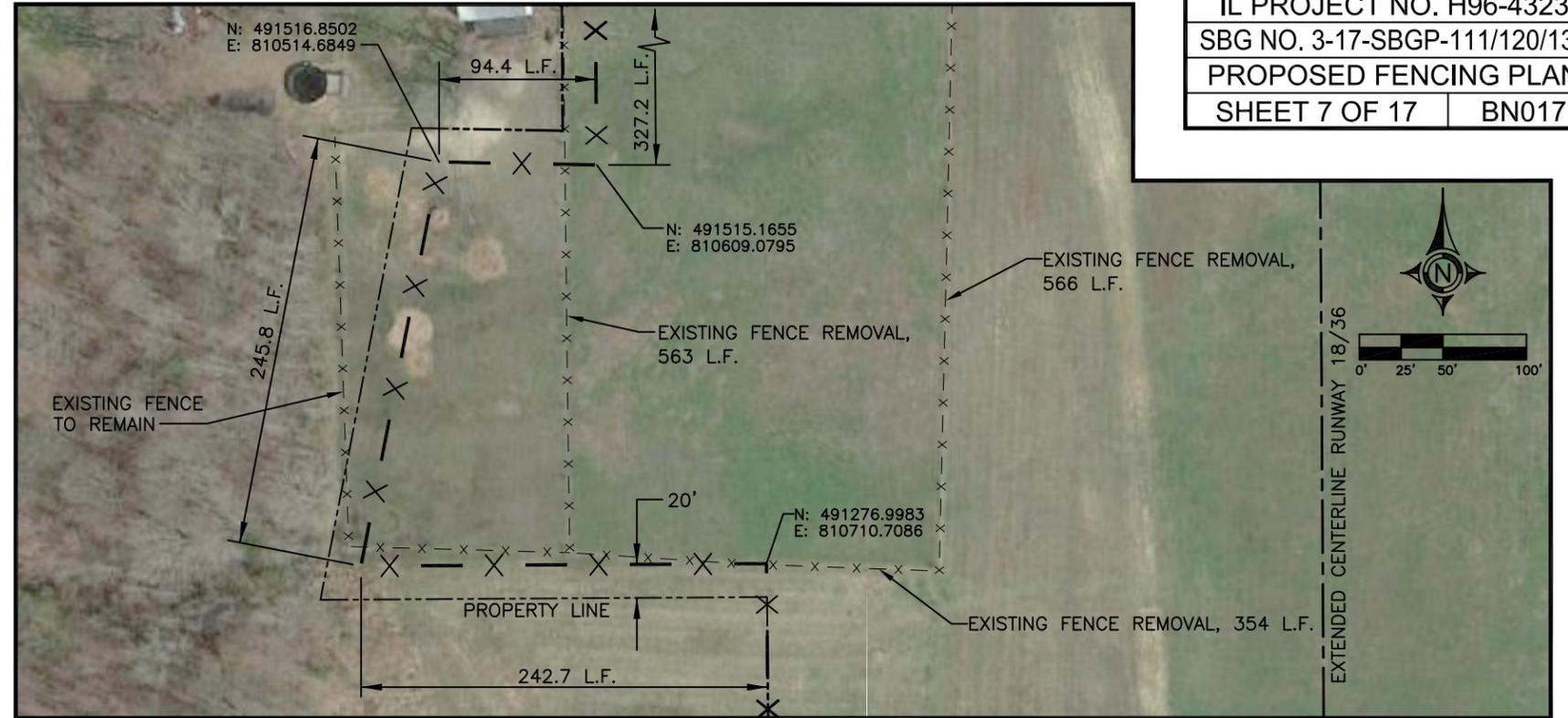
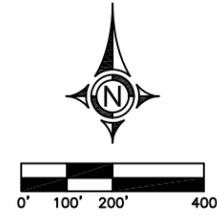
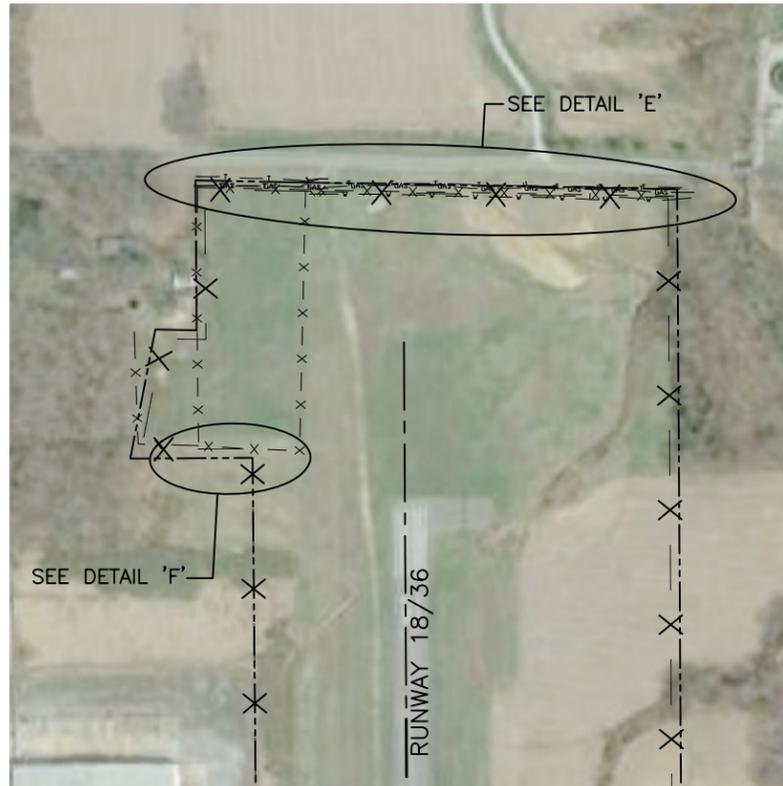
- EXISTING FENCE — x — x — x — x — x —
- PROPOSED FENCE — X — X —
- PROPERTY LINE - - - - -
- EXISTING WATERMAIN — W —
- EXISTING GAS LINE — GAS —
- EXISTING SANITARY — SAN — SAN — SAN —
- EXISTING BURIED ELECTRIC — E — E —
- EXISTING BURIED TELEPHONE — T —



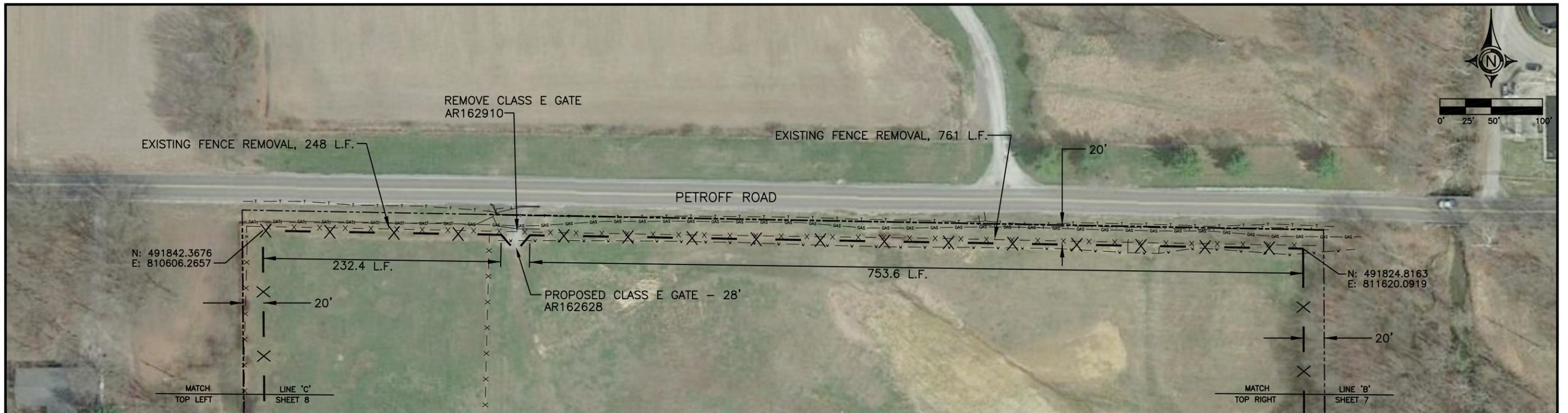
DETAIL 'D'



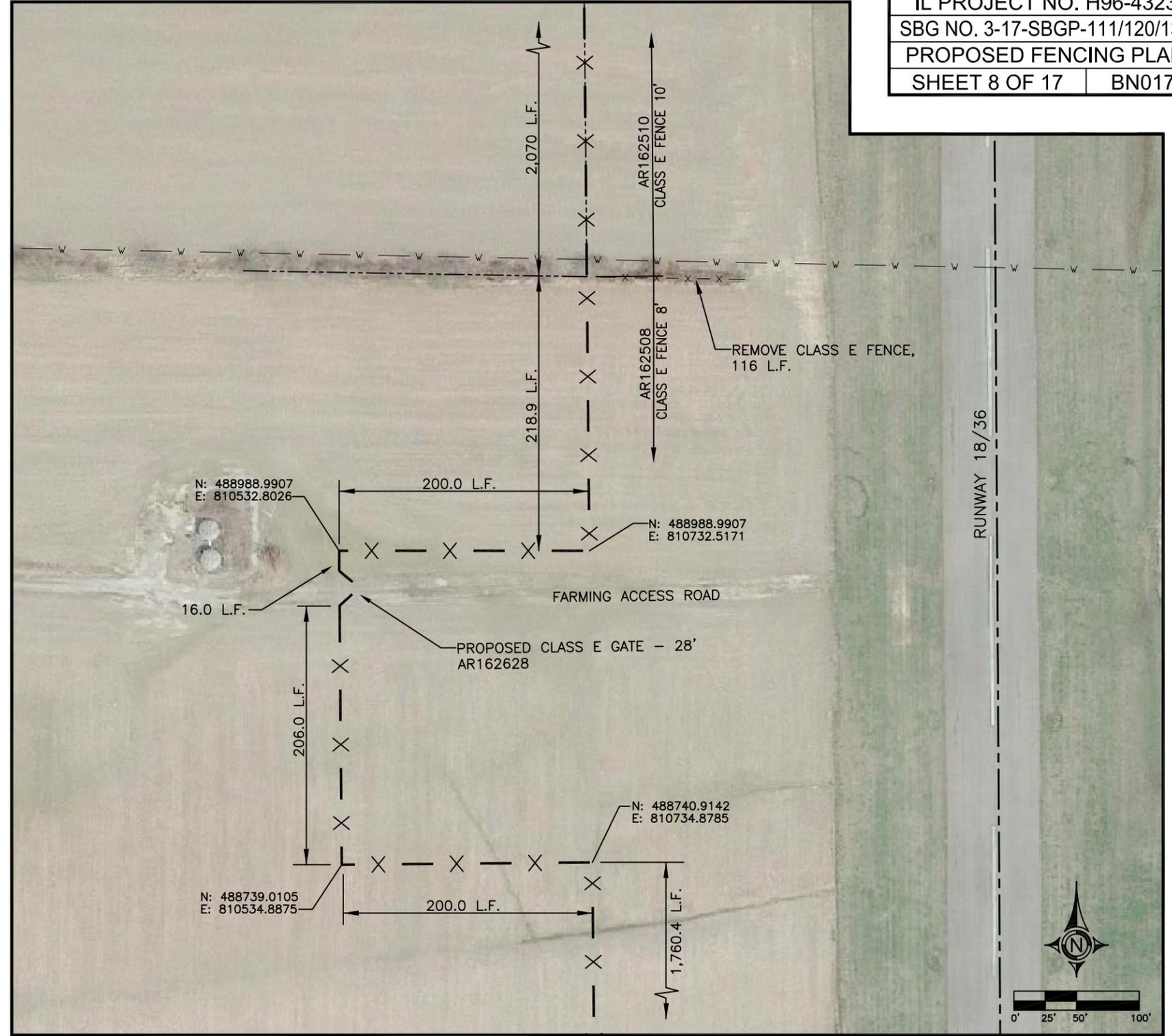
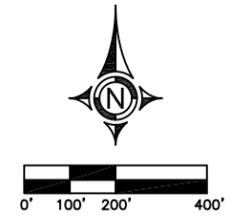
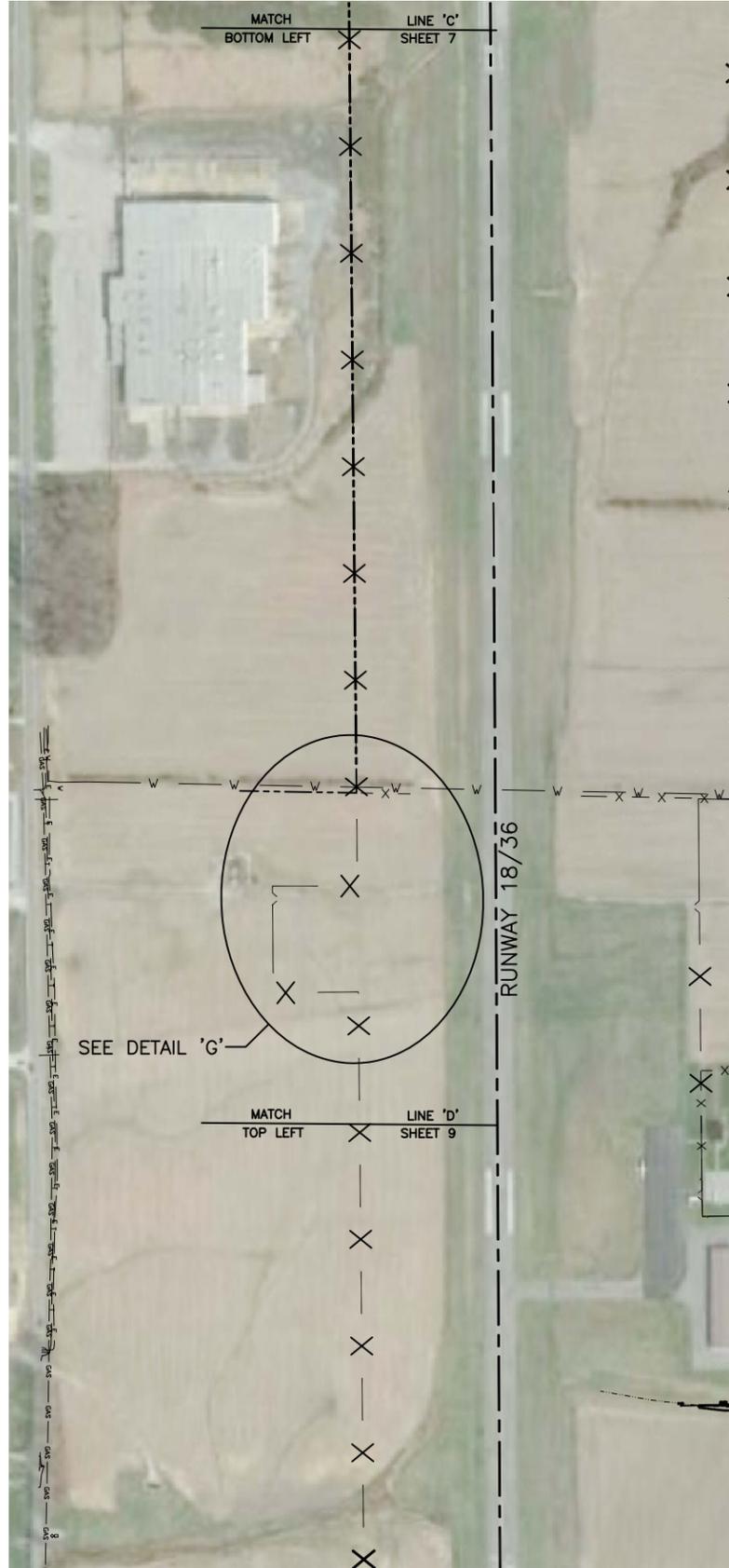
DETAIL 'C'



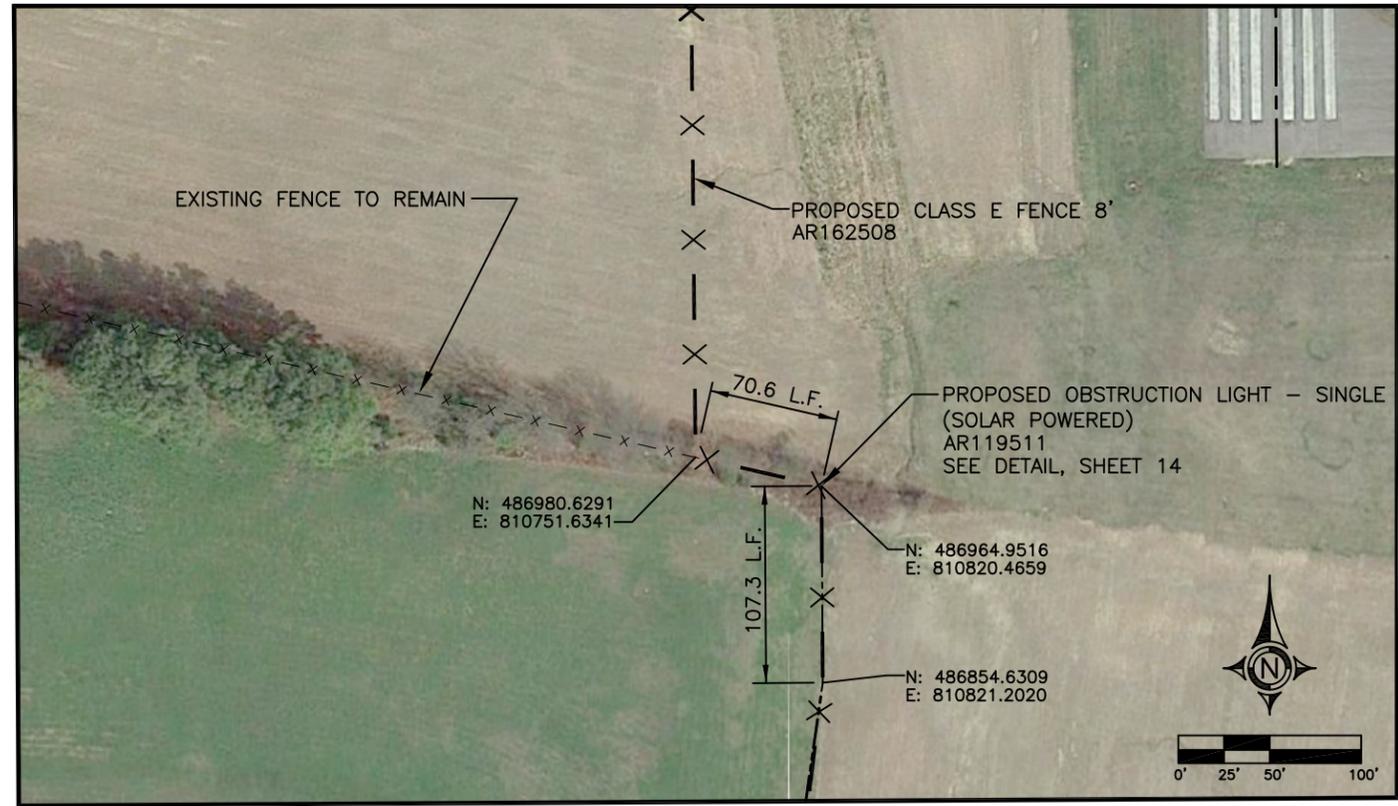
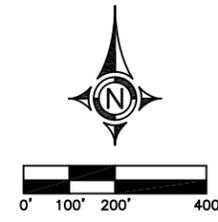
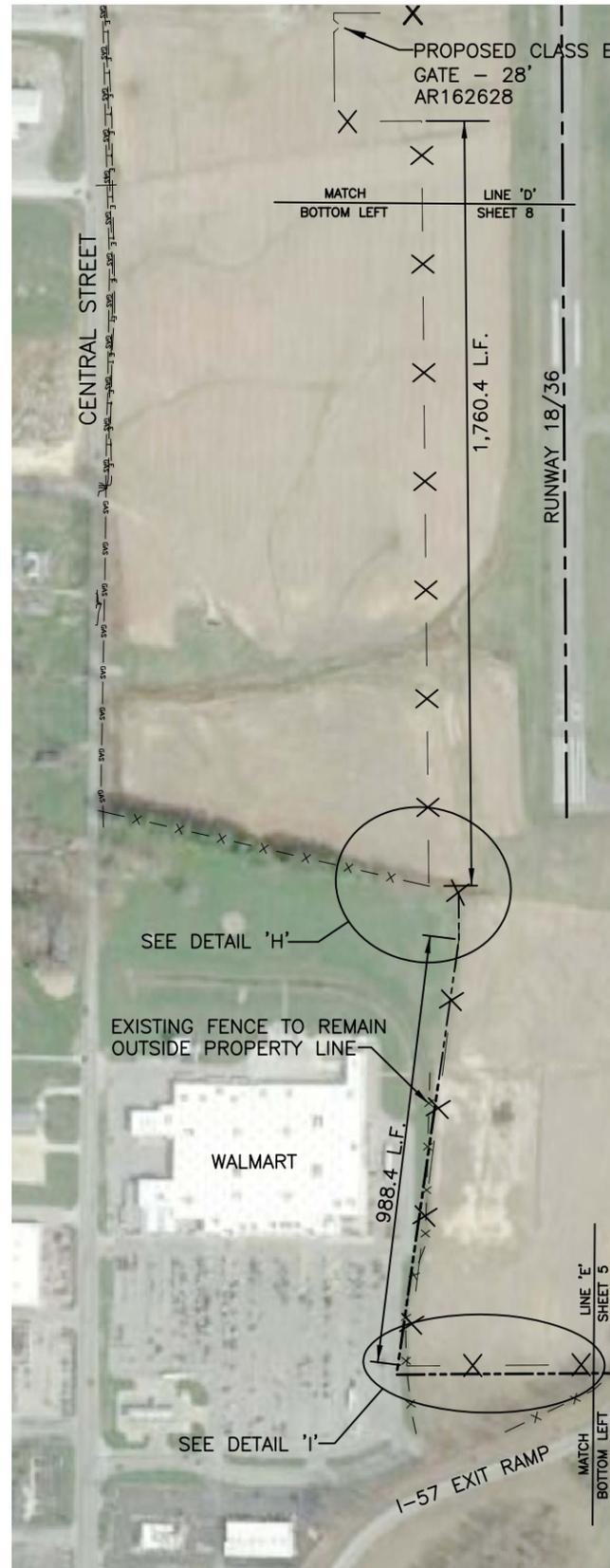
DETAIL 'F'



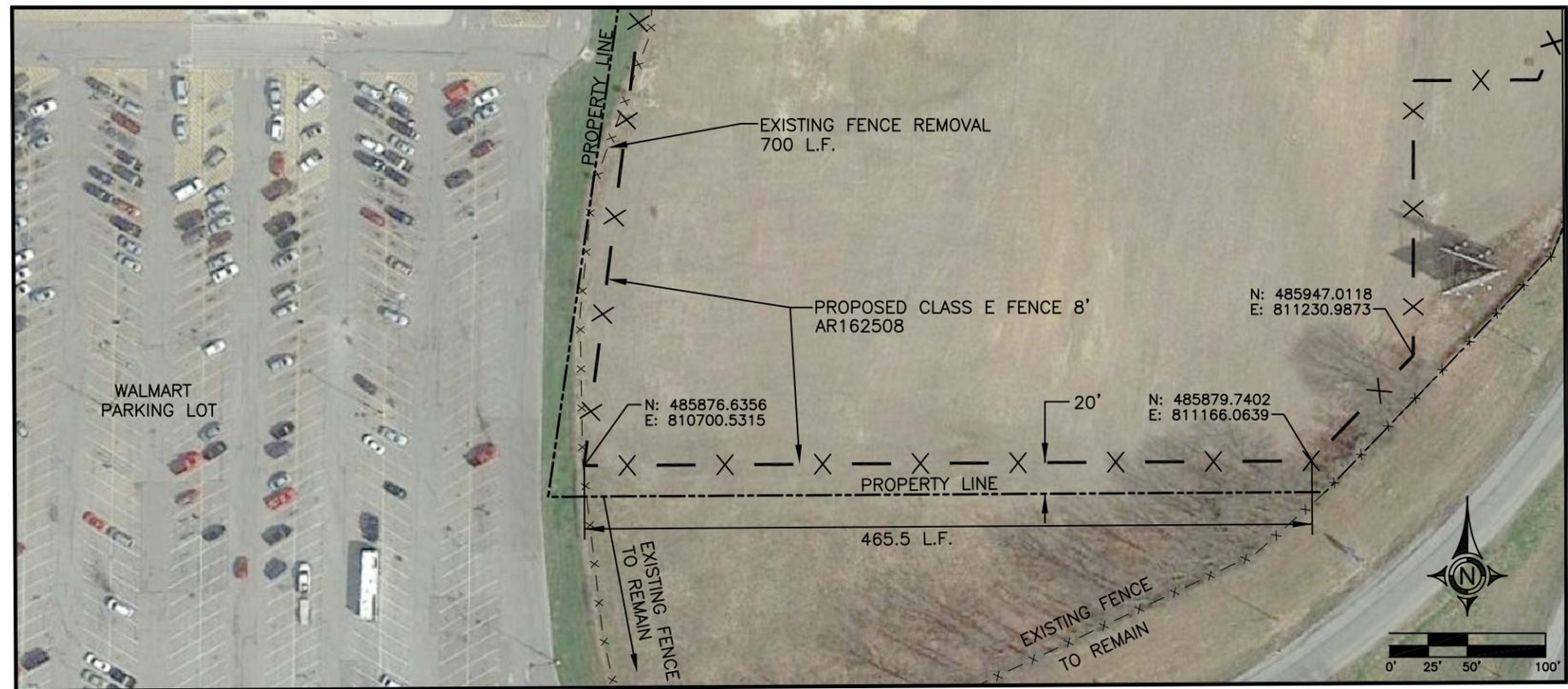
DETAIL 'E'



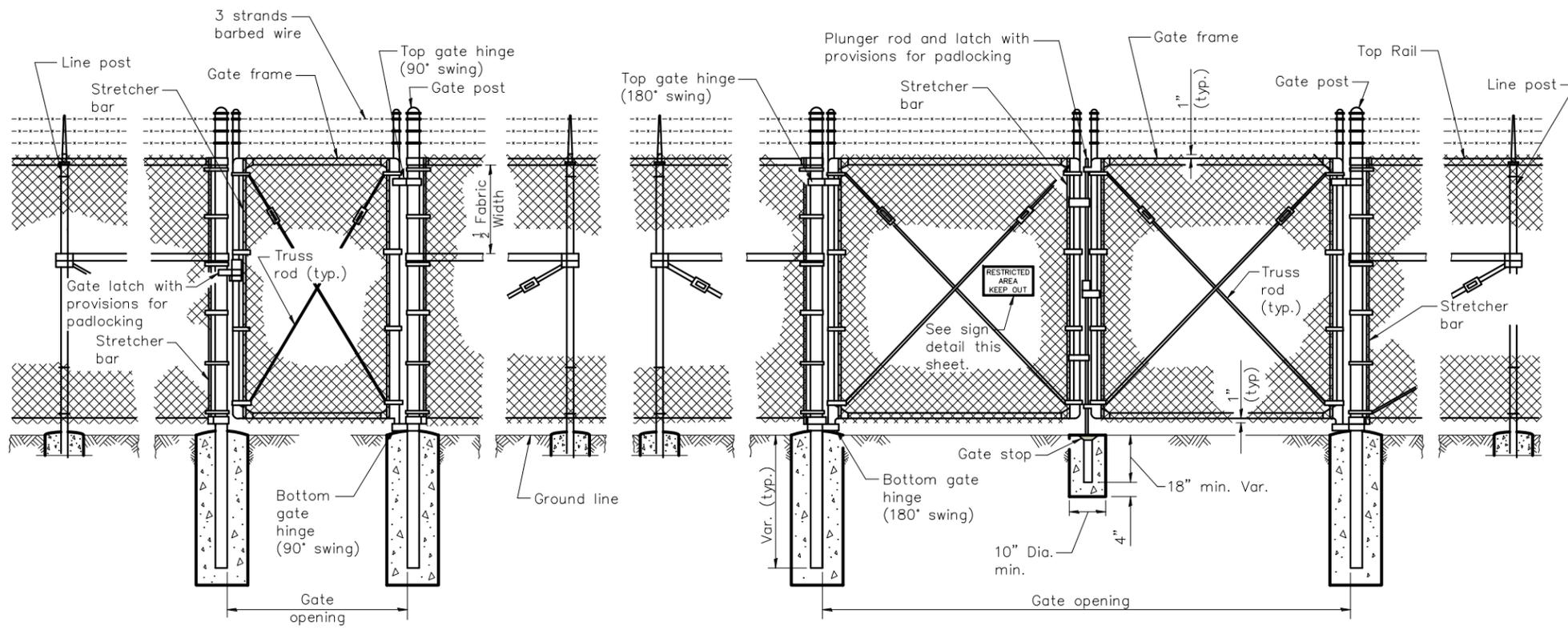
DETAIL 'G'



DETAIL 'H'

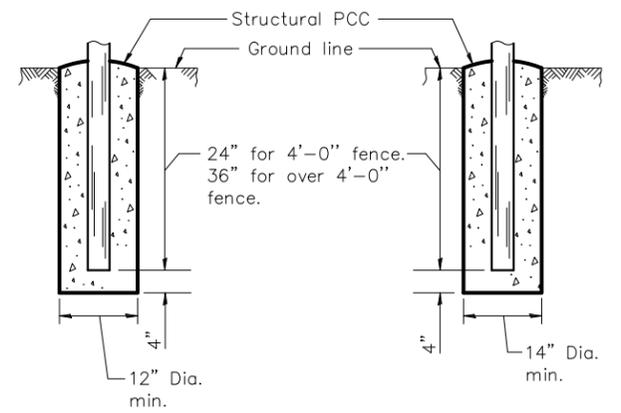


DETAIL 'I'



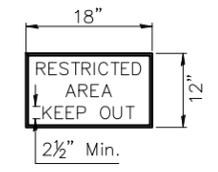
PEDESTRIAN GATE ARRANGEMENT

VEHICLE GATE ARRANGEMENT

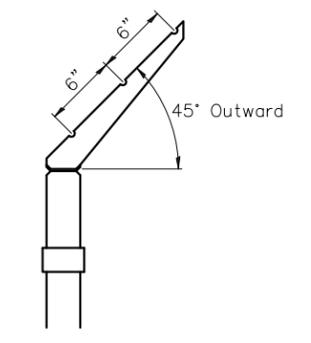


FOOTING FOR LINE POST

FOOTING FOR GATE & TERMINAL POST



SIGN DETAIL



BARBED WIRE ARM ON LINE POST DETAIL

Notes:

0.08 Ga. Aluminum alloy sheet.
 Letter color shall be red.

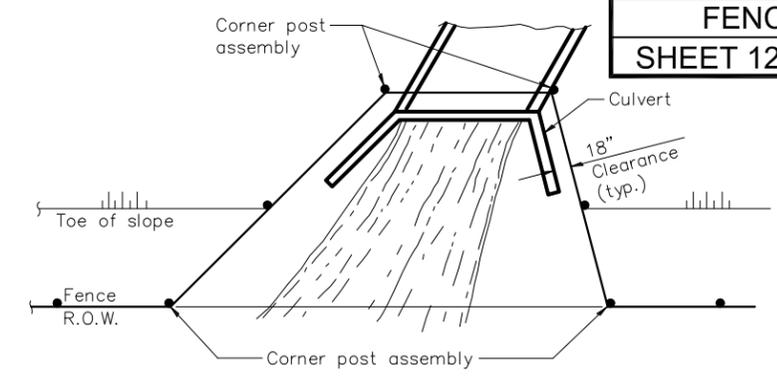
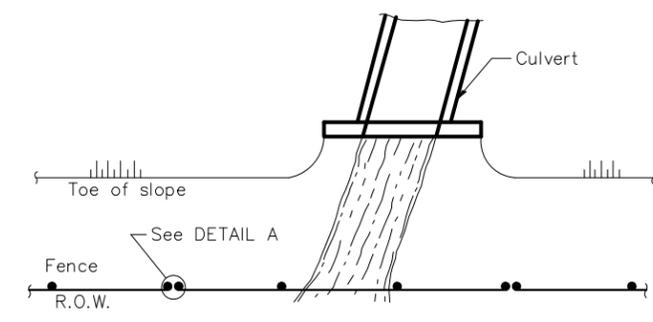
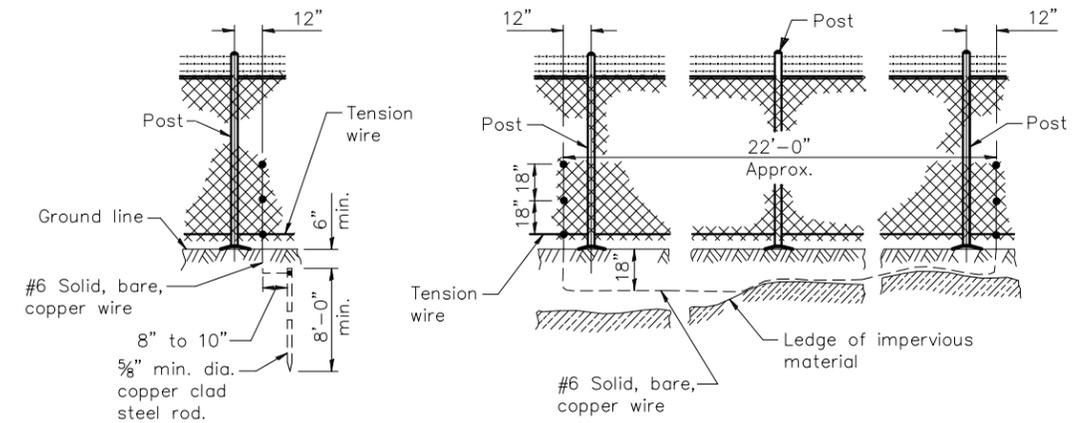
Each gate shall require one sign.
 Every 100' of fence shall require one sign.
 Every straight section of fence shall require minimum one sign

NOTES

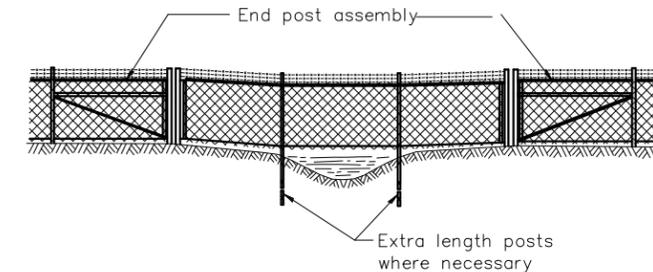
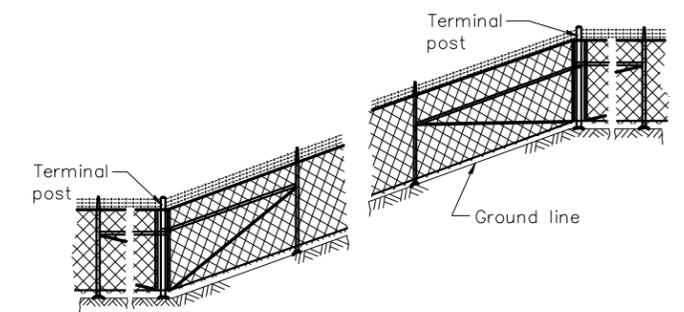
- PULL POSTS SHALL BE PLACED AT LOCATIONS DETERMINED BY THE ENGINEER. THEY SHALL BE PLACED AT 660' INTERVALS BETWEEN POSTS TO WHICH THE ENDS OF THE FABRIC ARE CLAMPED OR MIDWAY BETWEEN SUCH POSTS WHEN THE DISTANCE IS LESS THAN 1320' AND GREATER THAN 660'.
- CONTINUOUS FENCE SHALL BE GROUNDED AT INTERVALS NOT EXCEEDING 1000 FT. EXCEPT THERE SHALL BE A GROUND NOT EXCEEDING 100 FT FROM GATE IN EACH SECTION OF THE FENCE ADJACENT TO THE GATE.
- FENCE UNDER POWER LINES SHALL BE GROUNDED BY THREE GROUNDS, ONE DIRECTLY UNDER THE CROSSING AND ONE ON EACH SIDE 25 TO 50 FT AWAY. A SINGLE GROUND SHALL BE LOCATED DIRECTLY UNDER EACH TELEPHONE WIRE OR CABLE CROSSING.
- THE COUNTERPOISE SHALL BE USED ONLY WHERE IT IS IMPOSSIBLE TO DRIVE A GROUND ROD BECAUSE OF IMPERVIOUS EARTH STRUCTURES.
- THE GROUND WIRE SHALL BE CONNECTED TO THE FABRIC AND THE GROUND ROD BY A MECHANICAL CLAMP OF CAST BRONZE BODY AND BRONZE OR STAINLESS STEEL BOLTS AND WASHERS. WHEN A TENSION WIRE IS REQUIRED, THE BOTTOM CONNECTION OF THE GROUND WIRE SHALL BE MADE TO THE TENSION WIRE.
- ALL PROPOSED CLASS E FENCE SHALL MEET THE REQUIREMENTS OF IDOT STANDARD 664001 LATEST REVISION.

27 Jan 2017 - 10:00am X:\2015\15199\ac\15199 Fence Details.dwg: Layout Tab '11 Fencing Details'

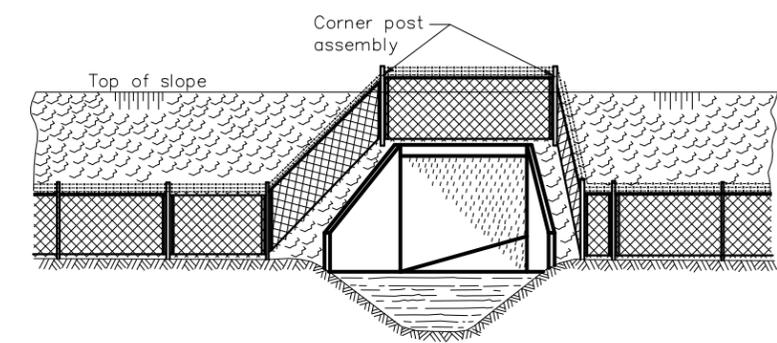
* On uneven ground this dimension may vary between 1" min. to 3" max. for a max. distance of 8'-0".



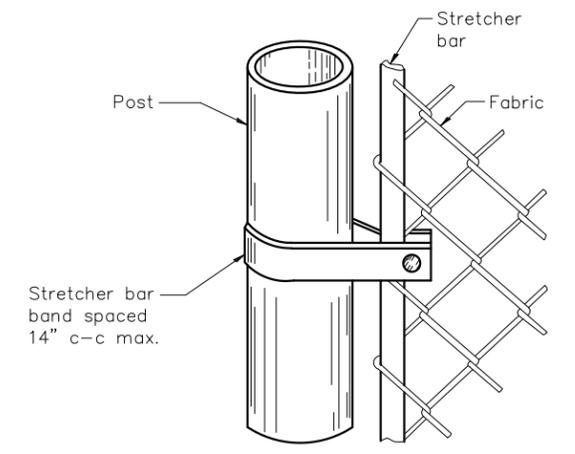
PROTECTIVE ELECTRICAL GROUNDS



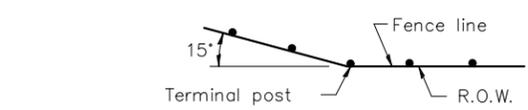
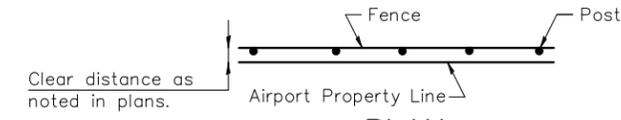
The chain link fabric shall be replaced by barbed wire strands at 12" maximum centers between the double posts shown on DETAIL A when shown on the plans.



When the width of the culvert makes it necessary to anchor a post to the top of the culvert, a cast iron shoe or other device approved by the Engineer shall be used.

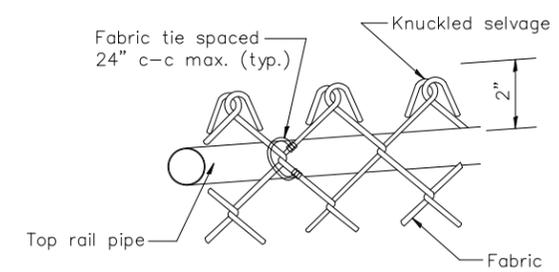
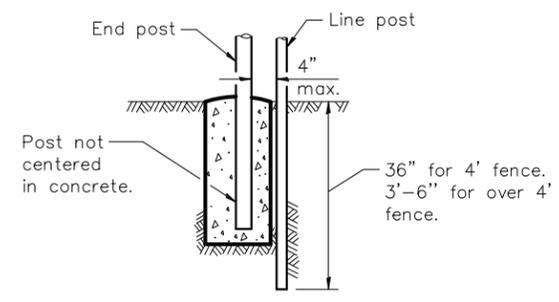


ELEVATION INSTALLATION AROUND HEADWALL

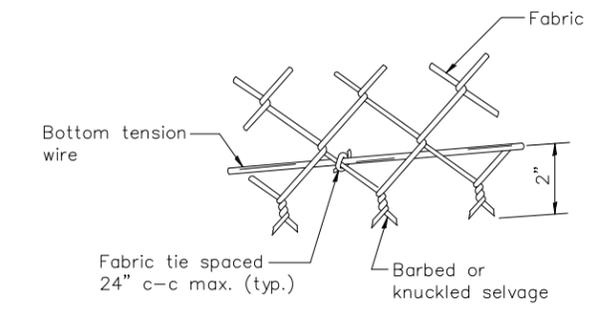


When fence line has a change in direction of 15° or more, a terminal post shall be placed as shown above.
 Where angle is less than 15° and existing conditions require a terminal post, they shall be placed as directed by the Engineer.

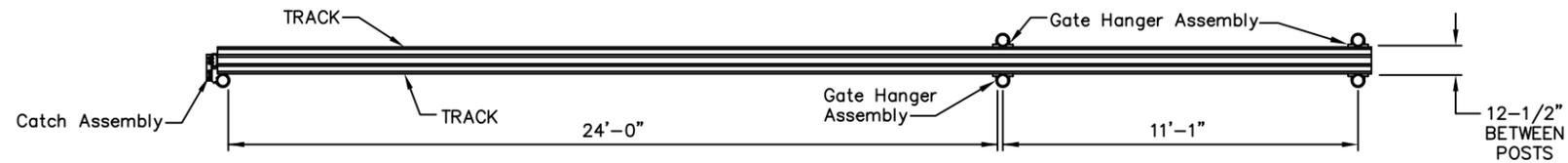
INSTALLATION AT CORNERS



METHOD OF TYING FABRIC TO PIPE

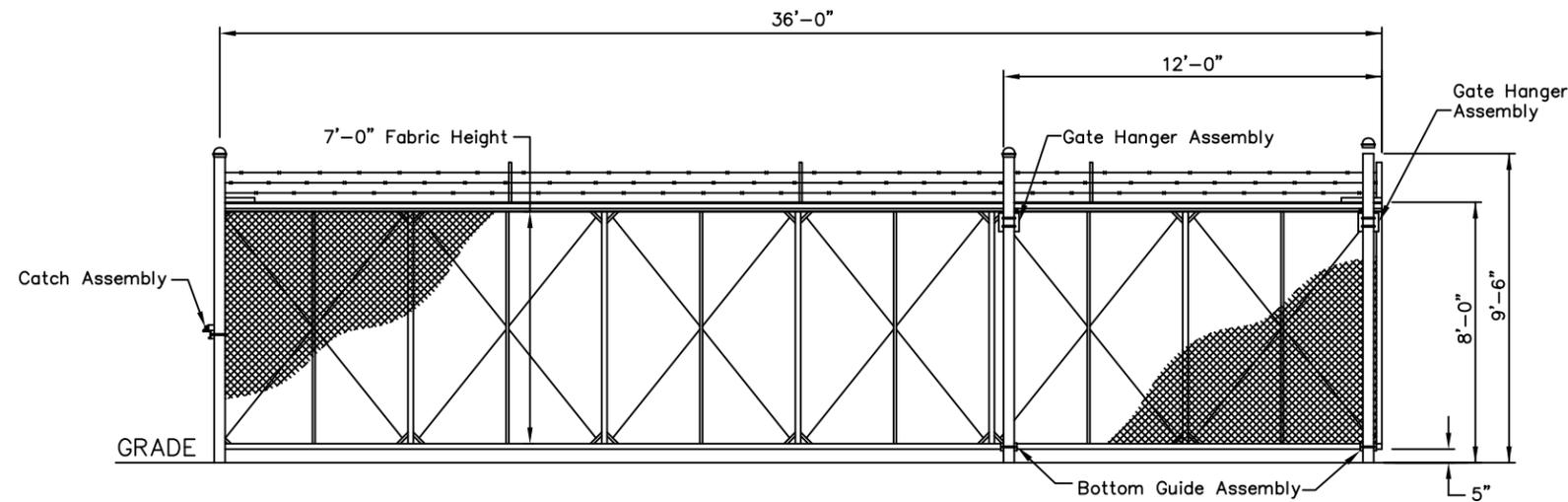


METHOD OF TYING FABRIC TO TENSION WIRES



GATE PLAN VIEW

No Scale



GATE ELEVATION

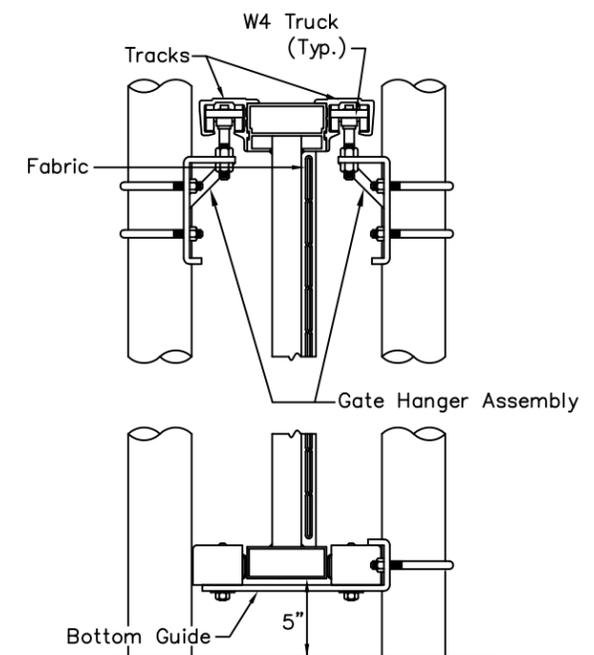
No Scale

SLIDE GATE NOTES:

1. THE GATE FABRIC TYPE AND FINISH SHALL MATCH THAT OF THE OF THE PROPOSED ADJACENT FENCING.
2. THE CONTRACTOR SHALL FURNISH AND INSTALL GATE AS A COMPLETE WORKING UNIT. ALL MATERIAL, HARDWARE, LABOR AND EQUIPMENT NECESSARY TO CONSTRUCT GATE AS DETAILED SHALL BE CONSIDERED INCLUDED WITH THE CLASS E MANUAL SLIDE GATE - 24' PAY ITEM.
3. THE CANTILEVERED GATE SHALL BE SUFFICIENTLY RIGID TO WITHSTAND BENDING OR FLEXING DURING WINDY CONDITIONS. THE CONTRACTOR SHALL PROVIDE ANY ADDITIONAL STIFFENERS, POSTS OR ROLLERS TO PREVENT DISPLACEMENT OF THE GATE BY WIND FORCES.

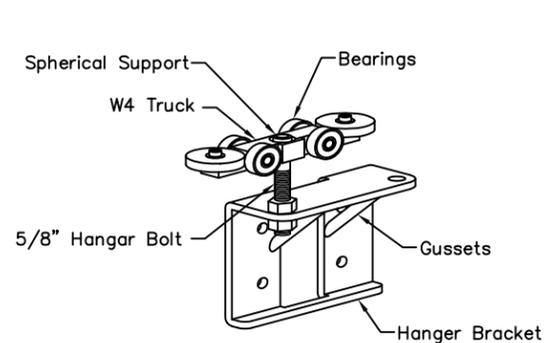
ADDITIVE ALTERNATE - ELECTRIC GATE UPGRADE NOTES:

1. THE ELECTRIC GATE CONTROLLER SHALL BE FROM TYMETAL, TYM-HYD-VF2(X2), OR EQUIVALENT. THE GATE CONTROLLER SHALL BE OF THE SAME MANUFACTURER OR COMPATIBLE WITH THE MANUAL SLIDE GATE.
2. THE GATE OPERATOR SHALL OPERATE ON 240 VOLTS, SINGLE PHASE. THE CONTRACTOR SHALL INSTALL A 2-POLE, 20 AMP BREAKER IN THE EXISTING SOURCE PANELBOARD, AND RUN 2-#8 AWG XHHW WIRES FOR THE PHASE CONDUCTORS AND 1-#10 AWG FOR THE GROUND CONDUCTOR. ALL WIRES SHALL BE IN 1" CONDUIT FROM THE SOURCE TO THE GATE OPERATOR CONTROL CABINET.
3. THE GATE OPERATOR SHALL HAVE A 5/8" DIA. X 8'-0" GROUND ROD CONNECTED TO THE GATE OPERATOR GROUND WITH A #10 AWG GROUND CONDUCTOR.
4. THE CONTRACTOR HAS THE OPTION OF UTILIZING THE EXISTING DUCT UNDER THE ENTRANCE ROAD OR DIRECTIONAL BORING THE CONDUIT UNDER THE ENTRANCE ROAD.
5. THE GATE ENTRY CONTROL ON THE PUBLIC SIDE SHALL BE KEYPAD OPERATED ON A PEDESTAL MOUNT. THE CONTRACTOR SHALL ALSO PROVIDE THREE (3) REMOTE CONTROLLERS TO THE AIRPORT CHAIRMAN. THE GATE EXIT CONTROL SHALL BE CONTROLLED BY POST MOUNTED INFRARED PHOTO-ELECTRIC EYES.
6. THE GATE ENTRY AND EXIT CONTROLLERS SHALL BE PROTECTED BY TWO (2) EACH SCHEDULE 40 STEEL PIPE BOLLARDS, FILLED WITH CONCRETE AND PAINTED WITH YELLOW EPOXY PAINT. THE BOLLARDS SHALL BE SET IN 4'-0" X 18" DIA. CONCRETE ENCASEMENTS.
7. THE ADDITIVE ALTERNATE ELECTRIC GATE UPGRADE PAY ITEM SHALL INCLUDE ALL EQUIPMENT, MATERIAL AND LABOR TO FURNISH AND CONSTRUCT THE ELECTRIC POWER AND CONTROL SYSTEMS FOR THE ELECTRIC GATE UPGRADE.



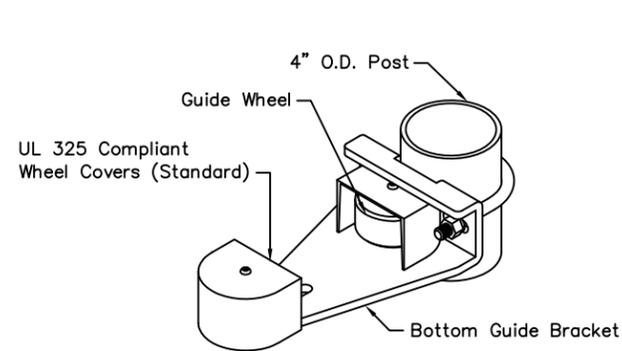
GATE SECTION

No Scale



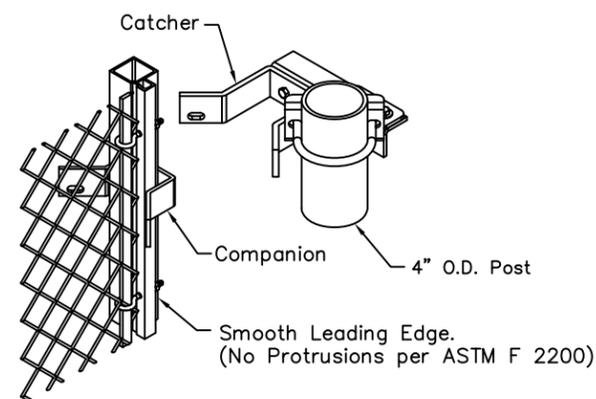
GATE HANGER ASSEMBLY

No Scale



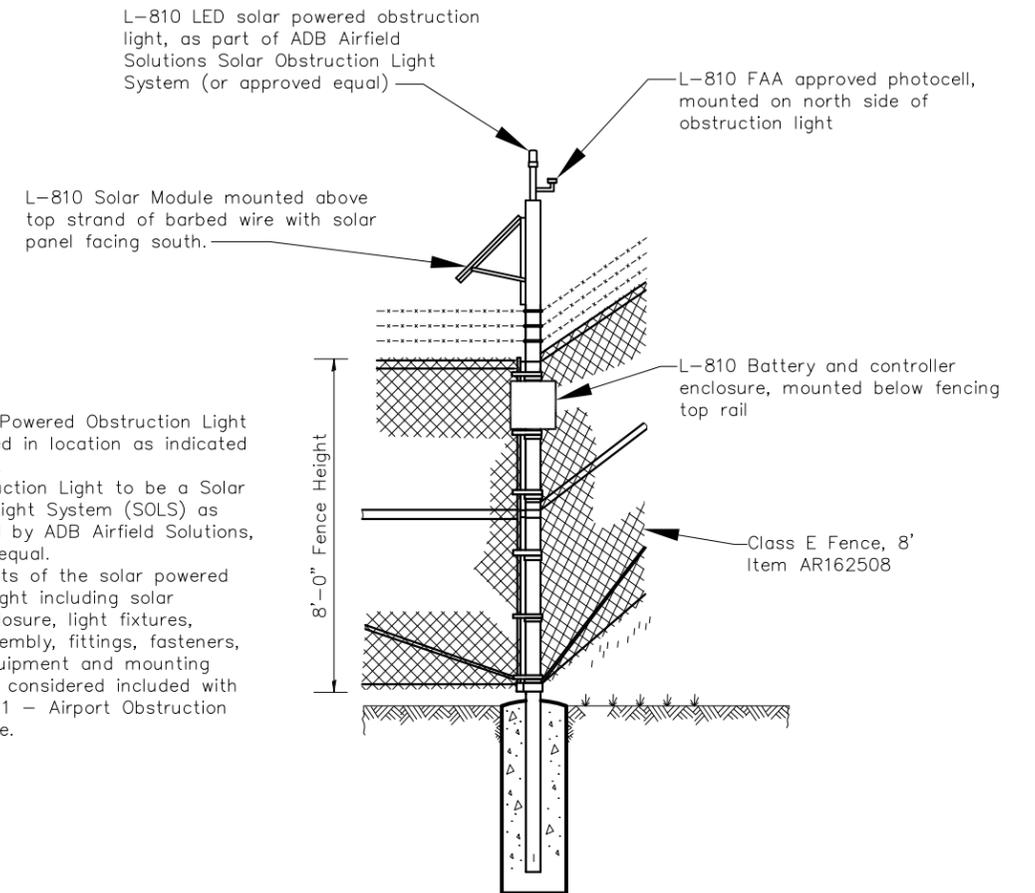
BOTTOM GUIDE

No Scale



CATCH ASSEMBLY

No Scale

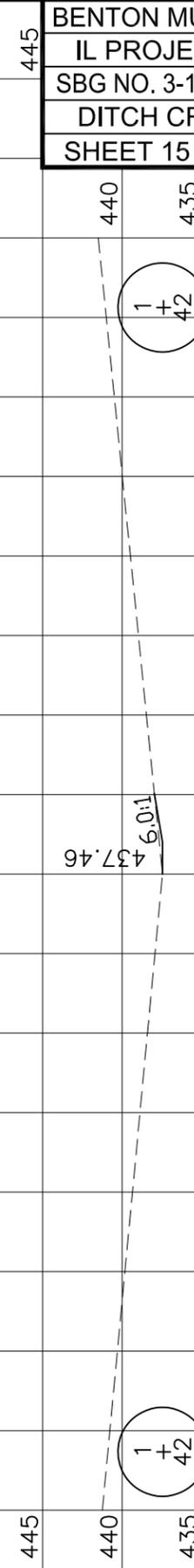
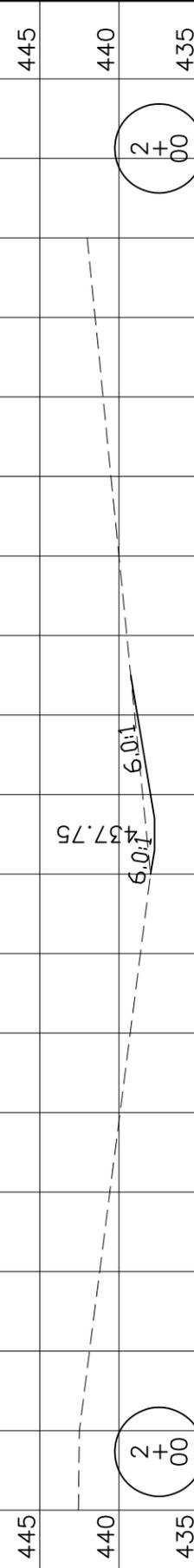
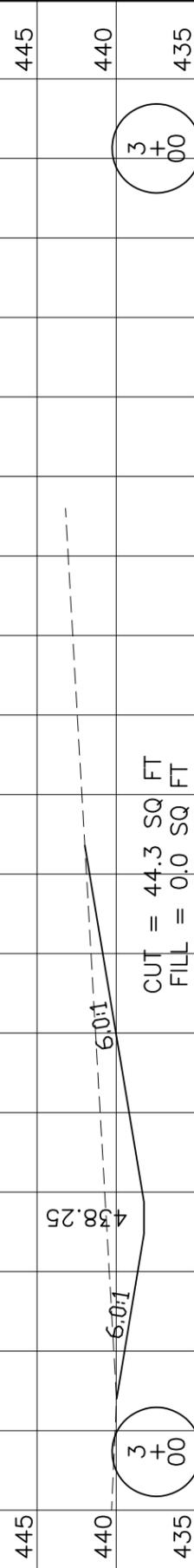
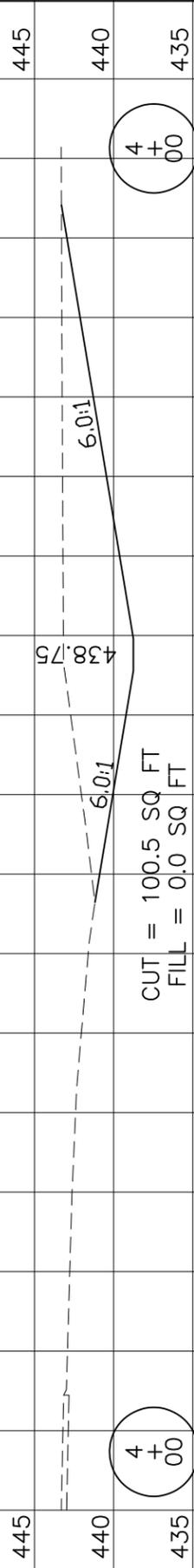
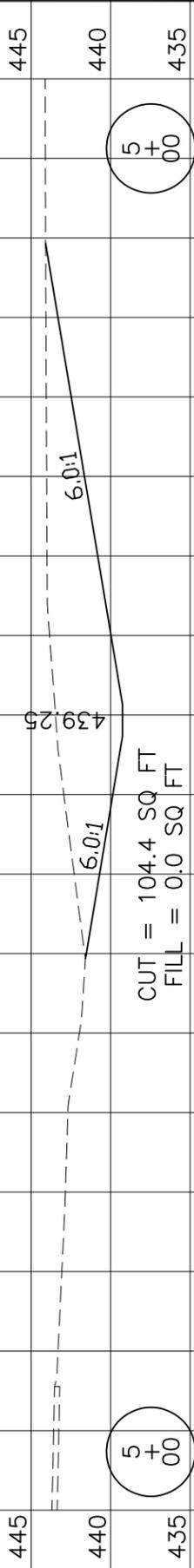
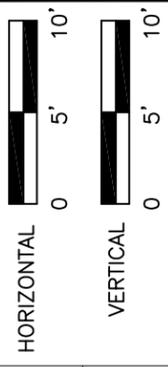


NOTES:

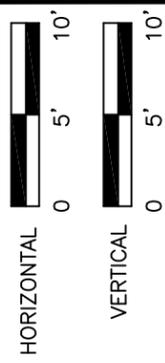
1. L-810 Solar Powered Obstruction Light to be installed in location as indicated on the Plans.
2. L-810 Obstruction Light to be a Solar Obstruction Light System (SOLS) as manufactured by ADB Airfield Solutions, or approved equal.
3. All components of the solar powered obstruction light including solar panel(s), enclosure, light fixtures, photocell assembly, fittings, fasteners, grounding equipment and mounting hardware are considered included with Item AR119511 - Airport Obstruction Light - Single.

**OBSTRUCTION LIGHT ON FENCE
EAST ELEVATION**

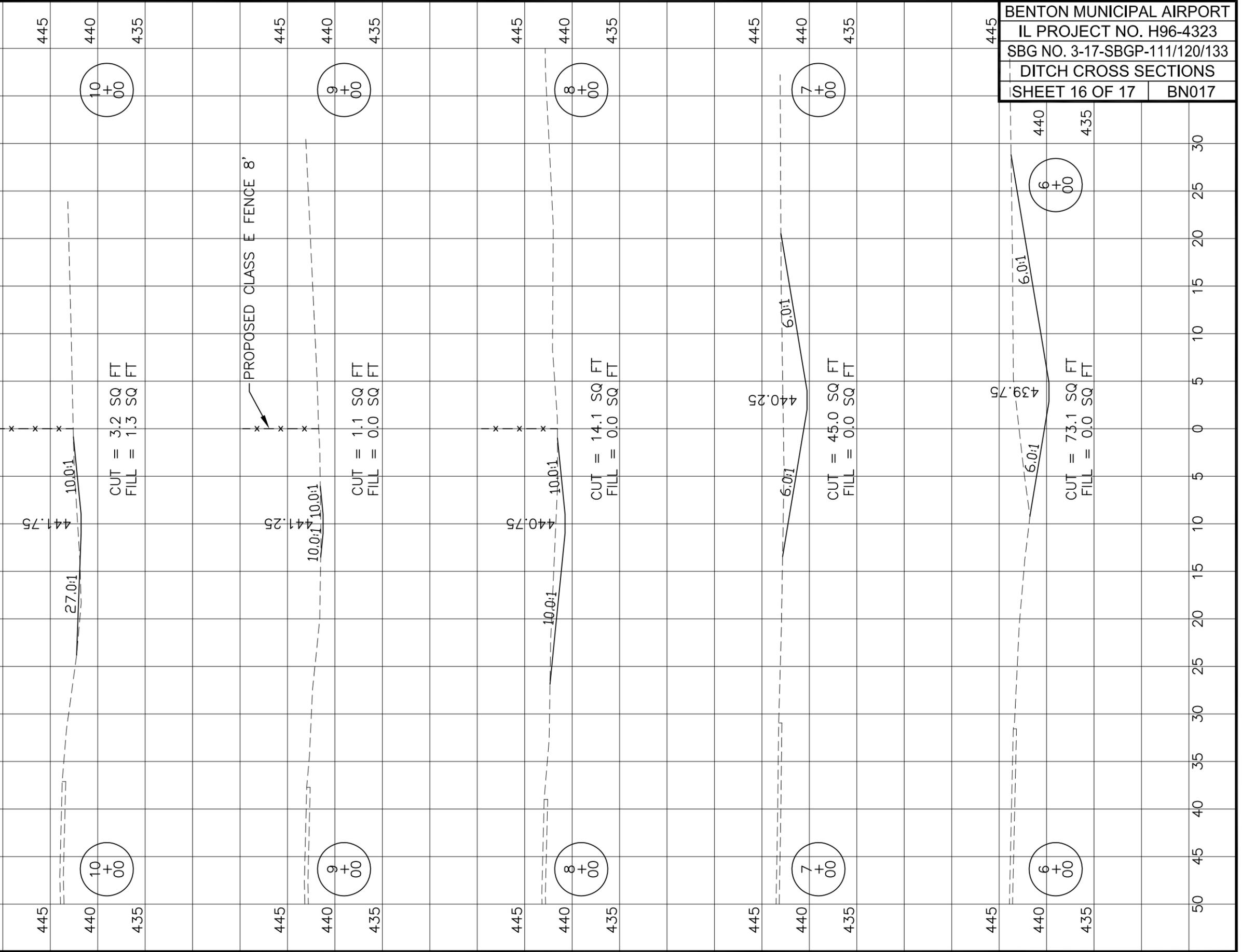
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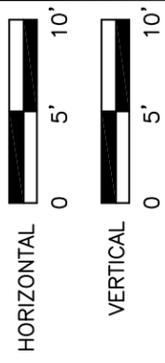
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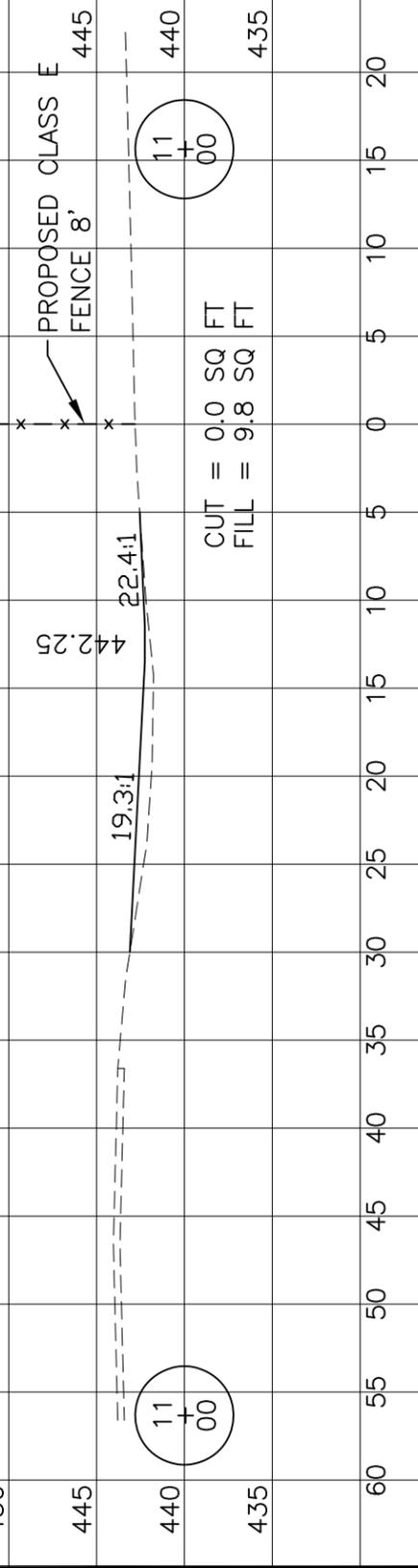
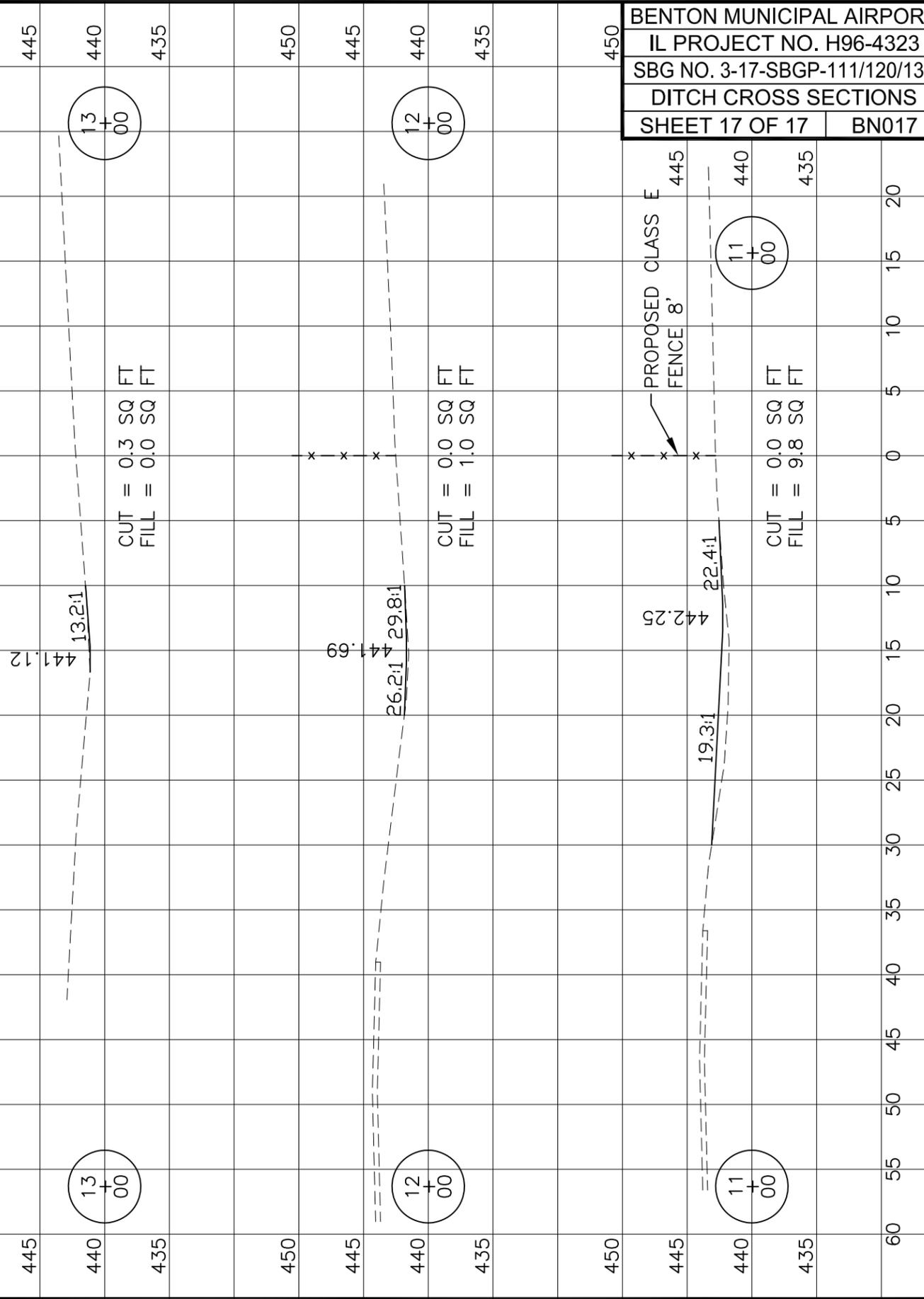
BENTON MUNICIPAL AIRPORT
 IL PROJECT NO. H96-4323
 SBG NO. 3-17-SBGP-111/120/133
 DITCH CROSS SECTIONS
 SHEET 16 OF 17 | BN017



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BENTON MUNICIPAL AIRPORT
IL PROJECT NO. H96-4323
SBG NO. 3-17-SBGP-111/120/133
DITCH CROSS SECTIONS
SHEET 17 OF 17 **BN017**



PROPOSED CLASS E
 FENCE 8'

445 440 435 450 445 440 435 450 445 440 435 450 445 440 435 450

60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20