

OWNER



RICHARD B. RUSSELL
REGIONAL AIRPORT
FLOYD COUNTY, GEORGIA

MARK	DATE	DESCRIPTION

1. REFER TO DRAWING EL-509 FOR INFORMATION TO LOCATE SIGNS.
2. REFER TO DRAWING EL-100 FOR ELECTRICAL LEGEND AND GENERAL NOTES.

1. INSTALL RELOCATED SIGN AND TIE EXISTING CIRCUIT TO RELOCATED SIGN.
2. EXTEND EXISTING CONCRETE ENCASED DUCT BANK.
3. CONNECT PROPOSED CONDUIT TO EXISTING LIGHT BASE, SIGN OR HANDHOLE. IF NO CONDUIT HUB IS PRESENT, CORE-DRILL THE EXISTING STRUCTURE AND SEAL WITH NON-SHRINK GROUT. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONDUIT INSTALLATION.
4. INSTALL LIGHT AT THE POINT OF TANGENT.
5. RELOCATED HANDHOLE.
6. RELOCATED SPLICE CAN.
7. REINSTALL IN-PAVEMENT LIGHT.

CMT PROJECT NO:	22004559-00
CAD DWG FILE:	22004559-EL-1.DWG
DESIGNED BY:	JBH/JMM
DRAWN BY:	JBH
CHECKED BY:	JMM
APPROVED BY:	MJR
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SHEET TITLE
ELECTRICAL CIRCUIT PLAN - SHEET 3

EL-203
SHEET 56 OF 81

CONSULTANTS



ISSUED FOR BID

TAXIWAY BRAVO WEST
RELOCATION

OWNER



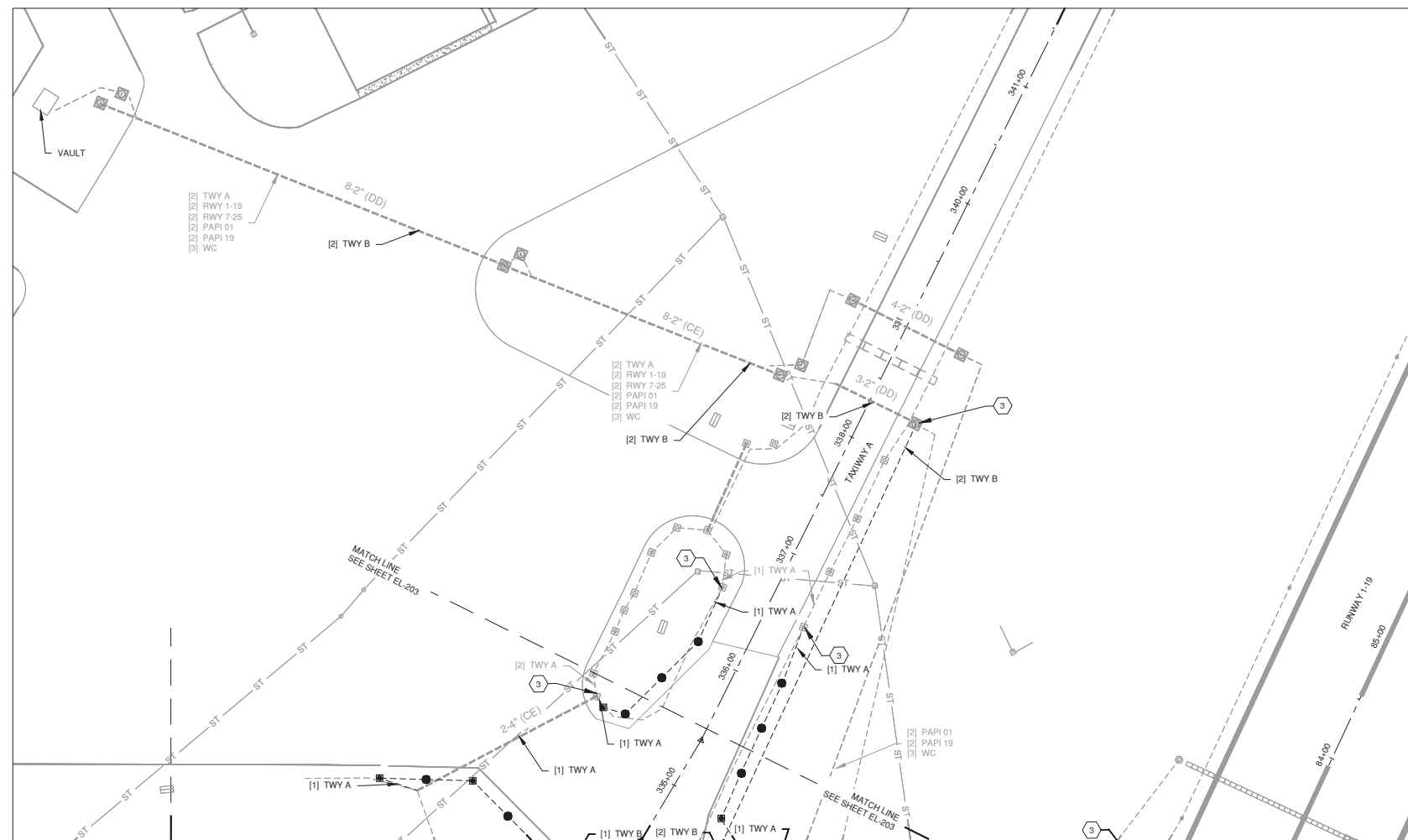
RICHARD B. RUSSELL
REGIONAL AIRPORT
FLOYD COUNTY, GEORGIA

MARK	DATE	DESCRIPTION

CMT PROJECT NO: 22004559-00
CAD DWG FILE: 22004559-EL-1.DWG
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SHEET TITLE
**ELECTRICAL CIRCUIT
PLAN - SHEET 4**

SHEET 57 OF 81



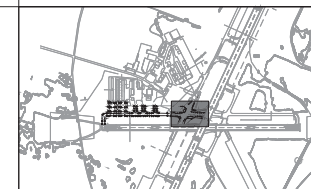
SHEET NOTES

1. REFER TO DRAWING EL-509 FOR INFORMATION TO LOCATE SIGNS.
2. REFER TO DRAWING EL-100 FOR ELECTRICAL LEGEND AND GENERAL NOTES.

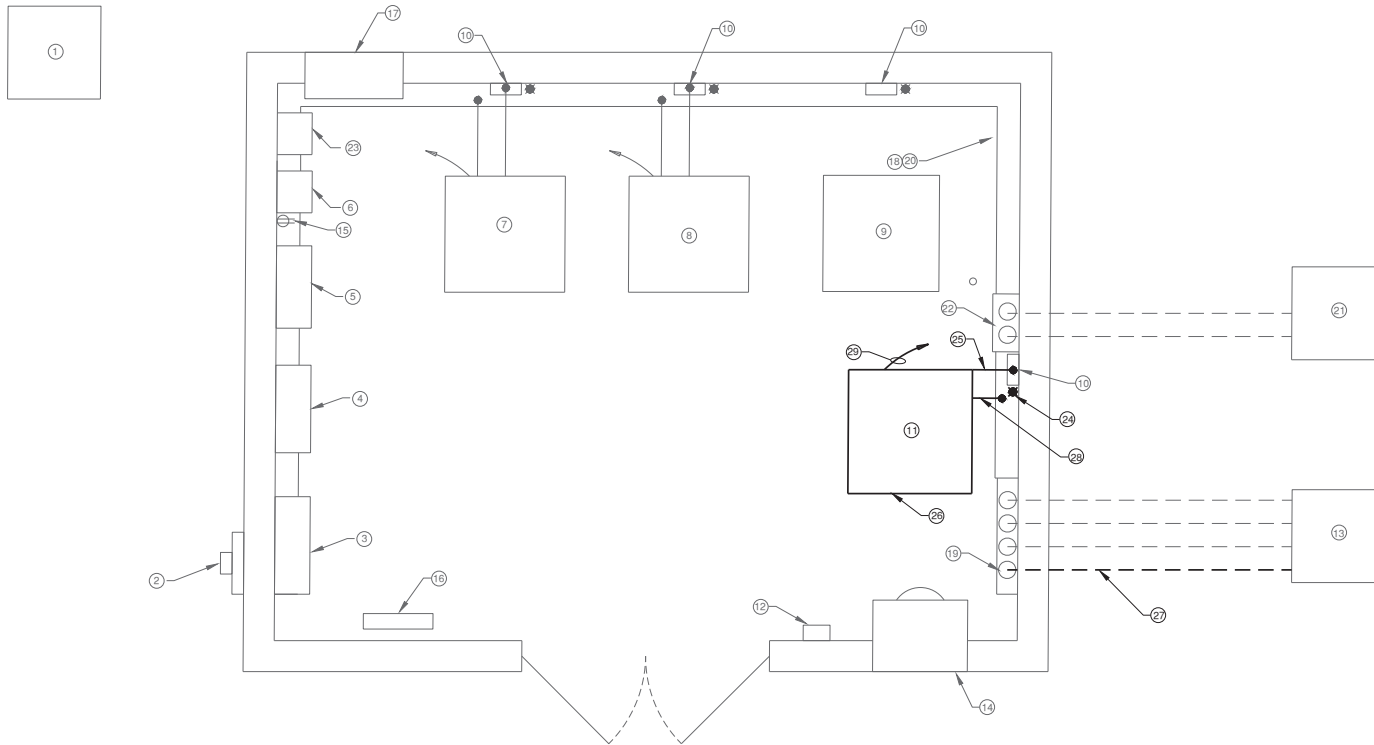
KEYED NOTES

1. INSTALL RELOCATED SIGN AND TIE EXISTING CIRCUIT TO RELOCATED SIGN.
2. EXTEND EXISTING CONCRETE ENCASED DUCT BANK.
3. CONNECT PROPOSED CONDUIT TO EXISTING LIGHT BASE, SIGN OR HANDHOLE. IF NO CONDUIT HUB IS PRESENT, CORE-DRILL THE EXISTING STRUCTURE AND SEAL WITH NON-SHRINK GROUT. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONDUIT INSTALLATION.
4. INSTALL LIGHT AT THE POINT OF TANGENT.

KEYMAP



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Date: Tuesday, June 12, 2024 11:28:32 AM



VAULT ELEVATION LEGEND

VAULT PLAN N.T.S.

- 1 EXISTING UTILITY TRANSFORMER
- 2 EXISTING CT CABINET AND METER
- 3 EXISTING POWERPANEL "PANEL AL", 400A, 120/240V, 42 POLE (NOTE 2)
- 4 EXISTING L-854 RADIO CONTROLLER
- 5 EXISTING CONTROL RELAY/CONTACTOR PANEL (NOTE 6)
- 6 EXISTING PAPI TRANSFORMER AND DISCONNECT FOR PAPI 01
- 7 EXISTING 20KW, 240V, 5-STEP RUNWAY 1-19 REGULATOR, TO REMAIN
- 8 EXISTING 30KW, 240V, 3-STEP TAXIWAY REGULATOR, TO REMAIN
- 9 EXISTING 10 KW, 240V, 3-STEP RUNWAY 7-25 REGULATOR, TO REMAIN
- 10 EXISTING REGULATOR CUTOUT
- 11 EXISTING 20KW, 240V, 3-STEP SPARE REGULATOR, TO BE REMOVED
- 12 EXISTING RECEPTACLE AND LIGHT SWITCH
- 13 EXISTING HIGH HANDHOLE (NOTE 4)
- 14 EXISTING EXHAUST FAN AND THERMOSTAT
- 15 EXISTING RECEPTACLE
- 16 EXISTING UNIT HEATER AND THERMOSTAT
- 17 EXISTING LOUVER

- 18 EXISTING HIGH VOLTAGE WIREWAY (UPPER)
- 19 EXISTING HIGH VOLTAGE PULL BOX. (NOTE 4)
- 20 EXISTING LOW VOLTAGE WIREWAY (LOWER)
- 21 EXISTING LOW VOLTAGE HANDHOLE
- 22 EXISTING LOW VOLTAGE PULL BOX
- 23 EXISTING 240V-480 TRANSFORMER AND DISCONNECT FOR PAPI 19
- 24 LED INDICATOR LIGHT AND ISOLATION TRANSFORMER (NOTE 5).
- 25 2 - 1/C #8, 5KV L-824 CABLE IN FLEXIBLE CONDUIT TO CUTOUT
- 26 NEW 7.5KW, 3-STEP, L-828 FERRORESONANT REGULATOR WITH DIGITAL DISPLAY, 240V INPUT, 6.8A OUTPUT, AND INTERNAL CONTROL VOLTAGE. PROVIDE ENGRAVED NAMEPLATE LABELED "TAXIWAY B"
- 27 2 2 - 1/C #8, 5KV L-824 CABLE IN EXISTING CONDUIT TO HIGH VOLTAGE WIREWAY (TAXIWAY B)
- 28 6#12 THWN CONTROL WIRES IN FLEXIBLE CONDUIT TO LOW VOLTAGE WIREWAY.
- 29 2 #8 THWN, 1 #10 GND. IN 1 1/2" CONDUIT AND EXISTING LOW VOLTAGE WIREWAY TO POWER PANEL

NOTES

1. EXISTING EQUIPMENT IS SHOWN FOR INFORMATION ONLY. NEW WORK IS SHOWN IN BOLD.
2. INSTALL 1-50A, 2-POLE CIRCUIT BREAKER IN EXISTING PANEL FOR TAXIWAY B REGULATOR. CONTRACTOR SHALL VERIFY ALL EXISTING CIRCUITS AND LABEL ALL CIRCUIT BREAKERS (EXISTING AND NEW).
3. REMOVE EXISTING REGULATORS AND DISPOSE OFF AIRPORT'S PROPERTY. IF AIRPORT DESIRES TO SALVAGE REGULATORS, RELOCATE TO AIRPORT DESIGNATED LOCATION.
4. CONTRACTOR SHALL VERIFY EXISTING AIRFIELD LIGHTING CIRCUITS AND LABEL ALL NEW AND EXISTING CIRCUITS IN HANDHOLE, PULL BOX AND WIREWAY.
5. INSTALL NEW LED TAXIWAY INDICATOR LIGHTS MOUNTED ON WALL ABOVE EACH REGULATOR. INSTALL ISOLATION TRANSFORMER IN EXISTING HIGH VOLTAGE WIREWAY. MATCH INDICATOR LIGHTS WITH AIRFIELD CIRCUITS.
6. INSTALL NEW CONTROL WIRES FROM TAXIWAY REGULATORS TO EXISTING CONTROL PANEL. TERMINATE CONTROL WIRES AT TERMINAL BLOCK.



CONSULTANTS

THIS BAR IS EQUAL TO 2" AT FULL SCALE (22X34)



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FLOYD COUNTY, GEORGIA

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CMT PROJECT NO:	22004559-00
CAD DWG FILE:	22004559-EL-VAULT.DWG
DESIGNED BY:	JBH/JMM
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SHEET TITLE
**ELECTRICAL VAULT
PLAN**

EL-301
SHEET 58 OF 81

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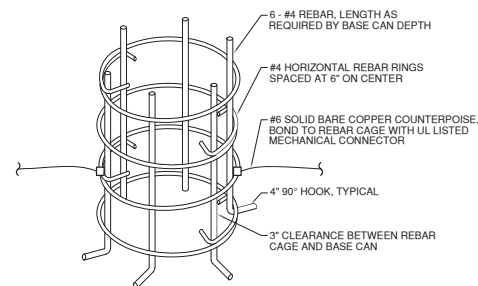
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REGIONAL AIRPORT
FLOYD COUNTY, GEORGIA

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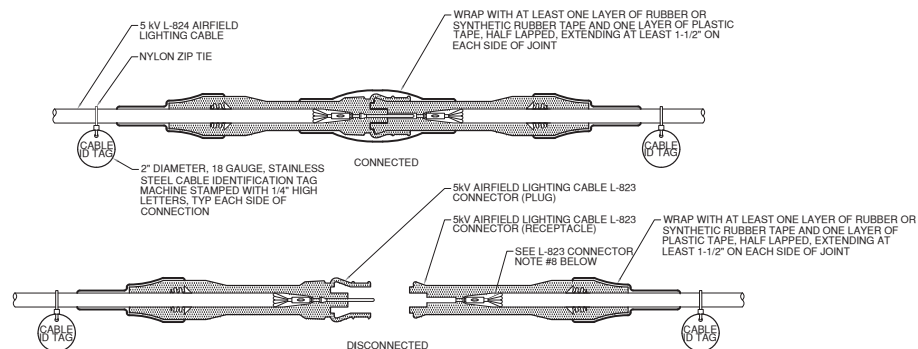
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CAD DWG FILE: 22004559-EL-5.DWG
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SHEET TITLE
**ELECTRICAL DETAILS -
SHEET 1**

EL-501
SHEET 59 OF 81



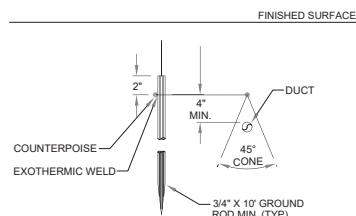
2 L-868 BASE CAN REBAR CAGE DETAIL
N.T.S.



1 L-823 CONNECTOR INSTALLATION DETAIL
N.T.S.

NOTES

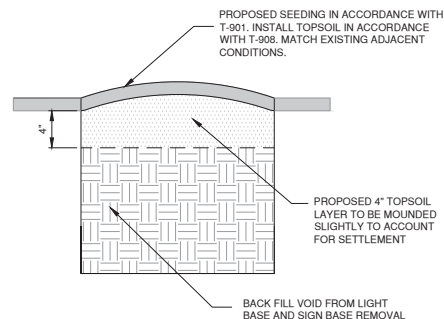
- L-823 CONNECTOR SHALL BE INTEGRO "COMPLETE KIT", AMERACE "SUPER KIT", OR APPROVED EQUIVALENT.
- COORDINATE OUTSIDE DIAMETER OF EACH CABLE TYPE WITH ITS RESPECTIVE CONNECTOR KIT IN ORDER TO ASSURE WATERTIGHT CONNECTION BETWEEN CABLES AND CONNECTOR BOOTS.
- FOLLOW ALL CONNECTOR MANUFACTURER'S CABLE CLEANING, CABLE PREPARATION, AND CONNECTOR INSTALLATION INSTRUCTIONS.
- CONTRACTOR SHALL USE CRIMPING TOOL MANUFACTURED BY, OR SPECIFICALLY RECOMMENDED BY, CONNECTOR MANUFACTURER WHEN INSTALLING CONNECTOR PINS AND CONNECTOR RECEPTACLES. TURN OVER CRIMPING TOOL TO AIRPORT AT PROJECT COMPLETION.
- ATTACH CABLE IDENTIFICATION TAGS ON BOTH SIDES OF CONNECTION.
- ATTACH CABLE IDENTIFICATION TAG TO CABLE WITH NYLON ZIP TIE. TIGHTEN ZIP TIE TO HOLD CABLE IDENTIFICATION TAG IN PLACE WITHOUT COMPRESSING CABLE INSULATION. TRIM OFF EXCESS ZIP TIE AFTER TIGHTENING.
- COORDINATE CIRCUIT NAMING CONVENTION OF CABLE IDENTIFICATION TAGS, ALONG WITH SIZE OF CABLE IDENTIFICATION TAGS, WITH OWNER PRIOR TO ORDERING AND INSTALLING CABLE IDENTIFICATION TAGS.
- USE PROPERLY SIZED AIRFIELD LIGHTING CABLE INSULATION STRIPPER/PENCILER (RIPLEY UTILITY TOOL WS 49 SERIES OR APPROVED EQUIVALENT) TO REMOVE INSULATION. KNIVES OR BOX CUTTERS SHALL NOT BE USED.



NOTES FOR CONDUIT NOT PARALLEL TO PAVEMENT:

- CONNECTION TO GROUND RODS SHALL BE MADE USING EXOTHERMIC WELDS.
- COUNTERPOISE SHALL BE INSTALLED 4" MINIMUM ABOVE THE CABLE OR CONDUIT AND AS REQUIRED BY BELOW.
- LOCATION OF THE COUNTERPOISE SHALL BE CALCULATED TO ENSURE THAT THE CABLES AND/OR CONDUITS TO BE PROTECTED ARE WITHIN A 45° ZONE OF PROTECTION BELOW THE COUNTERPOISE.

**3 COUNTERPOISE / GROUND ROD
INSTALLATION NOT ADJACENT TO PAVEMENT**
N.T.S.



**4 STAKE MOUNTED LIGHT, BASE MOUNTED LIGHT
AND ABANDONED SIGN PAD BACKFILL DETAIL**
N.T.S.

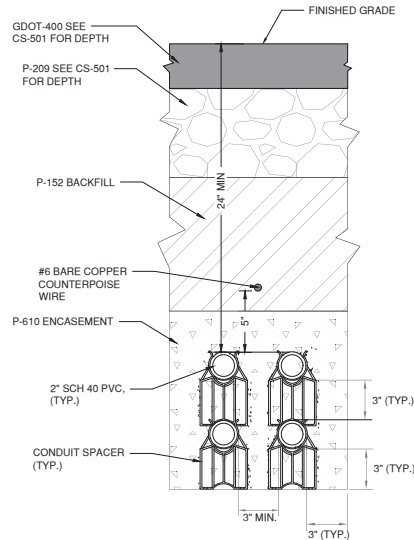
NOTE: COST OF BACKFILL AND RESTORATION SHALL
BE INCIDENTAL TO THE CONTRACT.

GENERAL NOTES:

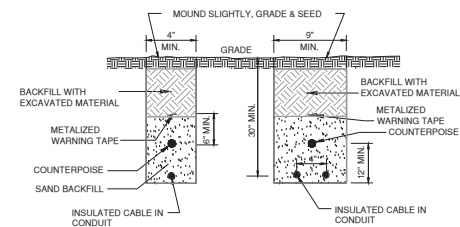
1. THE #6 AWG COPPER COUNTERPOISE WIRE SHALL BE CENTERED ON THE CONDUIT/DUCT BANK WHERE THE CONDUIT IS NOT ADJACENT TO PAVEMENT. WHERE DUCT BANKS INCLUDE MORE THAN (2) CONDUITS, MULTIPLE COUNTERPOISE WIRES SHALL BE INSTALLED TO MAINTAIN ALL CONDUITS WITHIN THE 45 CONE. THE MINIMUM DISTANCE BETWEEN TOP OF CONDUIT IN DUCT BANK AND COUNTERPOISE SHALL BE 3".
2. THE CONTRACTOR SHALL INSTALL A NYLON PULL WIRE IN EACH UNUSED DUCT OR CONDUIT INSTALLED AND PLUG OR CAP THE DUCT. THE WIRE SHALL BE SECURELY ATTACHED TO THE PLUG/CAP AT EACH END OF THE DUCT OR CONDUIT. NEW PULL WIRES SHALL BE INSTALLED IN EACH UNUSED DUCT OR CONDUIT IN DUCT BANK EXTENSIONS.
3. DUCT BANKS SHALL DRAIN TOWARD THE MANHOLES WITH THE CROWN OF THE DUCT BANK MIDWAY BETWEEN MANHOLES. THE DUCT SLOPE SHALL BE 3" PER 100'.
4. ALL CONDUITS, DUCT AND DUCT BANKS SHOWN AS CONCRETE ENCASED SHALL BE ENCASED IN P-610 CONCRETE COMPRESSIVE STRENGTH, WITH NOT LESS THAN 3" OF COVER AT TOP AND SIDES.
5. GRADING, SODDING, AREA RESTORATION, AND DEWATERING FOR THE INSTALLATION OF BASE CANS, HANDHOLES, DUCT BANKS OR CONDUITS IS INCIDENTAL TO THE RESPECTIVE PAY ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE TO PAY FOR AND OBTAIN ANY AND ALL PERMITS REQUIRED FOR DEVIATIONS.
6. THE P-610 CONCRETE AROUND CONDUITS, DUCTS, JUNCTION BOXES AND BASE CANS SHALL BE COMPLETELY CONSOLIDATED BY MECHANICAL MEANS AND SHALL BE FREE OF ANY VOIDS.
7. ALL DUCTS SHALL BE SECURELY FASTENED IN PLACE DURING CONSTRUCTION AND PROGRESS OF THE WORK AND SHALL BE PLUGGED TO PREVENT SEEPAGE OF GROUT, WATER OR DIRT. ANY DUCT SECTION HAVING A DEFECTIVE JOINT SHALL NOT BE INSTALLED. DUCTS SHALL BE SUPPORTED AND SPACED APART USING APPROVED SPACERS AT INTERVALS NOT TO EXCEED 5 FEET.
8. ALL CONSTRUCTION JOINTS IN CONCRETE ENCASED DUCTS SHALL HAVE A MINIMUM OF 4 STEEL DOWELS, EVENLY SPACED AND INSTALLED AT THE JOINT. THE DOWELS SHALL BE #4 DEFORMED STEEL REINFORCING BARS, 24" LONG, WITH 1/2 OF THE LENGTH EMBEDDED IN THE PLASTIC CONCRETE THAT IS CONSTRUCTED INITIALLY.
9. ALL CONDUITS AND DUCTS INSTALLED UNDER FULL STRENGTH (STRUCTURAL) PAVEMENT SHALL BE CONCRETE ENCASED, EXTEND CONCRETE ENCASEMENT 5' BEYOND EDGE OF STRUCTURAL PAVEMENT.
10. TRENCHING, BACKFILL, ASPHALT, LIME ROCK, COMPACTED SUBGRADE AND SAW-CUTTING IS INCLUSIVE OF THE CONDUIT/DUCT BANK PAY ITEM.

ELECTRICAL DUCT BANK NOTES:

1. ALL NEW DUCT BANKS TO BE CONSTRUCTED SHALL BE PLACED WITH THE BOTTOM OF THE DUCT BANK A MINIMUM OF 36 INCHES BELOW THE FINISHED GROUND SURFACE.
2. ALL NEW DUCT BANKS TO BE CONSTRUCTED SHALL BE PLACED WITH THE TOP OF THE DUCT BANK A MINIMUM OF 18 INCHES BELOW THE FINISHED GROUND SURFACE.



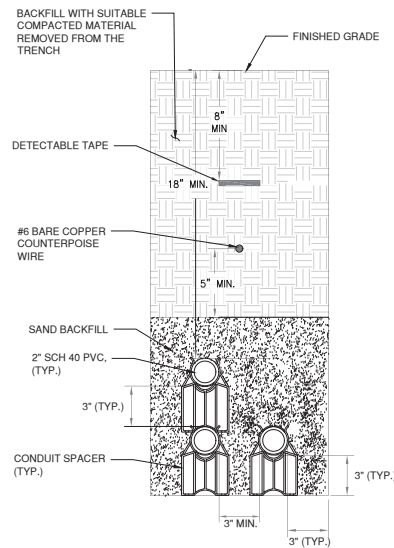
1 4-WAY, 2" CONDUIT IN FULL STRENGTH PAVEMENT DETAIL
N.T.S.



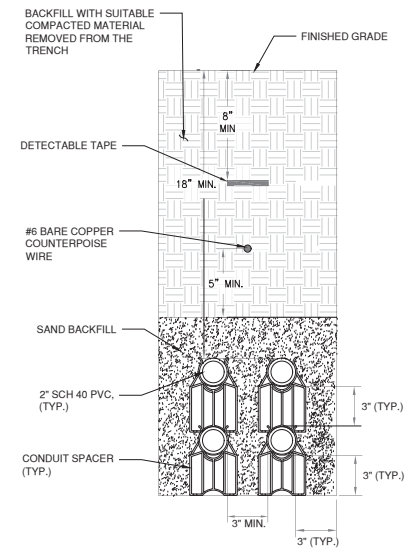
2 TRENCH DETAIL IN ROCK
N.T.S.

NOTES:

1. TRENCHES WITH MORE THAN 2 CABLES SHALL BE INCREASED 3" IN WIDTH FOR EACH ADDITIONAL CABLE. IF SPECIFIED ON PLANS, TWO PARALLEL TRENCHES MAY BE CONSTRUCTED.
2. DEPTH OF TRENCHES SHALL BE AS SHOWN ABOVE UNLESS OTHERWISE SPECIFIED ON THE PLANS.
3. SELECT SAND BACKFILL SHALL BE USED AT THE BOTTOM OF ELECTRICAL TRENCHES. THE SELECT SAND BACKFILL SHALL CONSIST OF FINE MATERIAL (3/16" AND SMALLER), OR GDOT-APPROVED EQUIVALENT, AS APPROVED BY THE ENGINEER. THE COST FOR PROVIDING AND INSTALLING SAND BACKFILL SHALL BE INCIDENTAL TO THE ASSOCIATED TRENCHING PAY ITEM.
4. ALL DISTURBED SURFACES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION. COST IS INCIDENTAL TO T-908.
5. COUNTERPOISE SHALL BE INSTALLED PER THE SPECIFICATIONS AND COUNTERPOISE LOCATION DETAIL.



3 3-WAY, 2" CONDUIT IN TURF DETAIL
N.T.S.



4 4-WAY, 2" CONDUIT IN TURF DETAIL
N.T.S.

CONSULTANTS

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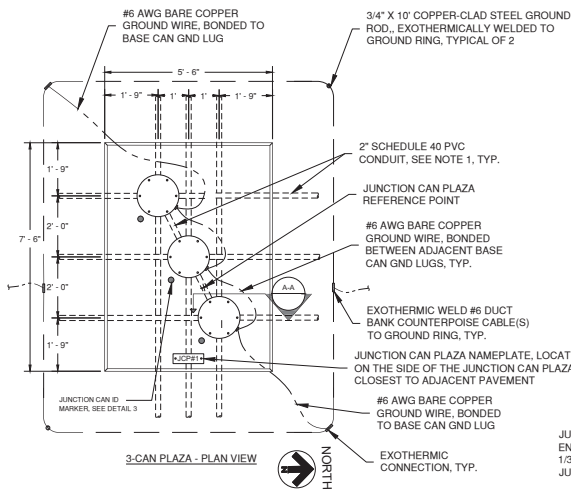
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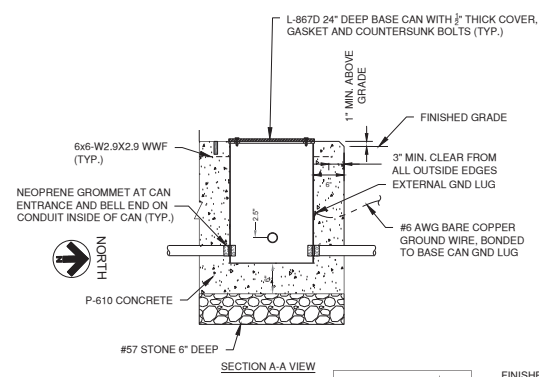
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SHEET TITLE
**ELECTRICAL DETAILS -
SHEET 2**

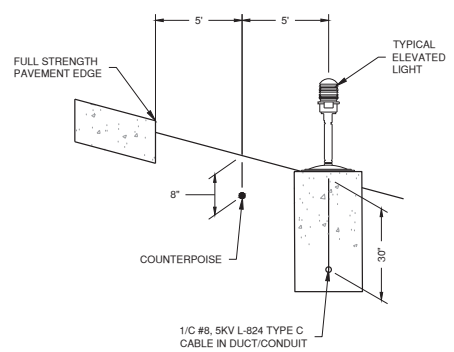
EL-502
SHEET 60 OF 81



1 JUNCTION CAN PLAZA INSTALLATION DETAILS
N.T.S.

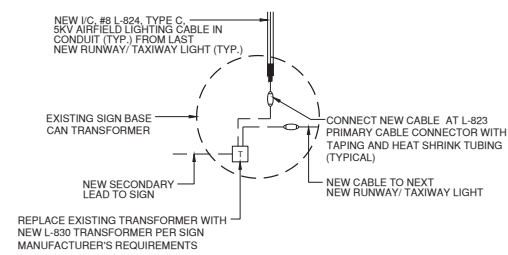


2 JUNCTION CAN ID MARKER
N.T.S.



NOTES:
#6 BARE COUNTERPOISE WITH 3/4" x 10" GROUND ROD INSTALLED AT MAX. 50' SPACING. ALSO USE GROUND ROD TO TERMINATE THE COUNTERPOISE AT BOTH ENDS OF DUCT. GROUND RODS SHALL BE CONSIDERED INCIDENTAL TO OTHER PAY ITEMS.

3 COUNTERPOISE LOCATION ADJACENET TO PAVEMENT
N.T.S.



4 EXISTING AIRFIELD SIGN - REPLACE ISOLATION TRANSFORMER DETAIL
N.T.S.

JUNCTION CAN PLAZA NOTES:

1. EACH JUNCTION CAN WITHIN THE JUNCTION CAN PLAZA SHALL BE PROVIDED WITH A MINIMUM OF (5) CONDUIT STUBS. CONTRACTOR SHALL PROVIDE ADDITIONAL CONDUIT PENETRATIONS ON AN AS NEEDED BASIS FOR DRAIN PIPES OR CONDUIT CONNECTIONS. CONDUIT STUBS WHICH ARE NOT SHOWN TO BE CONNECTED TO DUCT BANK OR CONDUIT IN THE AREA PLANS SHALL BE CAPPED 12" OUTSIDE OF PLAZA CONCRETE. DUCT BANK SHOWN ON THE AREA PLANS BETWEEN 4-CAN JUNCTION CAN PLAZA'S SHALL BE CONNECTED AS INDICATED ON THE APPLICABLE JUNCTION CAN PLAZA CONDUIT SCHEDULES.
2. INSTALL GROUND RODS AND GROUND RING AT ALL JUNCTION CAN PLAZAS AS SHOWN. TWO GROUND RODS PER PLAZA LOCATED AT OPPOSITE CORNERS SHALL BE PROVIDED. GROUND RING SHALL BE LOCATED NOMINALLY 12" BELOW EXISTING/PROPOSED GRADE. TERMINATE ALL INCOMING COUNTERPOISE CABLES PROTECTING CONDUIT/DUCT BANK ONTO GROUND RING VIA EXOTHERMIC WELD.
3. L-867D BASE CANS, CONCRETE, CONDUIT, WELDED WIRE FABRIC (WWF), #57 STONE, GROUND RODS, GROUND WIRES, GROUND RING, GROUND CONNECTIONS/EXOTHERMIC WELDS, CABLE ID TAGS, EXCAVATION AND BACKFILL ARE ALL CONSIDERED INCIDENTAL TO THE COST OF THE PULL CAN PLAZA.

TRANSFORMER NOTES

1. TRANSFORMER HOLDER MAY BE ANY COMMERCIALY AVAILABLE BRICK.
2. BREAKING GROOVE COUPLINGS SHALL NOT BE OVER 1" ABOVE GROUND LINE.
3. ISOLATION TRANSFORMERS SHALL HAVE A FACTORY INSTALLED PLUG (TYPE 1, CLASS A, STYLE 2) AND RECEPTACLE (TYPE 1, CLASS A, STYLE 9), A TYPE 1, CLASS B, STYLE 3 PLUG AND TYPE 1, CLASS B, STYLE 10 RECEPTACLE SHALL BE INSTALLED ON THE 1/C, No. 8, 5000 V., L-824 TYPE C CABLES FOR CONNECTION TO EACH TRANSFORMER.
4. TO FURTHER REDUCE THE POSSIBILITY OF WATER/MOISTURE ENTRANCE INTO THE CONNECTOR BETWEEN THE CABLE AND THE FIELD ATTACHED CONNECTOR, IT IS REQUIRED THAT A HEAT SHRINKABLE TUBING WITH INTERNAL ADHESIVE BE APPLIED OVER THE ENTIRE CABLE CONNECTOR.
5. AT THE CONTRACTOR'S OPTION, IN LIEU OF TAPE AND HEAT SHRINKABLE TUBING, A SELF-SEALING STYLE CONNECTOR L-823 "COMPLETE KITS" OR FAA APPROVED EQUAL MAY BE USED.
6. LAMP FOR FIXTURES SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS. ISOLATION TRANSFORMERS SHALL BE SIZED PER THE FIXTURE MANUFACTURER, 6.6 AMP.
7. THE CONCRETE BASE FOR BASE MOUNTED LIGHTS AND SIGNS SHALL BE TROWEL FINISHED WITH A 45° BEVELED EDGE AND SLOPED TO DRAIN.



CONSULTANTS

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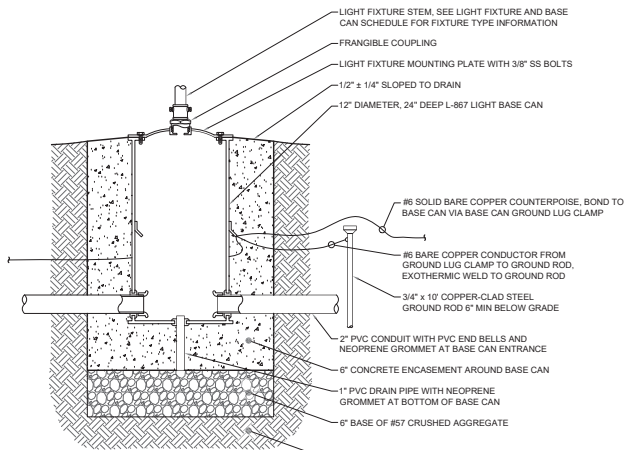


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SHEET TITLE
ELECTRICAL DETAILS - SHEET 3



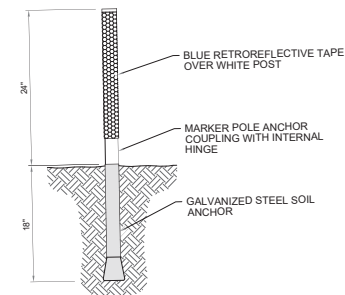
NOTES:

- IF BASE CAN EXCAVATION IS LEFT OPEN DURING A RAIN EVENT, THE SUBGRADE MUST BE INSPECTED BY THE RPR PRIOR TO CONTINUATION OF WORK. IF THE SUBGRADE OR ANY OTHER MATERIAL IS COMPROMISED BY THE RAIN, ADDITIONAL STEPS WILL BE TAKEN TO CORRECT ANY DEFICIENCIES NOTED AT THE EXPENSE OF THE CONTRACTOR.

2 LIGHT IDENTIFICATION DETAIL

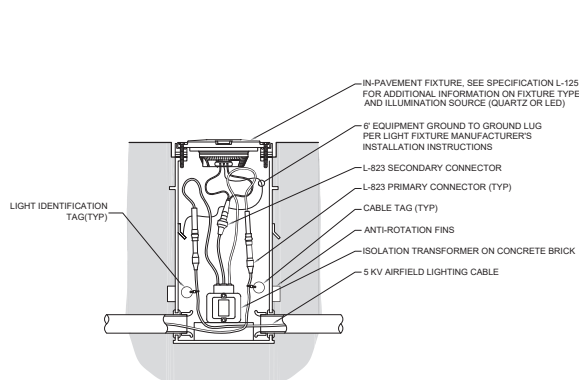
NOTES

- INSTALL A NONCORROSIVE DISC OF 2" MINIMUM DIAMETER WITH THE NUMBER PERMANENTLY STAMPED, CUT OUT, OR ENGRAVED UNDER THE HEAD OF THE BASE PLATE BOLT OR ATTACHED TO LIGHT FLANGE WITH SET SCREW.
- LEGENDS SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. CONTRACTOR TO COORDINATE LEGEND WITH AIRPORT.
- THE CONTRACTOR SHALL NUMBER THE EXISTING/ PROPOSED LIGHTS AND SIGNS IN EACH CIRCUIT STARTING AT THE HOMERUN CONTINUING AROUND THE ENTIRE CIRCUIT BACK TO THE HOMERUN.
- AIRFIELD LIGHTS SHALL BE TAGGED & NUMBERED.

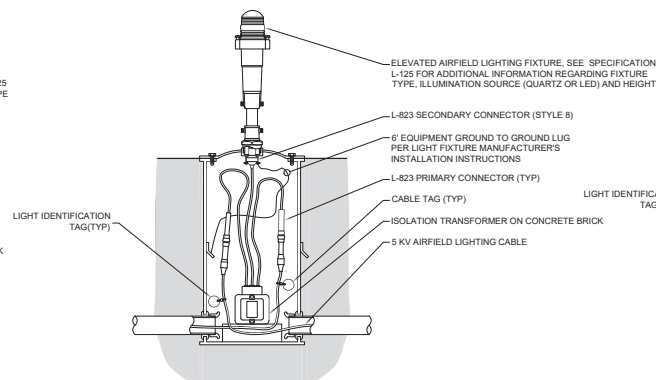


3 L-853 REFLECTOR IN TURF DETAIL

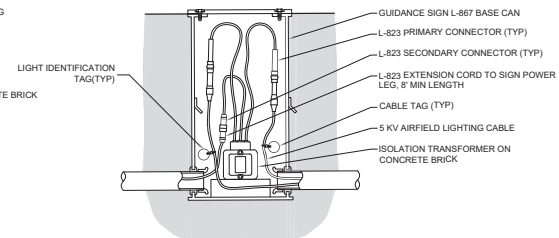
1 ELEVATED LIGHT IN TURF DETAIL



4 IN-PAVEMENT LIGHT FIXTURE ELECTRICAL CONNECTIONS DETAIL



5 ELEVATED LIGHT FIXTURE ELECTRICAL CONNECTIONS DETAIL



6 GUIDANCE SIGN ELECTRICAL CONNECTIONS DETAIL

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SHEET TITLE
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SHEET 5**

EL-505
SHEET 63 OF 81

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RELOCATION

OWNER



RICHARD B. RUSSELL
REGIONAL AIRPORT
FLOYD COUNTY, GEORGIA

MARK	DATE	DESCRIPTION

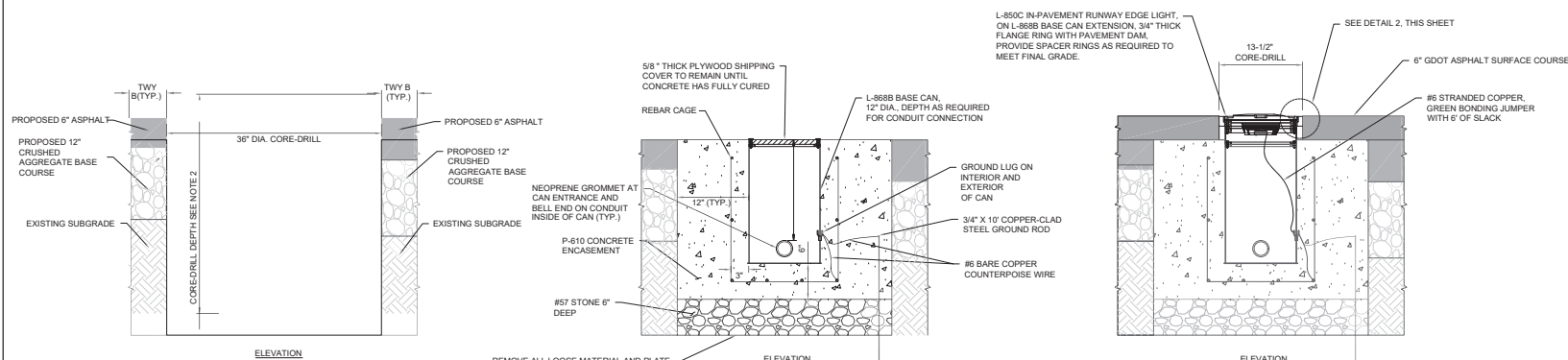
CMT PROJECT NO: 22004559-00
CAD DWG FILE: 22004559-EL-5.DWG
DESIGNED BY: JBH/JMM
DRAWN BY: JBH
CHECKED BY: JMM
APPROVED BY: MJR

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SHEET TITLE

**ELECTRICAL DETAILS -
SHEET 6**

EL-506
SHEET 64 OF 81



STEP 1

- REVIEW AREA PLANS AND LOCATE EXISTING LIGHT LOCATIONS BY SURVEY. CONFIRM LOCATIONS WITH RPR PRIOR TO CORING EXISTING BASE CAN AND PAVEMENT.
- CORE DRILL A 36" DIAMETER HOLE TO REMOVE EXISTING ASPHALT AND BASE AT A DETERMINED DEPTH THAT ALLOWS A MINIMUM OF 6" OF CONCRETE BENEATH THE BASE CAN AND 6" OF P-209 BENEATH THE CONCRETE. REMOVE AND DISPOSE OF THE CORE.
- IF REQUIRED, COMPACT EXISTING SUBGRADE. ANY DEBRIS OR MATERIAL THAT FALLS INTO THE CORE SHALL BE REMOVED PRIOR TO INSTALLATION OF THE BASE CAN.

REMOVE ALL LOOSE MATERIAL AND PLATE TAMP EXISTING SUBGRADE PRIOR TO PLACEMENT OF AGGREGATE

STEP 2

- PREPARE SUBGRADE. INSTALL #6 BARE COPPER COUNTERPOISE CABLE AND GROUND ROD. INSTALL REBAR CAGE AND BOND WITH A #6 AND BARE COPPER GROUND WIRE TO EXTERNAL GROUND LUG ON BASE CAN WITH AN EXOTHERMIC WELD. INSTALL BASE CAN AND CONNECT TO CONDUIT. PRIOR TO POURING CONCRETE ENCASUREMENT, INSTALL A JIG TO STABILIZE THE BASE CAN SECTIONS DURING CONCRETE PLACEMENT, AND PLACE CONCRETE ENCASUREMENT. THE CONTRACTOR SHALL RECORD THE STATION AND ELEVATION OF MUD PLATE AND PROVIDE THIS INFORMATION TO THE OWNER.
- POUR P-610 CONCRETE AROUND NEW BASE CAN AND CONDUIT. VIBRATE CONCRETE TO ELIMINATE ANY VOIDS.
- PRIOR TO PAVEMENT OVERLAY OPERATIONS, THE CONTRACTOR SHALL RECORD THE STATION AND ELEVATION OF CENTER POINT OF THE BASE CAN MUD PLATE AND PROVIDE THIS INFORMATION TO THE OWNER.
- IF BASE CAN EXCAVATION IS LEFT OPEN DURING A RAIN EVENT, THE SUBGRADE MUST BE INSPECTED BY THE RPR PRIOR TO CONTINUATION OF WORK. IF THE SUBGRADE OR ANY OTHER MATERIAL IS COMPROMISED BY THE RAIN, ADDITIONAL STEPS WILL BE TAKEN TO CORRECT ANY DEFICIENCIES NOTED AT THE EXPENSE OF THE CONTRACTOR.

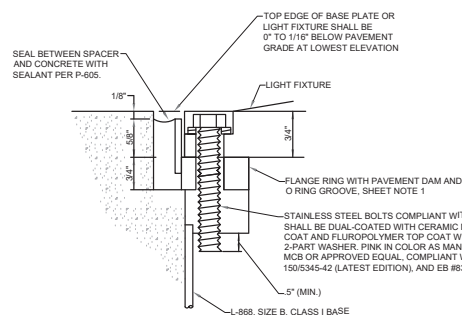
STEP 3

- AFTER PAVEMENT OVERLAY OPERATIONS HAVE BEEN COMPLETED, PILOT CORE TO FIND MUD PLATE CENTER POINT INDENT BEFORE 13-1/2" CORE-DRILLING. CORE-DRILL THE PAVEMENT.
- INSTALL TOP SECTION, LIGHT FIXTURE, AND PAVEMENT RING. AS REQUIRED TO MEET FINAL GRADE, PROVIDE ADDITIONAL SPACER RINGS (MAX 3/8" THICK TO 1/16" MIN THICK). NO MORE THAN 2 SPACER RINGS (MAX 3/8" THICK EACH) SHALL BE USED TO ACHIEVE FINAL GRADE. POUR THE P-605 TO FILL THE VOID BETWEEN THE TOP CAN SECTION AND THE PAVEMENT TO 3/4" BELOW SURFACE GRADE. THE REMAINING VOID SHALL BE FILLED WITH P-605.

THE HEIGHT OF THE L-868 EXTENSION SHALL BE DETERMINED AS FOLLOWS:

- RECORD FINAL ELEVATION OF THE TOP AND AT THE MIDPOINT OF THE MUD PLATE AFTER THE BOTTOM SECTION OF THE BASE CAN HAS BEEN INSTALLED.
- RECORD FINAL ELEVATION OF THE PAVEMENT DIRECTLY ABOVE THE MIDPOINT OF THE MUD PLATE AFTER THE PAVEMENT IS COMPLETELY INSTALLED.

1 IN-PAVEMENT LIGHT ON NEW L-868 BASE IN PROPOSED ASPHALT OVERLAY
N.T.S.



2 IN-PAVEMENT LIGHT FIXTURE BOLT INSTALLATION DETAIL
N.T.S.

CONSULTANTS

THIS BAR IS EQUAL TO 2" AT FULL SCALE (22X34)



ISSUED FOR BID

TAXIWAY BRAVO WEST
RELOCATION

OWNER



RICHARD B. RUSSELL
REGIONAL AIRPORT
FLOYD COUNTY, GEORGIA

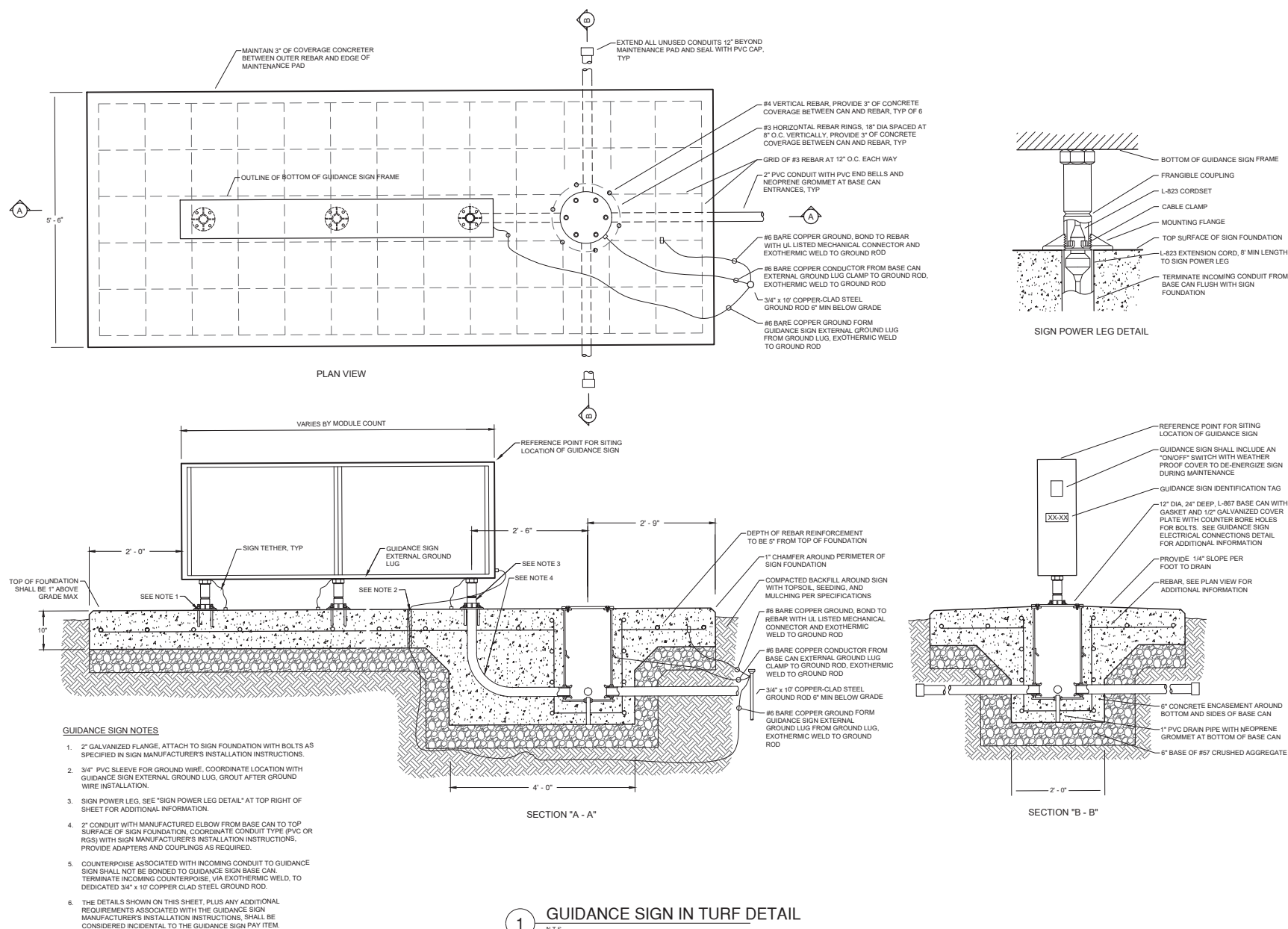
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SHEET TITLE

**ELECTRICAL DETAILS -
SHEET 7**

EL-507
SHEET 65 OF 81



1 GUIDANCE SIGN IN TURF DETAIL

N.T.S.



1. CABLE MARKERS SHALL BE INSTALLED AT ALL BENDS AND EVERY 200' ALONG THE CABLE RUN.
2. P-610 CONCRETE SHALL BE USED.
3. ALL EXPOSED EDGES SHALL BE EDGED WITH A 1/4" RADIUS TOOL.
4. THE COST OF FURNISHING AND INSTALLING NEW MARKERS SHALL BE INCIDENTAL TO THE ASSOCIATED CABLE ITEMS.



1. CABLES SHALL NOT BE PLACED LESS THAN 24-INCHES DEEP IN ANY ONE TRENCH. CABLES WITH DIFFERENT VOLTAGE RATINGS SHALL NOT BE INSTALLED IN THE SAME TRENCH. THREE FEET OF CABLE SLACK SHALL BE PROVIDED ON BOTH SIDES OF THE FIXTURE.
2. UNIT DUCT SHALL BE TERMINATED BEFORE THE L-823 CONNECTORS AND SEALED WITH HEAT SHRINK AS SPECIFIED.



PROPOSED GUIDANCE SIGN SCHEDULE													
SIGN #	LEGEND		ARROW DIRECTION		CIRCUIT NO.	FAA SIZE	FAA STYLE	QTY. OF MODULES	LOCATION		REFERENCE DRAWING	NEW OR RELOCATED	
	FRONT	BACK	FRONT	BACK					STATION	OFFSET			
22		-	270° 90°	-	TWY A	2	3	3	1420+31.92	144.81	EL-203	RELOCATED	
3			-	-	R/W 7/25	2	3	3	1420+49.18	99.41	EL-203	NEW	
19			-	-	R/W 7/25	2	3	3	1421+78.82	99.41	EL-203	RELOCATED	
1			-	-	R/W 7/25	2	3	2	1401+99.86	46.59	EL-201	RELOCATED	
7			-	-	R/W 1/19	2	3	3	1424+06.90	-53.02	EL-203	RELOCATED	
20		-	270° 90°	-	TWY B	2	3	3	1423+34.22	48.37	EL-203	RELOCATED	
21		-	270° 90°	-	TWY B	2	3	3	1419+09.30	-37.49	EL-203	NEW	
23		-	270°	-	R/W 1/19	2	3	1	1419+49.85	88.65	EL-203	RELOCATED	

SIGN PANELS		
TYPE	COLOR LEGEND	SYMBOL
L-858L	YELLOW INSCRIPTION AND BORDER ON BLACK BACKGROUND	
L-858R	WHITE INSCRIPTION WITH BLACK BORDER ON RED BACKGROUND	
L-858Y	BLACK INSCRIPTION ON YELLOW BACKGROUND	
L-858B	WHITE INSCRIPTION ON BLACK BACKGROUND	
SIGN PANEL TO REMAIN	N/A	
SIGN PANEL TO BE REMOVED	N/A	

NOTES

- CONTRACTOR SHALL STAKE OUT SIGN REFERENCE POINT FOR RPR PRIOR TO INSTALLATION OF SIGN FOUNDATION. COST SHALL BE INCIDENTAL TO INSTALLATION OF SIGNS.



CONSULTANTS

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SHEET TITLE
**ELECTRICAL DETAILS -
SHEET 9**

SHEET **67** OF **81** **EL-509**

EROSION AND SEDIMENT CONTROL PLANS FOR

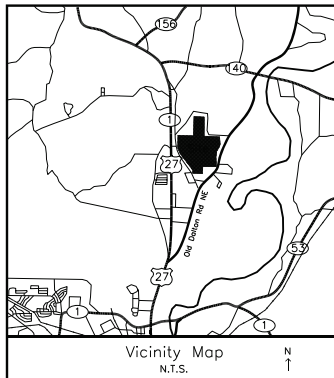


RUSSELL B. RUSSELL REGIONAL AIRPORT

FLOYD COUNTY, GEORGIA

TAXIWAY BRAVO WEST RELOCATION

JUNE 2026



304 Russell Field Road
Rome, Georgia 30165
(706) 295-7835

EMERGENCY CONTACT:
JOHN CARROLL, AIRPORT MANAGER
RUSSELL REGIONAL AIRPORT
304 RUSSELL FIELD ROAD
ROME, GEORGIA 30165
706-295-7835



DESIGN PROFESSIONAL'S CERTIFICATION:

1) I CERTIFY THAT THE PERMITEE'S EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL), PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBING ACTIVITY WAS PERMITTED, PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORMWATER OUTFALLS AND THAT THE DESIGNED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR100001.

2) I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY DIRECT SUPERVISION.

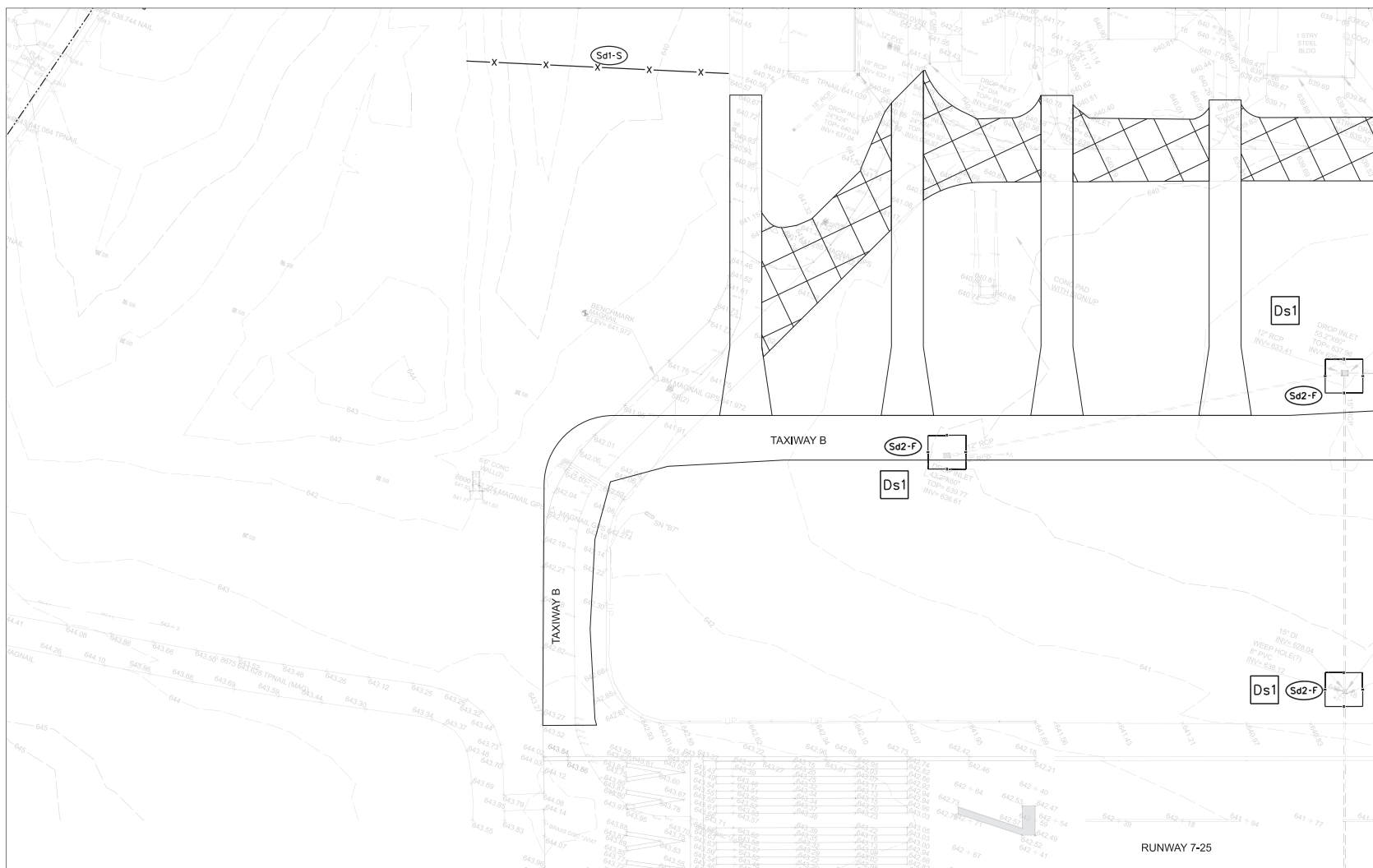
3) I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT CERTIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED, BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

4) I HEREBY CERTIFY THAT I HAVE VISITED THE SITE PRIOR TO CREATION OF THE EROSION AND SEDIMENTATION CONTROL PLAN AND HAVE VERIFIED THE PRESENCE OR LACK THEREOF OF ALL STATE WATERS ON, OR ADJACENT TO, THE SITE.

CHARLES F. HARDIN, JR., P.E.
LEVEL II CERTIFIED DESIGN PROFESSIONAL
GSWCC CERTIFICATION NO.: 0000022354

Southern Engineering & Surveying, Inc.

Path: \\msb\



ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING. IF AN AREA IS EXPECTED TO BE UNDISTURBED FOR LONGER THAN SIX MONTHS, THEN PERMANENT PERENNIAL VEGETATION SHALL BE USED. MULCH USED FOR TEMPORARY STABILIZATION SHALL BE APPLIED TO A DEPTH OF 2 TO 4 INCHES PROVIDING COMPLETE SOIL COVER.

NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

IN ACCORDANCE WITH GAR100001, THE OWNER MUST CONTACT THE DESIGN PROFESSIONAL WITHIN 7 DAYS OF COMMENCEMENT OF LAND DISTURBING ACTIVITIES FOR CERTIFICATION OF THE INITIAL EROSION & SEDIMENT CONTROL MEASURES SHOWN ON THE PLAN.

IN ACCORDANCE WITH PERMIT GAR100001, CONSTRUCTION MUST BE COMPLETE AND 100% OF THE SITE MUST BE "STABILIZED" WITH A STAND OF GRASS BEFORE A NOTICE OF TERMINATION CAN BE FILED WITH THE E.P.D.

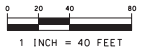
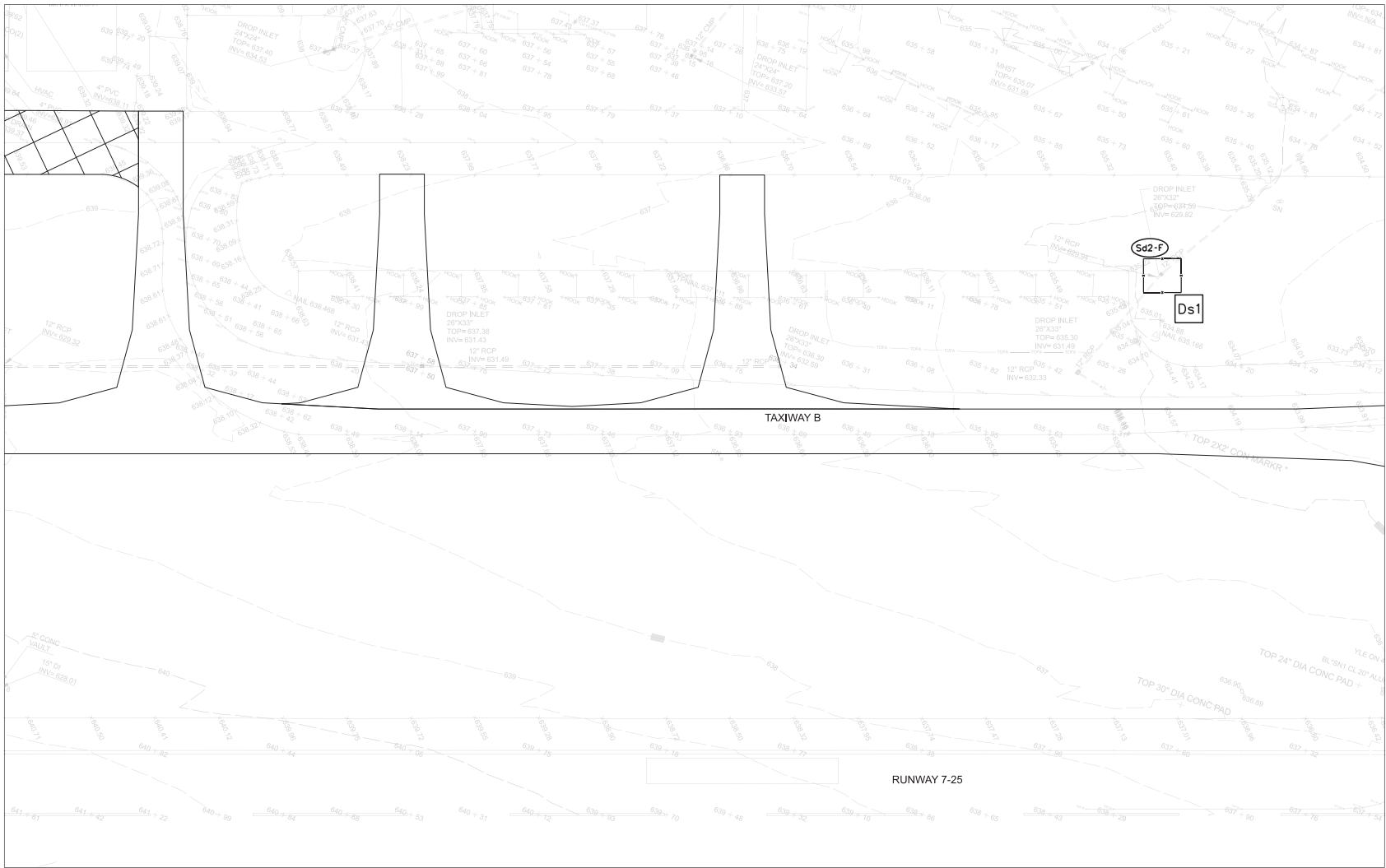
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**EROSION & SEDIMENT
CONTROL PLAN
INITIAL PHASE**

EC-003
SHEET 3 OF 17



THIS BAR IS EQUAL TO 2" AT FULL SCALE (22X34)

**TAXIWAY BRAVO WEST
RELOCATION**

OWNER



**RICHARD B. RUSSELL
REGIONAL AIRPORT
FLOYD COUNTY, GEORGIA**

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**EROSION & SEDIMENT
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INITIAL PHASE**

EC-004

SHEET 4 OF 17

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**TAXIWAY BRAVO WEST
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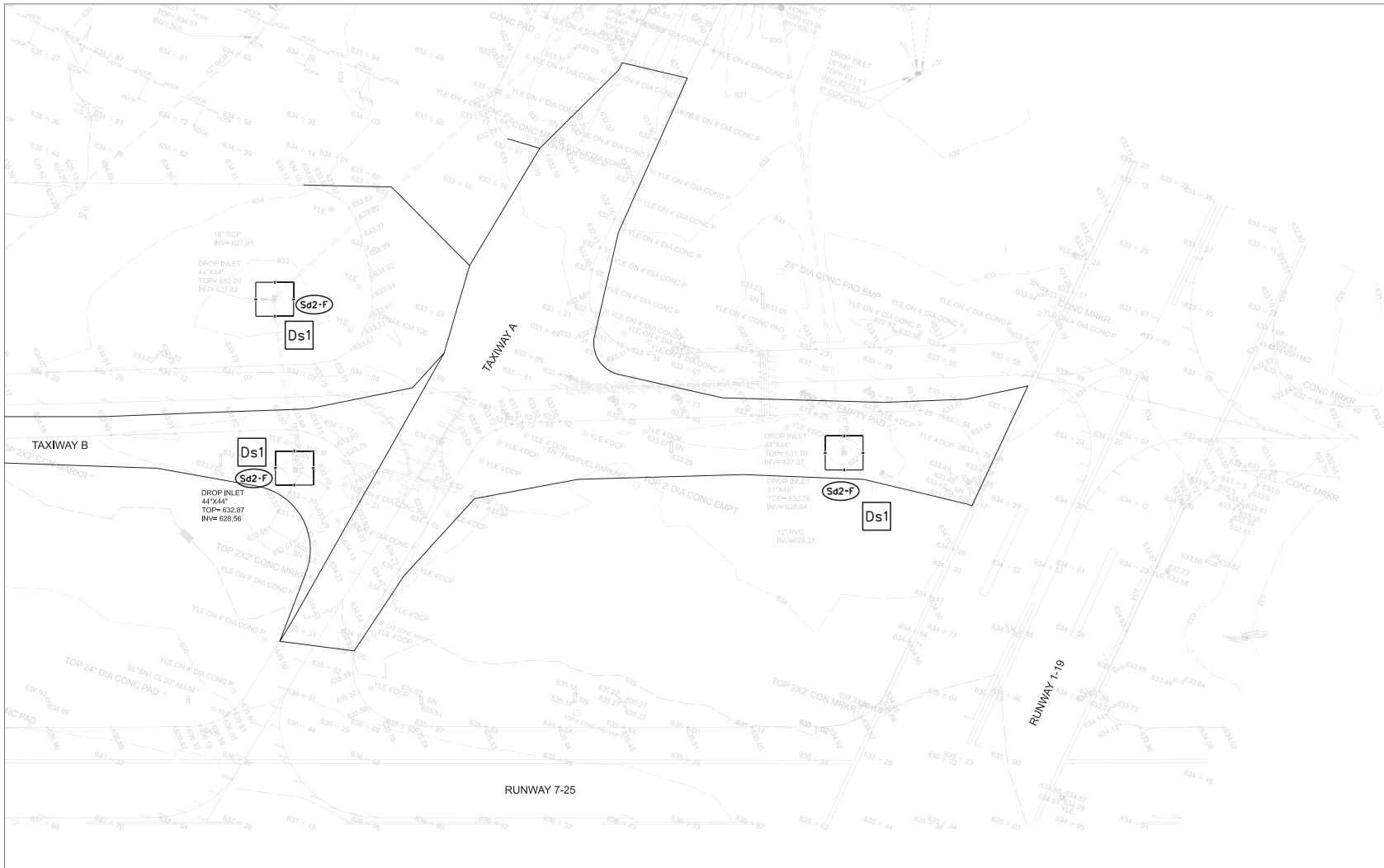
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SHEET TITLE

**EROSION & SEDIMENT
CONTROL PLAN
INITIAL PHASE**

EC-005

SHEET 5 OF 17



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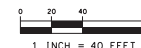
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Southern Engineering & Surveying, Inc.

CONSULTANTS



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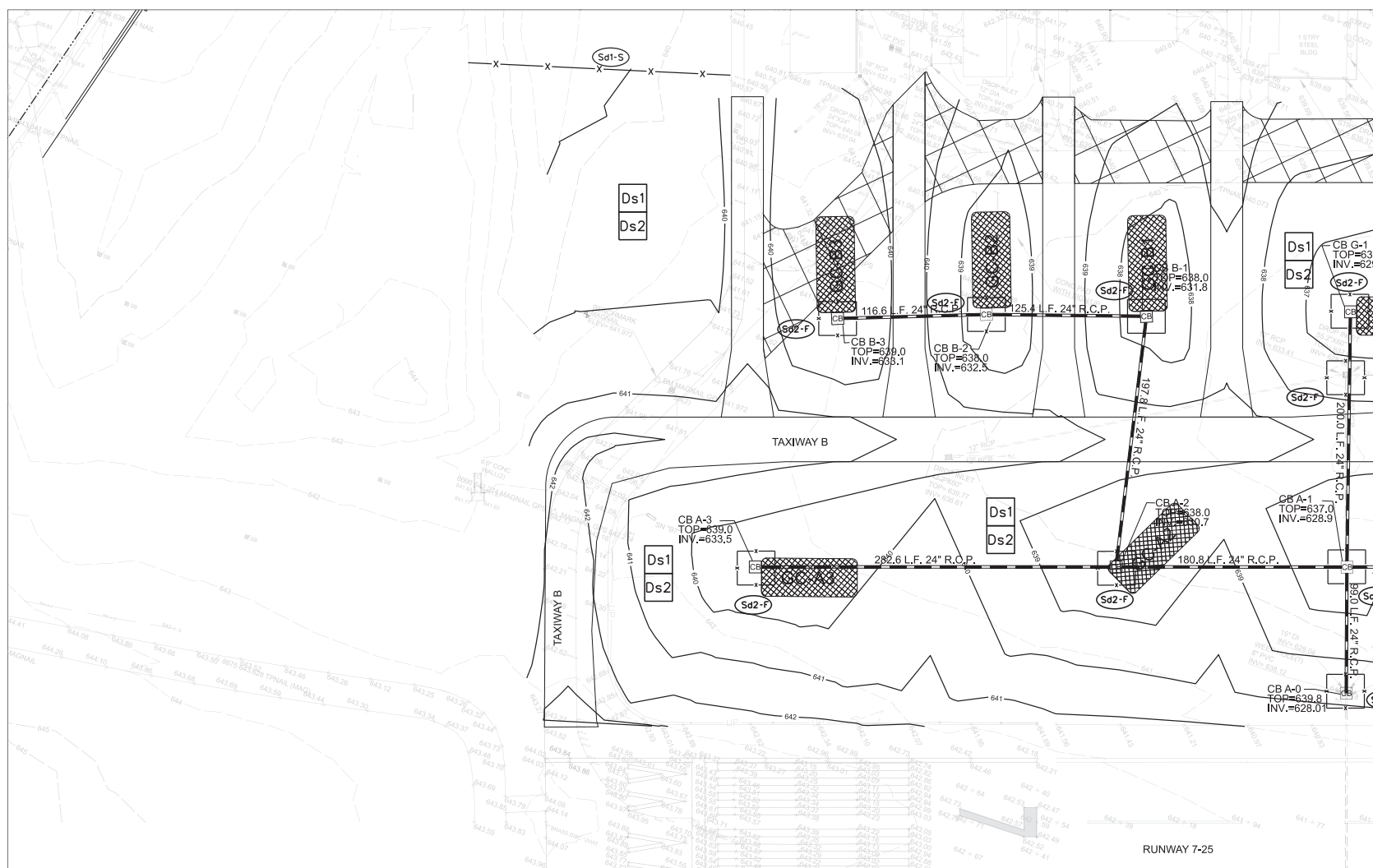
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SHEET TITLE

EROSION & SEDIMENT
CONTROL PLAN
INTERMEDIATE PHASE

EC-006
SHEET 6 OF 17



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— GRASS SWALE WATER QUALITY FEATURE
SEE DETAILS - SH-EC-018

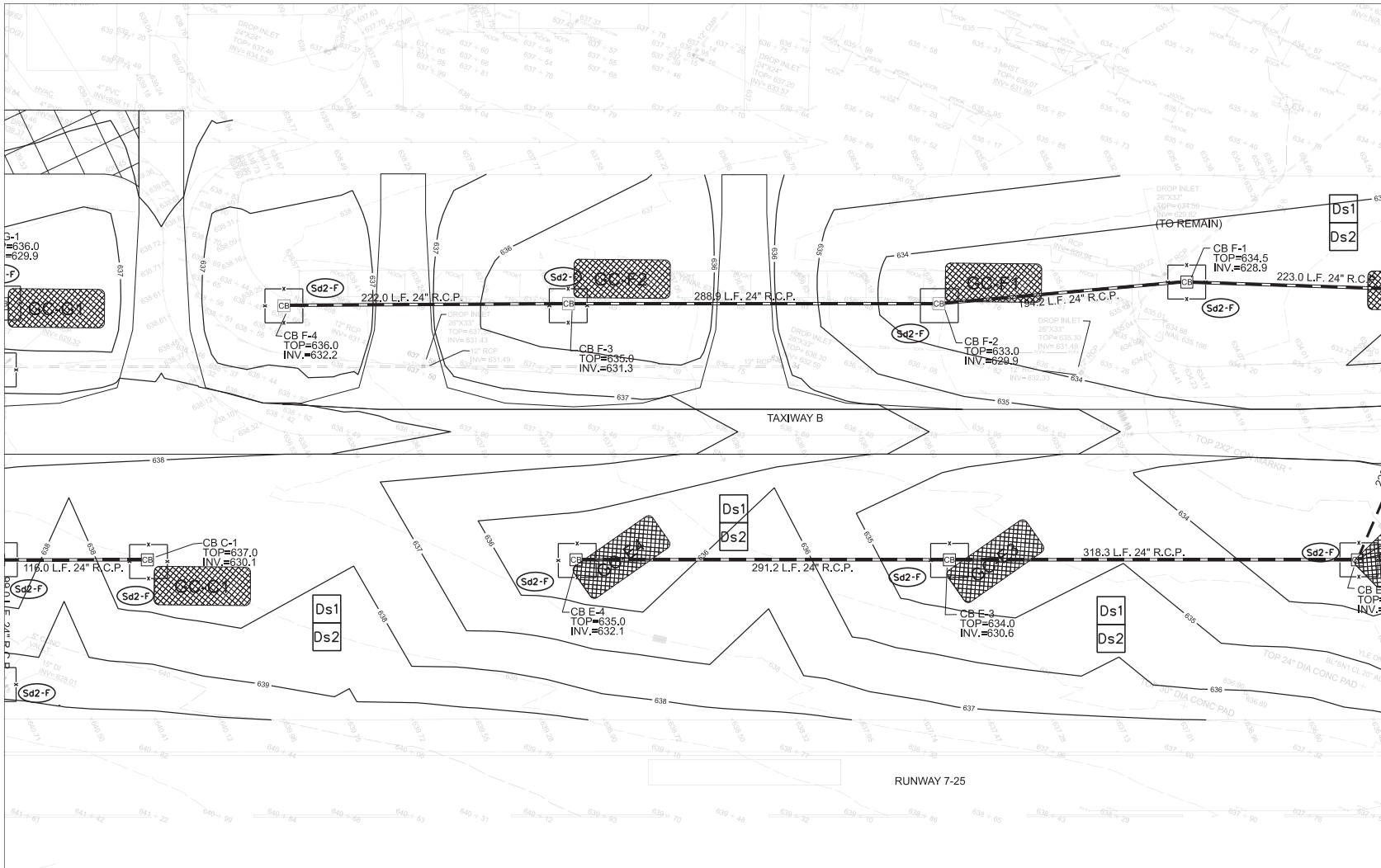
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**EROSION & SEDIMENT
CONTROL PLAN
INTERMEDIATE PHASE**

EC-007
SHEET 7 OF 17



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— GRASS SWALE WATER QUALITY FEATURE
SEE DETAILS - SH, EC-018

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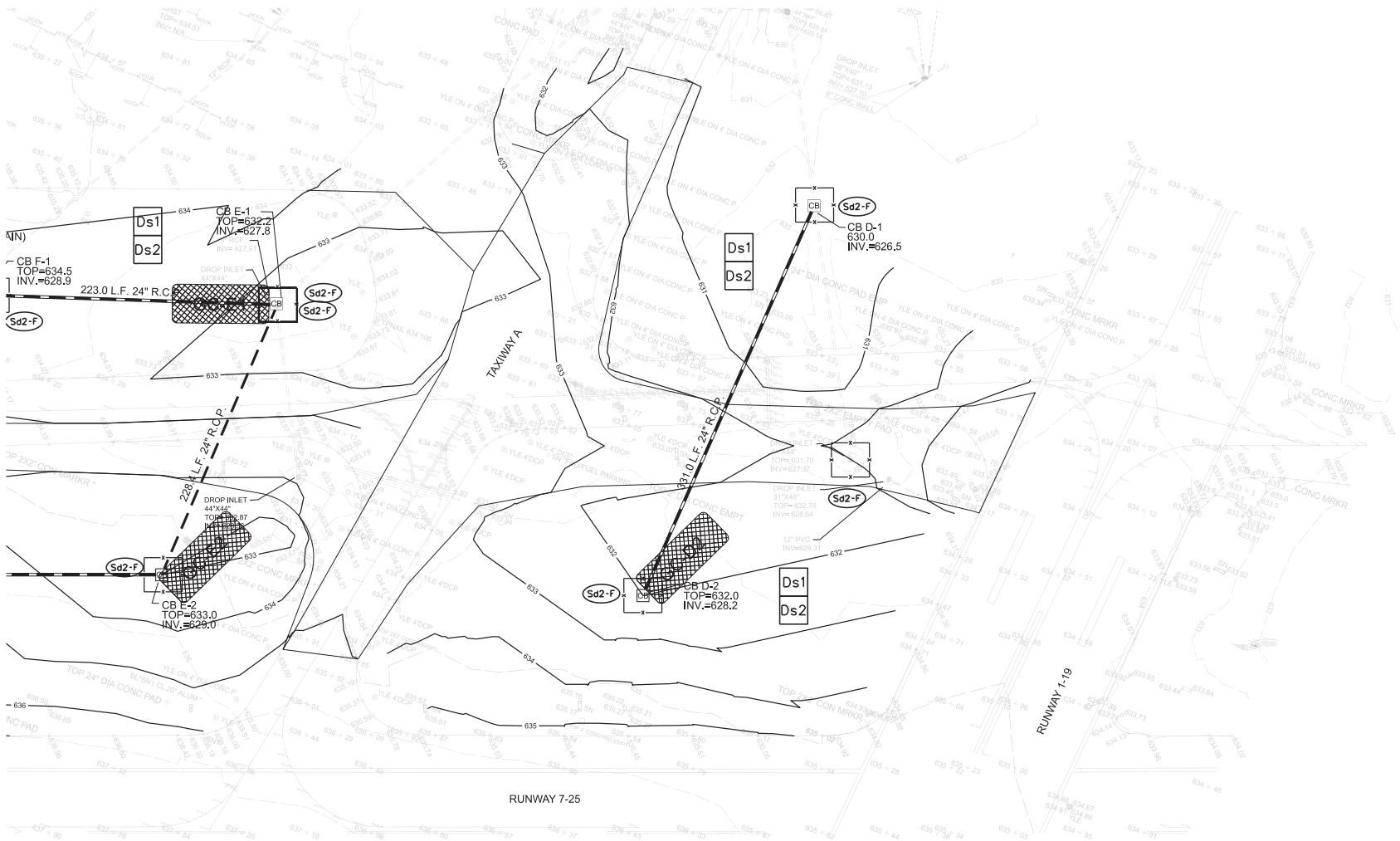
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**EROSION & SEDIMENT
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EC-008
SHEET 8 OF 17



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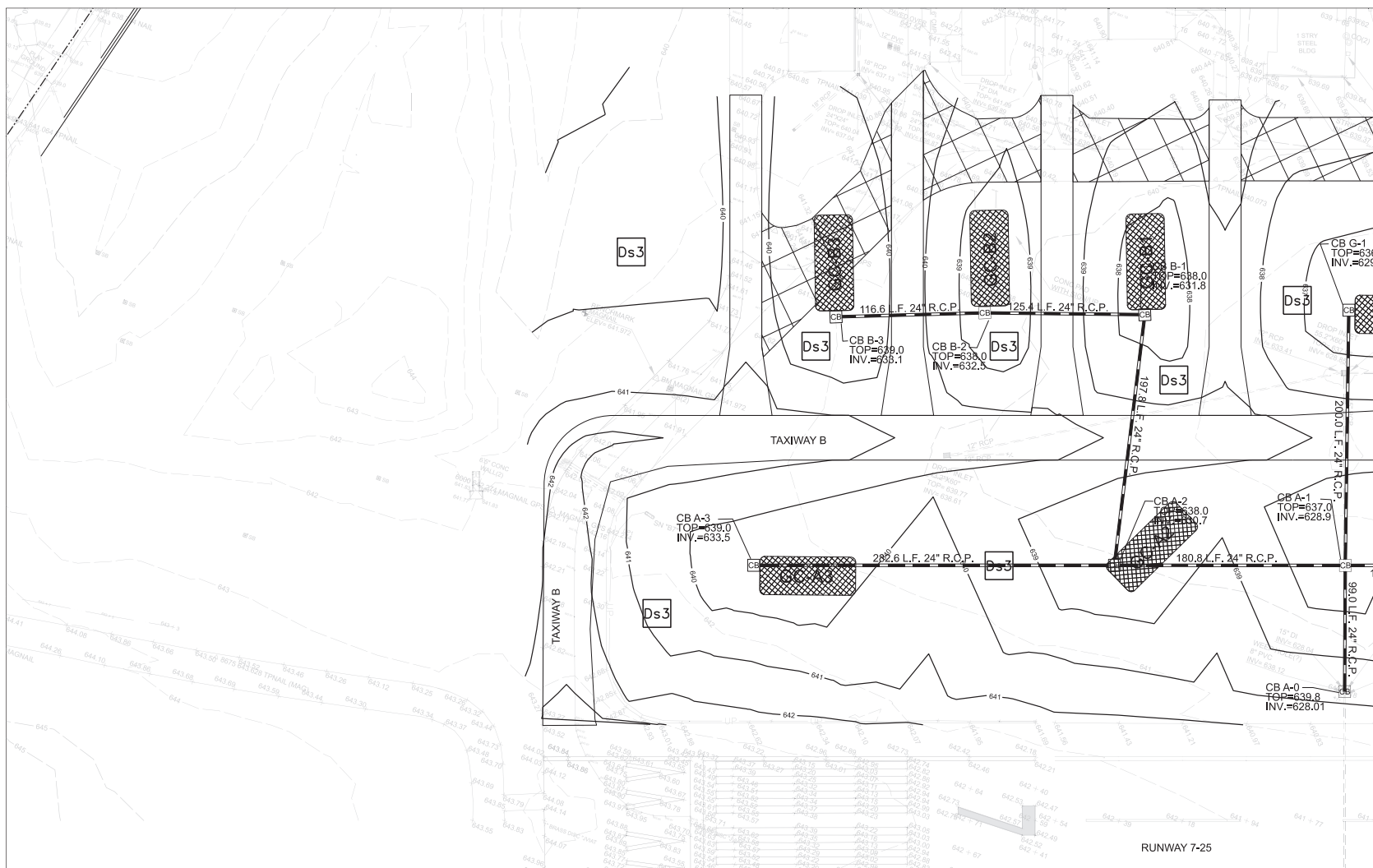
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— GRASS SWALE WATER QUALITY FEATURE
SEE DETAILS - SH. EC-018



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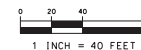
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THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND DISTURBING ACTIVITIES.



CONSULTANTS



THIS BAR IS EQUAL TO 2" AT FULL SCALE (22X/4)

TAXIWAY BRAVO WEST
RELOCATION

OWNER



RICHARD B. RUSSELL
REGIONAL AIRPORT
FLOYD COUNTY, GEORGIA

MARK	DATE	DESCRIPTION

CMT PROJECT NO:
CAD DWG FILE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:
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SHEET TITLE
**EROSION & SEDIMENT
CONTROL PLAN
FINAL PHASE**

EC-009
SHEET 9 OF 17

TAXIWAY BRAVO WEST
RELOCATION

OWNER



RICHARD B. RUSSELL
REGIONAL AIRPORT
FLOYD COUNTY, GEORGIA

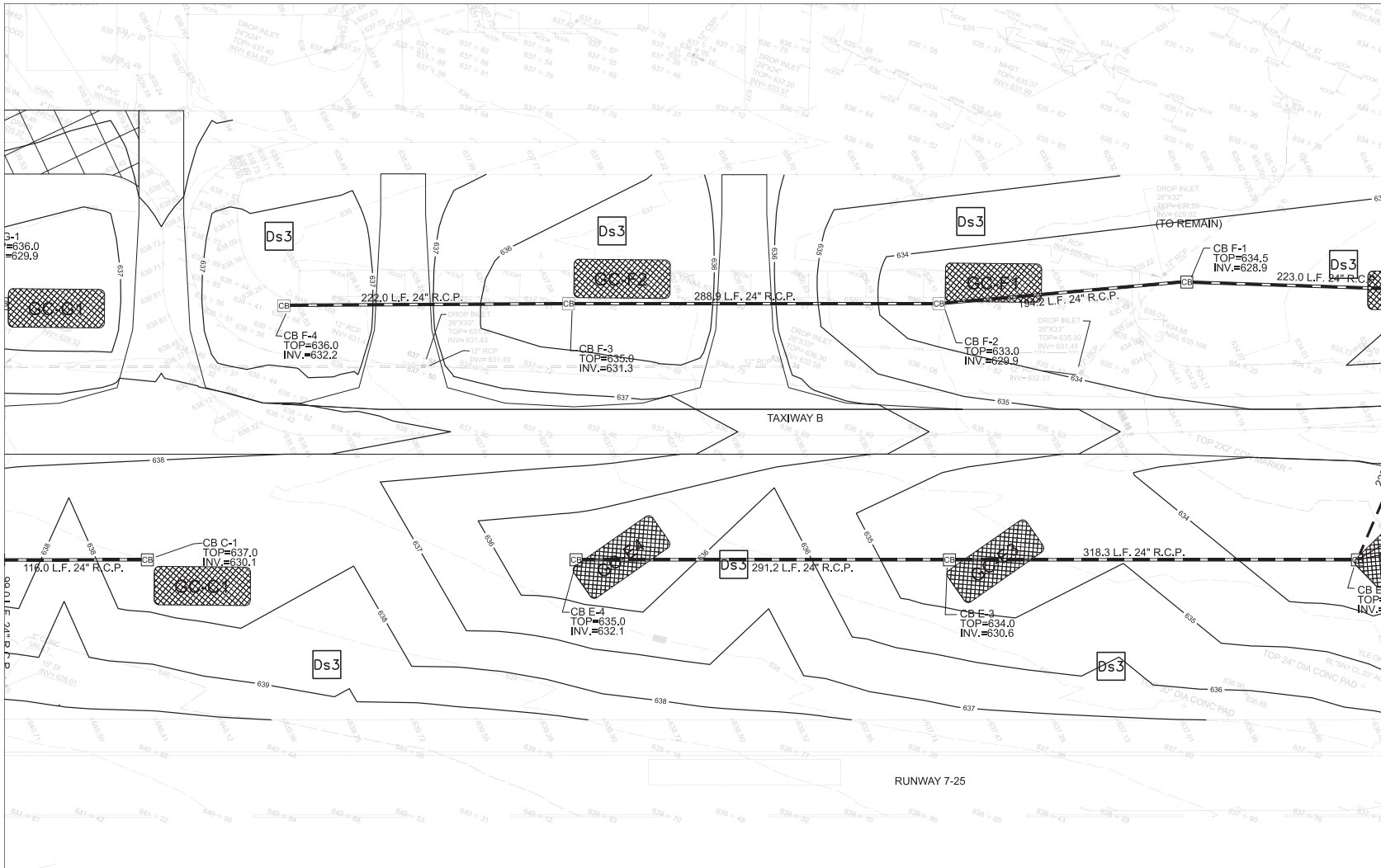
MARK	DATE	DESCRIPTION

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SHEET TITLE
**EROSION & SEDIMENT
CONTROL PLAN
FINAL PHASE**

EC-0010
SHEET 10 OF 17



ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING. IF AN AREA IS EXPECTED TO BE UNDISTURBED FOR LONGER THAN SIX MONTHS, THEN PERMANENT PERENNIAL VEGETATION SHALL BE USED. MULCH USED FOR TEMPORARY STABILIZATION SHALL BE APPLIED TO A DEPTH OF 2 TO 4 INCHES PROVIDING COMPLETE SOIL COVER.

NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

IN ACCORDANCE WITH GAR100001, THE OWNER MUST CONTACT THE DESIGN PROFESSIONAL WITHIN 7 DAYS OF COMMENCEMENT OF LAND DISTURBING ACTIVITIES FOR CERTIFICATION OF THE INITIAL EROSION & SEDIMENT CONTROL MEASURES SHOWN ON THE PLAN.

IN ACCORDANCE WITH PERMIT GAR100001, CONSTRUCTION MUST BE COMPLETE AND 100% OF THE SITE MUST BE "STABILIZED" WITH A STAND OF GRASS BEFORE A NOTICE OF TERMINATION CAN BE FILED WITH THE E.P.D.

THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND DISTURBING ACTIVITIES.

Path: www
Date:

WARREN ROAD - 50' R/W

NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

IN ACCORDANCE WITH GAR100001, THE OWNER MUST CONTACT THE DESIGN PROFESSIONAL WITHIN 7 DAYS OF COMMENCEMENT OF LAND DISTURBING ACTIVITIES FOR CERTIFICATION OF THE INITIAL EROSION & SEDIMENT CONTROL MEASURES SHOWN ON THE PLAN.

IN ACCORDANCE WITH PERMIT GAR100001, CONSTRUCTION MUST BE COMPLETE AND 100% OF THE SITE MUST BE "STABILIZED" WITH A STAND OF GRASS BEFORE A NOTICE OF TERMINATION CAN BE FILED WITH THE E.P.D.

THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND DISTURBING ACTIVITIES.

ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING. IF AN AREA IS EXPECTED TO BE UNDISTURBED FOR LONGER THAN SIX MONTHS, THEN PERMANENT PERENNIAL VEGETATION SHALL BE USED. MULCH USED FOR TEMPORARY STABILIZATION SHALL BE APPLIED TO A DEPTH OF 2 TO 4 INCHES PROVIDING COMPLETE SOIL COVER.

BERM AND DIVERSION DITCH MUST BE CONSTRUCTED AS NEEDED TO PREVENT SEDIMENT FROM ENTERING ADJACENT PROPERTY

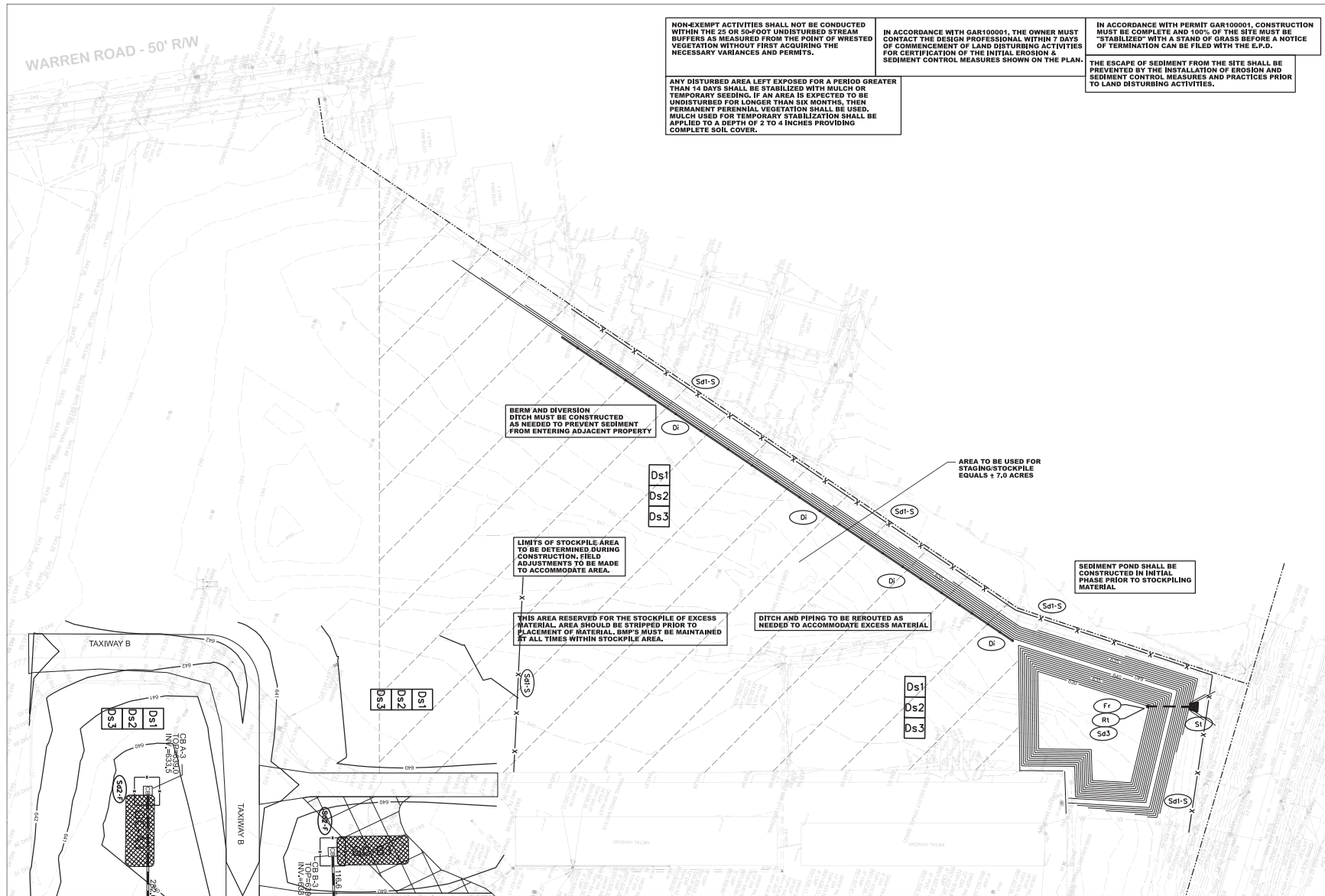
AREA TO BE USED FOR STAGING/STOCKPILE EQUALS ± 7.0 ACRES

SEDIMENT POND SHALL BE CONSTRUCTED IN INITIAL PHASE PRIOR TO STOCKPILING MATERIAL

LIMITS OF STOCKPILE AREA TO BE DETERMINED DURING CONSTRUCTION. FIELD ADJUSTMENTS TO BE MADE TO ACCOMMODATE AREA.

THIS AREA RESERVED FOR THE STOCKPILE OF EXCESS MATERIAL. AREA SHOULD BE STRIPPED PRIOR TO PLACEMENT OF MATERIAL. BMP'S MUST BE MAINTAINED AT ALL TIMES WITHIN STOCKPILE AREA.

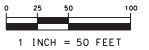
DITCH AND PIPING TO BE REROUTED AS NEEDED TO ACCOMMODATE EXCESS MATERIAL



CMT
Crawford, Murphy & Tilly

SES
Southern Engineering & Surveying, Inc.

CONSULTANTS



THIS BAR IS EQUAL TO 2" AT FULL SCALE (22X34)

TAXIWAY BRAVO WEST
RELOCATION

OWNER

RMG
Richard B. Russell
Regional Airport
FLOYD COUNTY, GA

RICHARD B. RUSSELL
REGIONAL AIRPORT
FLOYD COUNTY, GEORGIA

MARK	DATE	DESCRIPTION

CMT PROJECT NO:
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SHEET TITLE
**EROSION & SEDIMENT
CONTROL PLAN
STOCKPILE & STAGING
AREA**

EC-012
SHEET 12 OF 17

Disturbed Area Stabilization (With Mulching Only) Ds1



DEFINITION
Applying plant residues or other suitable materials, produced on the site if possible, to the soil surface.

- PURPOSE**
- To reduce runoff and erosion
 - To conserve moisture
 - To prevent surface compaction or crusting
 - To control undesirable vegetation
 - To modify soil temperature
 - To increase biological activity in the soil

REQUIREMENT FOR REGULATORY COMPLIANCE
Mulch in temporary grassing shall be applied to all exposed areas within 14 days of disturbance. Mulch can be used as a regular erosion control device for up to six months, but it shall be applied at the appropriate depth. The material used, anchored and have a continuous 90% cover or greater of the soil surface.

Maintenance shall be required to maintain appropriate depth and 90% cover. Temporary vegetation may be mowed or cut, but the area will remain undisturbed for less than six months.

If any area will remain undisturbed for greater than six months, permanent vegetation shall be required. Refer to Dis-Ds2.

SDCC (March 2015)

Disturbed Area Stabilization (Win Permanent Seeding) Ds2

DEFINITION
This method applies to graded or cleared areas where seedings may not have a suitable growing season to produce an erosion resistant cover, but can be stabilized with a mulch cover.

SPECIFICATIONS
Mulching With Seeding
This method applies to graded or cleared areas where seedings may not have a suitable growing season to produce an erosion resistant cover, but can be stabilized with a mulch cover.

Site Preparation

- Grades to permit the use of equipment for applying and anchoring mulch.
- Install needed erosion control measures required such as dikes, diversions, berms, terraces and sediment barriers.
- Loosen compact soil to a minimum depth of 3 inches.

Mulching Materials
Select one of the following materials and apply at the depth indicated:

- Dry straw or hay shall be applied at a depth of 2 to 4 inches providing complete soil coverage. One advantage of this material is easy application.
- Wood waste (chips, shavings and bark) shall be applied at a depth of 2 to 3 inches. Organic material from the clearing stage of development should remain on site, be clipped and applied as mulch. This method of mulching can greatly reduce erosion control costs.
- Polyethylene film shall be secured over the area. This material can be air-applied and re-used.

Applying Mulch
When mulch is used without seeding, mulch shall be applied to provide full coverage of the exposed area.

Any straw or hay mulch and wood chips shall be applied uniformly by hand or by mechanical equipment.

SDCC (March 2015)

Disturbed Area Stabilization (With Temporary Seeding) Ds3

DEFINITION
This method applies to graded or cleared areas where seedings may not have a suitable growing season to produce an erosion resistant cover, but can be stabilized with a mulch cover.

SPECIFICATIONS
Mulching With Seeding
This method applies to graded or cleared areas where seedings may not have a suitable growing season to produce an erosion resistant cover, but can be stabilized with a mulch cover.

Site Preparation

- Grades to permit the use of equipment for applying and anchoring mulch.
- Install needed erosion control measures required such as dikes, diversions, berms, terraces and sediment barriers.
- Loosen compact soil to a minimum depth of 3 inches.

Mulching Materials
Select one of the following materials and apply at the depth indicated:

- Dry straw or hay shall be applied at a depth of 2 to 4 inches providing complete soil coverage. One advantage of this material is easy application.
- Wood waste (chips, shavings and bark) shall be applied at a depth of 2 to 3 inches. Organic material from the clearing stage of development should remain on site, be clipped and applied as mulch. This method of mulching can greatly reduce erosion control costs.
- Polyethylene film shall be secured over the area. This material can be air-applied and re-used.

Applying Mulch
When mulch is used without seeding, mulch shall be applied to provide full coverage of the exposed area.

Any straw or hay mulch and wood chips shall be applied uniformly by hand or by mechanical equipment.

SDCC (March 2015)

Disturbed Area Stabilization (With Temporary Seeding) Ds4



DEFINITION
The establishment of temporary vegetation cover with fast growing seedlings for seasonal protection on disturbed or denuded areas.

- PURPOSE**
- To reduce runoff and sediment damage of down stream resources
 - To protect the soil surface from erosion
 - To improve wildlife habitat
 - To improve aesthetics
 - To improve infiltration and aeration as well as organic matter for permanent planting

REQUIREMENT FOR REGULATORY COMPLIANCE
Mulch in temporary grassing shall be applied to all exposed areas within 14 days of disturbance. Temporary grassing, instead of mulch, shall be applied to rough ground areas that will be exposed for less than six months. If an area will be exposed for longer than six months, permanent perennial vegetation should be required. Erosion control devices for a very long term seeding in a landscape can be used as a regular erosion control device for up to six months but it shall be applied at the appropriate depth, anchored and have a continuous 90% cover or greater of the soil surface. Refer to specification Dis-Ds2 Disturbed Area Stabilization (With Temporary Seeding).

SDCC (March 2015)

CONDITIONS

Temporary vegetation measures should be coordinated with permanent measures to ensure economical and effective stabilization. Most types of temporary vegetation are ideal to use as a companion crop until the permanent vegetation is established. Note: Some species of temporary vegetation are not appropriate for companion crop plantings because of their potential to out-compete the desired species (e.g. annual grasses). Contact NRCS or the local SDCS for more information.

SPECIFICATIONS
Grading and Seeding
Excessive roller run-off shall be reduced by proper grading and seeding practices such as no-till, reduced tillage, strip-till, etc. Seeding shall be done in a timely manner.

Seeding Preparation
When a hydraulic seeder is used, seeded preparation is not required. When using conventional or hand-seeding, seeded preparation is not required if the soil material is loose and not sealed by rainfall.

Seedling Preparation
When a hydraulic seeder is used, seeded preparation is not required. When using conventional or hand-seeding, seeded preparation is not required if the soil material is loose and not sealed by rainfall.

Seedling Preparation
When a hydraulic seeder is used, seeded preparation is not required. When using conventional or hand-seeding, seeded preparation is not required if the soil material is loose and not sealed by rainfall.

SDCC (March 2015)

Species	Broadcast Rates	Resource Area?	Planting Dates by Resource Area	Remarks
			Soil tests indicate optimum dates, other tests indicate possible but marginal dates.	
			J F M A M J J A S O N D	
TRITICALE X: Triticosecale				
alone	3 bu. (144 lbs.) 1/2 bu. (24 lbs.)	3.3 lbs 0.6 lb	C	
in mixture				Use on lower part of Southern Coastal Plain and in Atlantic Coastal Flatwoods only.
WHEAT Triticum aestivum				
alone	3 bu. (180 lbs.) 1/2 bu. (30 lbs.)	4.1 lbs 0.7 lb	M-L C	15,000 seed per pound. Winter hardy.
in mixture				

*Temporary cover crops are very competitive and will crowd out perennials if seeded too heavily

*Nuc. represents the Nuc. series.

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CONSULTANTS

THIS BAR IS EQUAL TO 2" AT FULL SCALE (22X34)

TAXIWAY BRAVO WEST RELOCATION

OWNER



RICHARD B. RUSSELL
REGIONAL AIRPORT
FLOYD COUNTY, GEORGIA

MARK DATE DESCRIPTION

CMT PROJECT NO:

CAD DWG FILE:

DESIGNED BY:

DRAWN BY:

CHECKED BY:

APPROVED BY:

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SHEET TITLE

EROSION & SEDIMENT CONTROL DETAILS

EC-014

SHEET 14 OF 17

Slope Stabilization Bs



DEFINITION
A protective covering used to prevent erosion, to establish temporary or permanent vegetation on steep slopes, shore lines, or channels.

PURPOSE
To provide a cover layer that stabilizes the soil, to prevent erosion, to establish temporary or permanent vegetation on steep slopes, shore lines, or channels.

CONDITIONS
Slope stabilization can be used to stabilize slopes or areas where the erosion hazard is high and permanent vegetation is needed during the establishment of vegetation.

PLANNING CONSIDERATIONS
Care must be taken to choose the type of slope stabilization product that is most appropriate for the specific needs of a project. The design of slope stabilization products is discussed under this specification.

Disturbed Area Stabilization Products (DAPs)
A number of types of slope stabilization products are discussed under this specification.

Hydraulic Erosion Control Products (HECPs)
HECPs shall include straw, cotton, wood or other natural fiber based products that are used to stabilize slopes or areas where the erosion hazard is high and permanent vegetation is needed during the establishment of vegetation.

HECPs are categorized as follows:

- Straw-based (minimum longevity 12 mo.)
- Wood-based (minimum longevity 12 mo.)
- Cotton-based (minimum longevity 12 mo.)

Notes:

- Straw-based HECPs shall be applied to slopes or areas where the erosion hazard is high and permanent vegetation is needed during the establishment of vegetation.
- Wood-based HECPs shall be applied to slopes or areas where the erosion hazard is high and permanent vegetation is needed during the establishment of vegetation.
- Cotton-based HECPs shall be applied to slopes or areas where the erosion hazard is high and permanent vegetation is needed during the establishment of vegetation.

Site Preparation

- Grades to permit the use of equipment for applying and anchoring mulch.
- Install needed erosion control measures required such as dikes, diversions, berms, terraces and sediment barriers.
- Loosen compact soil to a minimum depth of 3 inches.

Mulching Materials
Select one of the following materials and apply at the depth indicated:

- Dry straw or hay shall be applied at a depth of 2 to 4 inches providing complete soil coverage. One advantage of this material is easy application.
- Wood waste (chips, shavings and bark) shall be applied at a depth of 2 to 3 inches. Organic material from the clearing stage of development should remain on site, be clipped and applied as mulch. This method of mulching can greatly reduce erosion control costs.
- Polyethylene film shall be secured over the area. This material can be air-applied and re-used.

Applying Mulch
When mulch is used without seeding, mulch shall be applied to provide full coverage of the exposed area.

Any straw or hay mulch and wood chips shall be applied uniformly by hand or by mechanical equipment.

SDCC (March 2015)

Disturbed Area Stabilization (Win Permanent Vegetation) Ds3



DEFINITION
The establishment of permanent vegetation cover with fast growing seedlings for seasonal protection on disturbed or denuded areas.

- PURPOSE**
- To reduce runoff and sediment damage of down stream resources
 - To protect the soil surface from erosion
 - To improve wildlife habitat and visual resources
 - To improve aesthetics
 - To improve infiltration and aeration as well as organic matter for permanent planting

REQUIREMENT FOR REGULATORY COMPLIANCE
Mulch in temporary grassing shall be applied to all exposed areas within 14 days of disturbance. Temporary grassing, instead of mulch, shall be applied to rough ground areas that will be exposed for less than six months. If an area will be exposed for longer than six months, permanent perennial vegetation should be required. Erosion control devices for a very long term seeding in a landscape can be used as a regular erosion control device for up to six months but it shall be applied at the appropriate depth, anchored and have a continuous 90% cover or greater of the soil surface. Refer to specification Dis-Ds2 Disturbed Area Stabilization (With Temporary Seeding).

Seedling Preparation
When a hydraulic seeder is used, seeded preparation is not required. When using conventional or hand-seeding, seeded preparation is not required if the soil material is loose and not sealed by rainfall.

Seedling Preparation
When a hydraulic seeder is used, seeded preparation is not required. When using conventional or hand-seeding, seeded preparation is not required if the soil material is loose and not sealed by rainfall.

Table 6-4.1. Fertilizer Requirements

Perennial vegetation shall be achieved. Final stabilization applies to each phase of construction.

For linear construction projects on land not used for agricultural or silvicultural purposes, final stabilization may be accomplished by establishing a permanent cover of vegetation for agricultural or silvicultural use. Until this standard is satisfied, permanent control measures and facilities for operational, interim stabilization measures to prevent temporary erosion and sedimentation control sources shall not be removed.

NOTATIONS

Permanent perennial vegetation is used to provide a permanent cover for exposed areas including cuts, fills, dunes, and other denuded areas.

PLANNING CONSIDERATIONS

Use conventional planning methods where possible.

When mixed plantings are done during marginal planting periods, companion crops shall be used.

No-fill planting is effective when planting is done following a summer or winter annual cover crop. See *weeds* *weeds</*

GEORGIA UNIFORM CODING SYSTEM

FOR SOIL EROSION AND SEDIMENTATION CONTROL PRACTICES GEORGIA SOIL AND WATER CONSERVATION COMMISSION

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Cd	DITCH			A small temporary barrier or dam constructed across a small drainage ditch or area of concentrated flow.
Ch	CHANNEL STABILIZATION			Improving, reinforcing or stabilizing an open channel, existing stream, or ditch.
Co	CONSTRUCTION ERT			A gravel stone pad located at the construction site to provide a place for removing mud from the thereby protecting public streets.
Cr	CONSTRUCTION ROAD STABILIZATION			A temporary structure constructed as part of a construction plan including access roads, subdivision roads, parking areas and other on-site vehicle transportation routes.
Dc	STREAM DIVERSION CHANNEL			A temporary channel constructed to convey flow around a construction site while a permanent structure is being constructed.
Dl	DIVERSION			An earth channel or dike located above, below, or across a slope to divert runoff. This may be a temporary or permanent structure.
Dn1	TEMPORARY DOWNSTREAM STRUCTURE			A flexible conduit of heavy-duty fabric or other material installed in a watercourse surface runoff down a slope. This is temporary and inexpensive.
Dn2	PERMANENT DOWNSTREAM STRUCTURE			A paved chute, pipe, section, conduit or similar material designed to safely conduct surface runoff down a slope.
Fr	FLYER RING			A temporary stone barrier constructed at storm drain inlets and pond outlets.
Ga	GABION			Rock filler baskets which are non-placed into position forming soil stabilizing structures.
Gr	GRASS STABILIZATION STRUCTURE			Permanent structures installed to protect channels or waterways where otherwise the slope would be insufficient for the running water to form gullies.
Lv	LEVEL STRECHER			A stone low wall device constructed of zero grade across the slope whereby concentrated runoff may be discharged at a non-erosive velocity onto undisturbed areas stabilized by existing vegetation.
Rd	ROCK FILLER DAM			A temporary stone filler dam installed across drainage areas or in conjunction with a temporary sedimentation.
Re	RETAINING WALL			A wall installed to stabilize cut and fill slopes where maximum permissible slopes are not obtainable. Each situation will require special design.
Rl	RETRO FITTING			A device or structure placed in front of a permanent stormwater detention pond outlet structure to serve as a temporary sediment filter.
Sd1	SEDIMENT BARRIER			A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, brush, logs and poles, or a tall fence.
Sd2	INLET SEDIMENT TRAP			A temporary protective device formed at or around an inlet to a storm drain to trap sediment.
Sds	TEMPORARY SEDIMENT BASIN			A basin created by excavation or a dam across a waterway. The surface water runoff is temporarily stored allowing the bulk of the sediment to drop out.
Sd4	TEMPORARY SEDIMENT TRAP			A small temporary pond that drains a disturbed area so that sediment can settle out. The principle feature distinguishing a temporary sediment trap from a temporary sediment basin is the lack of a pile or dam.
Sk	SKIMMING SURFACE DRAINER			A bypass device that releases/drains water from the surface of sediment ponds, traps, or basins at a controlled rate of flow.
SpB	SEEP BERM			A linear control device constructed as a diversion perpendicular to the direction of the runoff to enhance infiltration and reduce runoff volume. The structure dissipates a temporary sediment trap from a temporary sediment basin is the lack of a pile or dam.

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Sr	TEMPORARY STREAM CROSSING			A temporary bridge or culvert-type structure providing a means of crossing a stream or watercourse from damage by crossing construction equipment.
St	STORMWATER OUTLET PROTECTION			A paved or short section of ramp channel at the outlet of a storm drain system preventing erosion from the concentrated runoff.
Su	SURFACE ROUGHENING			A rough soil surface with horizontal depressions or a contour or slopes left in a roughened condition after grading.
Tc	TURBIDITY CURTAIN			A floating or sliding barrier installed within the water (it may also be referred to as a floating boom, silt barrier, or silt curtain).
Tp	TOPSOILING			The practice of stripping off the more fertile soil, storing it, then spreading it over the disturbed area after completion of construction activities.
Tr	TREE PROTECTION			To protect outside trees from injury during construction activity.
Wl	VEGETATED WATERWAY OR STABILIZED CONVEYANCE CHANNEL			Paved or vegetative structures for diversion, retention, baffle, dikes or similar structures.

VEGETATIVE PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Bf	BUFFER ZONE			Strip of undisturbed original vegetation, enhanced or restored existing vegetation or the reestablishment of vegetation surrounding an area of disturbance or bordering streams.
Ca	CERATON DUNE CONSTRUCTION (NEW VEGETATION)			Planting vegetation on dunes that are disturbed, artificially constructed, or re-nourished.
Ds1	DESIGNED AREA STABILIZATION (NEW VEGETATION)			Establishing temporary protection for disturbed areas where seedlings may not have a suitable growing season to produce an erosion retaining cover.
Ds2	DESIGNED AREA STABILIZATION (NEW VEGETATION)			Establishing a temporary vegetative cover with fast growing seedlings on disturbed areas.
Ds3	DESIGNED AREA STABILIZATION (NEW VEGETATION)			Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
Ds4	DESIGNED AREA STABILIZATION (EXISTING VEGETATION)			A permanent vegetative cover using seeds on highly erodible or critically eroded lands.
Du	DUST CONTROL ON EXISTING AREAS			Controlling erosion and air movement of dust on construction sites, roadways and similar sites.
Fl-Co	FLUCCULANTS AND COAGULANTS			Substances formulated to assist in the solid/liquid separation of suspended particles in solution.
Sb	SEED BANKING			The use of newly available native plant materials to maintain and enhance streambanks, or to prevent, or restore and repair rapid streambank erosion problems.
Ss	SEED STABILIZATION			A protective covering used to prevent erosion and establish temporary or permanent vegetation on steep slopes, shore lines, or channels.
Tac	TERRACE AND BARRIERS			Substance used to anchor slopes or key mounds by coating the organic material to bind together.

Slope Stabilization 5s



DEFINITION
A protective covering used to prevent erosion and establish temporary or permanent vegetation on steep slopes, shore lines, or channels.

PURPOSE
To provide a cover layer that stabilizes the soil and acts as a rain drop impact dissipater while providing a microclimate that protects young vegetation and promotes its establishment. If using slope stabilization to reinforce channels, please refer to specification, Ch-Channel Stabilization.

CONDITIONS
Slope stabilization can be applied to fill areas or slopes where the erosion hazard is high and slope protection is needed during the establishment of vegetation.

PLANNING CONSIDERATIONS
Care must be taken to choose the type of slope stabilization product that is most appropriate for the specific needs of a project. Two general types of slope stabilization products are discussed within this specification.

Roller Erosion Control Products (RECP)
A natural fiber blanket with single or double photodegradable or biodegradable nets.

Hydraulic Erosion Control Products (HECP)
HECP shall utilize straw, cotton, wood, or other natural based fibers held together by a soil binding agent that works to stabilize soil particles. Paper mulch should not be used for erosion control.

6-10

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twisted together and then interwoven with cross direction strands (lens weave). The bottom net may be lens weave or otherwise to meet requirements. The approximate size of the mesh should be openings of 0.5" x 1.2". The blanket should be sewn together on 1.5' centers with degradable thread. Minimum thickness should be 0.25" and minimum density should be 0.5 lbs per square yard.

b. Extended-Term
(functional longevity 24 mo.)

i. Photodegradable
Blankets that consist of 100% coconut with a top and bottom side biodegradable net. The top side net should have ultraviolet additives to delay breakdown. The maximum size of the mesh should be openings of 0.5" x 1.2". The blanket should be sewn together on 1.5' centers with degradable thread. Minimum thickness should be 0.25" and minimum density should be 0.5 lbs per square yard.

ii. Biodegradable
Blankets that consist of 70% straw and 30% coconut with a top and bottom side biodegradable net. The top side net should consist of machine direction strands that are twisted together and then interwoven with cross direction strands (lens weave). The bottom net may be lens weave or otherwise to meet requirements. The approximate size of the mesh should be openings of 0.5" x 1.2". The blanket should be sewn together on 1.5' centers with degradable thread. Minimum thickness should be 0.25" and minimum density should be 0.5 lbs per square yard.

c. Long-Term
(functional longevity 36 mo.)

i. Photodegradable
Blankets that consist of 100% coconut with a top and bottom side photodegradable net. Each net should have ultraviolet additives to delay breakdown. The maximum size of the mesh should be openings of 0.5" x 1.2". The blanket should be sewn together on 1.5' centers with degradable thread. Minimum thickness should be 0.25" and minimum density should be 0.5 lbs per square yard.

ii. Biodegradable
Blankets that consist of 70% straw and 30% coconut with a top and bottom side biodegradable net. The top side net should consist of machine direction strands that are twisted together and then interwoven with cross direction strands (lens weave). The bottom net may be lens weave or otherwise to meet requirements. The approximate size of the mesh should be openings of 0.5" x 1.2". The blanket should be sewn together on 1.5' centers with degradable thread. Minimum thickness should be 0.25" and minimum density should be 0.5 lbs per square yard.

iii. Extended-Term
(functional longevity 24 mo.)

i. Photodegradable
Blankets that consist of 100% coconut with a top and bottom side biodegradable net. The top side net should have ultraviolet additives to delay breakdown. The maximum size of the mesh should be openings of 0.5" x 1.2". The blanket should be sewn together on 1.5' centers with degradable thread. Minimum thickness should be 0.25" and minimum density should be 0.5 lbs per square yard.

ii. Biodegradable
Blankets that consist of 70% straw and 30% coconut with a top and bottom side biodegradable net. The top side net should consist of machine direction strands that are twisted together and then interwoven with cross direction strands (lens weave). The bottom net may be lens weave or otherwise to meet requirements. The approximate size of the mesh should be openings of 0.5" x 1.2". The blanket should be sewn together on 1.5' centers with degradable thread. Minimum thickness should be 0.25" and minimum density should be 0.5 lbs per square yard.

iii. Extended-Term
(functional longevity 24 mo.)

i. Photodegradable
Blankets that consist of 100% coconut with a top and bottom side biodegradable net. The top side net should have ultraviolet additives to delay breakdown. The maximum size of the mesh should be openings of 0.5" x 1.2". The blanket should be sewn together on 1.5' centers with degradable thread. Minimum thickness should be 0.25" and minimum density should be 0.5 lbs per square yard.

ii. Biodegradable
Blankets that consist of 70% straw and 30% coconut with a top and bottom side biodegradable net. The top side net should consist of machine direction strands that are twisted together and then interwoven with cross direction strands (lens weave). The bottom net may be lens weave or otherwise to meet requirements. The approximate size of the mesh should be openings of 0.5" x 1.2". The blanket should be sewn together on 1.5' centers with degradable thread. Minimum thickness should be 0.25" and minimum density should be 0.5 lbs per square yard.

CRITERIA

Roller Erosion Control Products (RECP) and Hydraulic Erosion Control Products (HECP).
-Installation and staging of RECPs and application rates for the HECPs shall conform to manufacturer's guidelines for application.

-Blank-Term RECPs as a minimum shall be used to stabilize concentrated flow areas with a velocity less than 5 ft/sec on slopes 3:1 or greater with a height of 10 feet or greater.

Materials - HECP
Hydraulic erosion control products shall be procured from the manufacturer. Field mixing of performance enhancing additives will not be allowed. Fibrous components should be all natural or biodegradable.

Products shall be determined to be non-toxic in accordance with EPA-821-R-02-012.

Materials - RECP
Blankets shall be nontoxic to vegetation, seed, or wildlife. Products shall be determined to be non-toxic in accordance with EPA-821-R-02-012. At minimum, the plastic or biodegradable netting shall be attached to the fibrous matrix to maximize strength and provide for ease of handling.

RECPs are categorized as follows:

a. Short-Term
(functional longevity 12 mo.)

i. Photodegradable
Straw blankets with a top and bottom side photo degradable net. The maximum size of the mesh should be openings of 1" x 1.5". The blanket should be sewn together on 1.5' centers with degradable thread. Minimum thickness should be 0.25" and minimum density should be 0.5 lbs per square yard.

ii. Biodegradable
Straw blankets with a top and bottom side biodegradable net. The top side net should consist of machine direction strands that are

TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP)

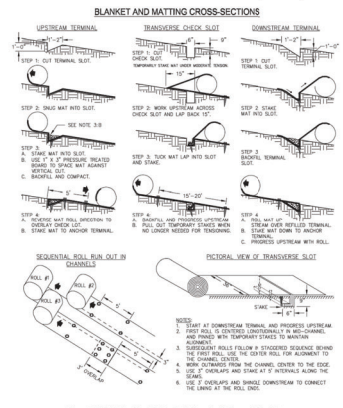


Figure 6-10.1 - Typical Installation Guidelines for Matting and Blankets

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THIS BAR IS EQUAL TO 2" AT FULL SCALE (22X34)

TAXIWAY BRAVO WEST
RELOCATION

OWNER



RICHARD B. RUSSELL
REGIONAL AIRPORT
FLOYD COUNTY, GEORGIA

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EROSION & SEDIMENT
CONTROL DETAILS

EC-015
15 OF 17

MARK	DATE	DESCRIPTION

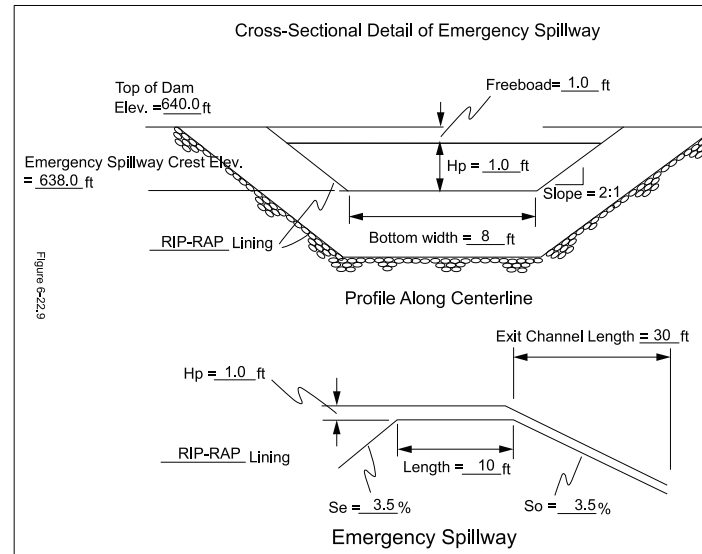
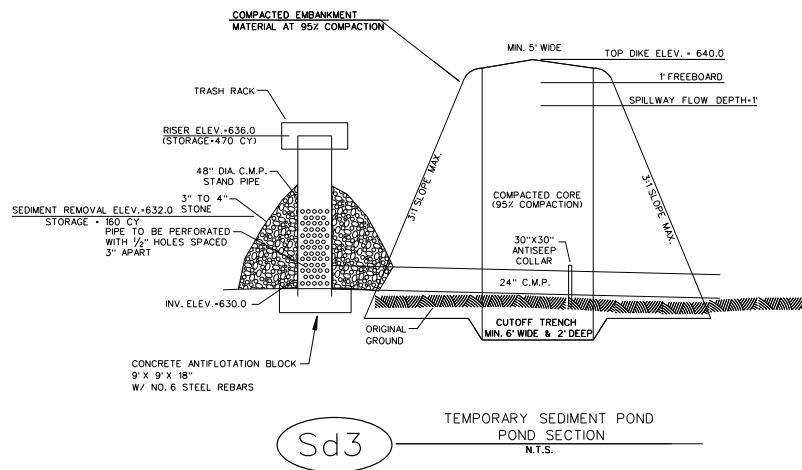
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SEDIMENT POND
DETAILS

EC-016

SHEET 16 OF 17



Water Quality Design Calculations for GRASS CHANNEL to be used as pretreatment for Dry ED Detention Pond

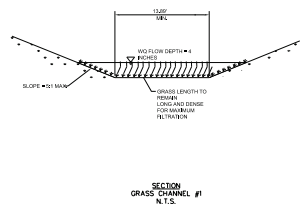
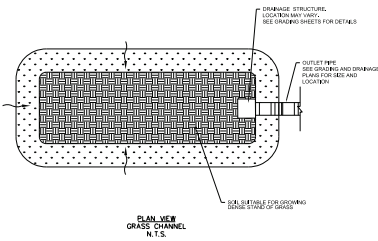
GRASS CHANNEL

Input Requirements	
Impervious Area (acres)	0.7
Total Area (acres)	1.60
P, Rainfall (inches)	1.2
	55th percentile annual rainfall event

Water Quality Volume Calculation	
I (%)	44
Rv	0.44375
WQv (acre-feet)	0.071
Qwv (in)	0.5325
	percent of impervious cover
	Volumetric runoff coefficient
	Water quality volume in acre feet
	Water quality volume in inches

Water Quality Volume Peak Flow Calculation	
CN	92
Tc (hours)	0.08
S (in)	0.87
la (in)	0.174
laP	0.145
qu (cfs/m ² /in)	1000
Qwq (cfs)	1.9
	Time of concentration
	Potential maximum soil retention
	Initial abstraction from total rainfall
	unit peak discharge
	Water quality peak flow

Channel Design	
D	0.25
S	0.33
S	0.01
	Mannings Roughness Coeff.
	Depth of Flow
	Slope
WIDTH = (W ² Q)/(1.49D ^{5/3} S ^{1/2}) =	13.89 FT
VELOCITY = Q/(W*D) =	0.28 FT/S
LENGTH = V * 300 SECONDS =	84 FT



GC-E2, GC-E3, GC-E4

Water Quality Design Calculations for GRASS CHANNEL to be used as pretreatment for Dry ED Detention Pond

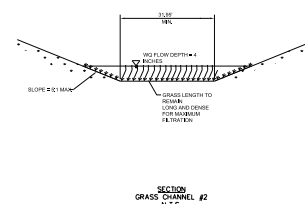
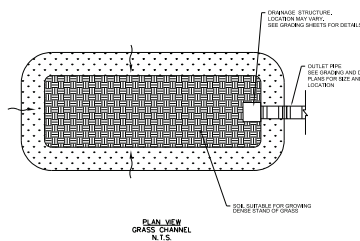
GRASS CHANNEL

Input Requirements	
Impervious Area (acres)	0.7
Total Area (acres)	1.60
P, Rainfall (inches)	1.2
	55th percentile annual rainfall event

Water Quality Volume Calculation	
I (%)	44
Rv	0.44375
WQv (acre-feet)	0.071
Qwv (in)	0.5325
	percent of impervious cover
	Volumetric runoff coefficient
	Water quality volume in acre feet
	Water quality volume in inches

Water Quality Volume Peak Flow Calculation	
CN	92
Tc (hours)	0.08
S (in)	0.87
la (in)	0.174
laP	0.145
qu (cfs/m ² /in)	1000
Qwq (cfs)	1.9
	Time of concentration
	Potential maximum soil retention
	Initial abstraction from total rainfall
	unit peak discharge
	Water quality peak flow

Channel Design	
D	0.25
S	0.33
S	0.01
	Mannings Roughness Coeff.
	Depth of Flow
	Slope
WIDTH = (W ² Q)/(1.49D ^{5/3} S ^{1/2}) =	13.89 FT
VELOCITY = Q/(W*D) =	0.28 FT/S
LENGTH = V * 300 SECONDS =	84 FT



GC-C1, GC-A2, GC-A3

Water Quality Design Calculations for GRASS CHANNEL to be used as pretreatment for Dry ED Detention Pond

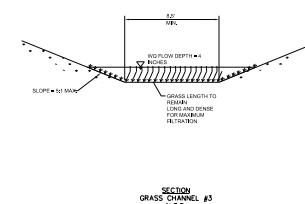
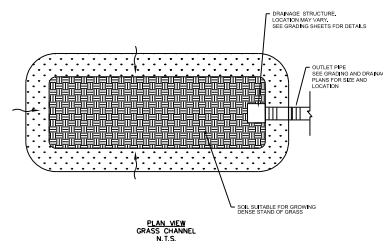
GRASS CHANNEL

Input Requirements	
Impervious Area (acres)	0.45
Total Area (acres)	0.89
P, Rainfall (inches)	1.2
	55th percentile annual rainfall event

Water Quality Volume Calculation	
I (%)	56
Rv	0.56625
WQv (acre-feet)	0.0445
Qwv (in)	0.6675
	percent of impervious cover
	Volumetric runoff coefficient
	Water quality volume in acre feet
	Water quality volume in inches

Water Quality Volume Peak Flow Calculation	
CN	94
Tc (hours)	0.08
S (in)	0.84
la (in)	0.128
laP	0.106
qu (cfs/m ² /in)	1000
Qwq (cfs)	0.8
	Time of concentration
	Potential maximum soil retention
	Initial abstraction from total rainfall
	unit peak discharge
	Water quality peak flow

Channel Design	
D	0.25
S	0.33
S	0.01
	Mannings Roughness Coeff.
	Depth of Flow
	Slope
WIDTH = (W ² Q)/(1.49D ^{5/3} S ^{1/2}) =	8.5 FT
VELOCITY = Q/(W*D) =	0.28 FT/S
LENGTH = V * 300 SECONDS =	84 FT



GC-B1, GC-B2, GC-B3

Water Quality Design Calculations for GRASS CHANNEL to be used as pretreatment for Dry ED Detention Pond

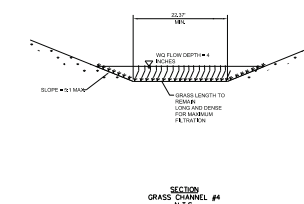
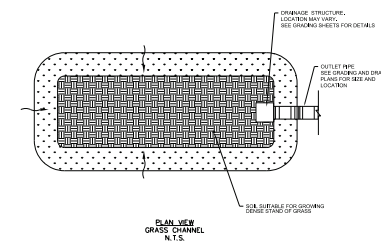
GRASS CHANNEL

Input Requirements	
Impervious Area (acres)	0.7
Total Area (acres)	1.40
P, Rainfall (inches)	1.2
	55th percentile annual rainfall event

Water Quality Volume Calculation	
I (%)	50
Rv	0.5
WQv (acre-feet)	0.07
Qwv (in)	0.6
	percent of impervious cover
	Volumetric runoff coefficient
	Water quality volume in acre feet
	Water quality volume in inches

Water Quality Volume Peak Flow Calculation	
CN	93
Tc (hours)	0.08
S (in)	0.75
la (in)	0.151
laP	0.125
qu (cfs/m ² /in)	1000
Qwq (cfs)	1.3
	Time of concentration
	Potential maximum soil retention
	Initial abstraction from total rainfall
	unit peak discharge
	Water quality peak flow

Channel Design	
D	0.25
S	0.33
S	0.01
	Mannings Roughness Coeff.
	Depth of Flow
	Slope
WIDTH = (W ² Q)/(1.49D ^{5/3} S ^{1/2}) =	14.0 FT
VELOCITY = Q/(W*D) =	0.28 FT/S
LENGTH = V * 300 SECONDS =	84 FT



GC-E1, GC-F1, GC-F2, GC-G1



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OWNER



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WATER QUALITY DETAILS

EC-017
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