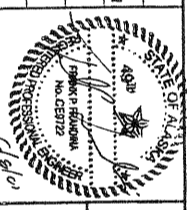


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NO.	DESCRIPTION	CHK'D	APP'D	DATE	REV.	ISSUED FOR	AUTH. BY	DATE
1	REMOVED ELECTRICAL DUCT BANK ON SOUTH SIDE, COORDINATED SECTION CALL OUTS.	RAW	FPF	18MAR99	1	CONSTRUCTION	FPF	04JUNE99
					0	CONSTRUCTION	FPF	18MAR99



DESIGNED BY: F.P. FRANDINA  
 DRAWN BY: I. ROMAN/C. MALLON  
 CHECKED BY: R.J. WELLS  
 O.C. MGR: C. TATTERSALL  
 PROJ. MGR: F.P. FRANDINA

KIEWIT  
 CONSTRUCTION COMPANY  
 Hatch Mott MacDonald

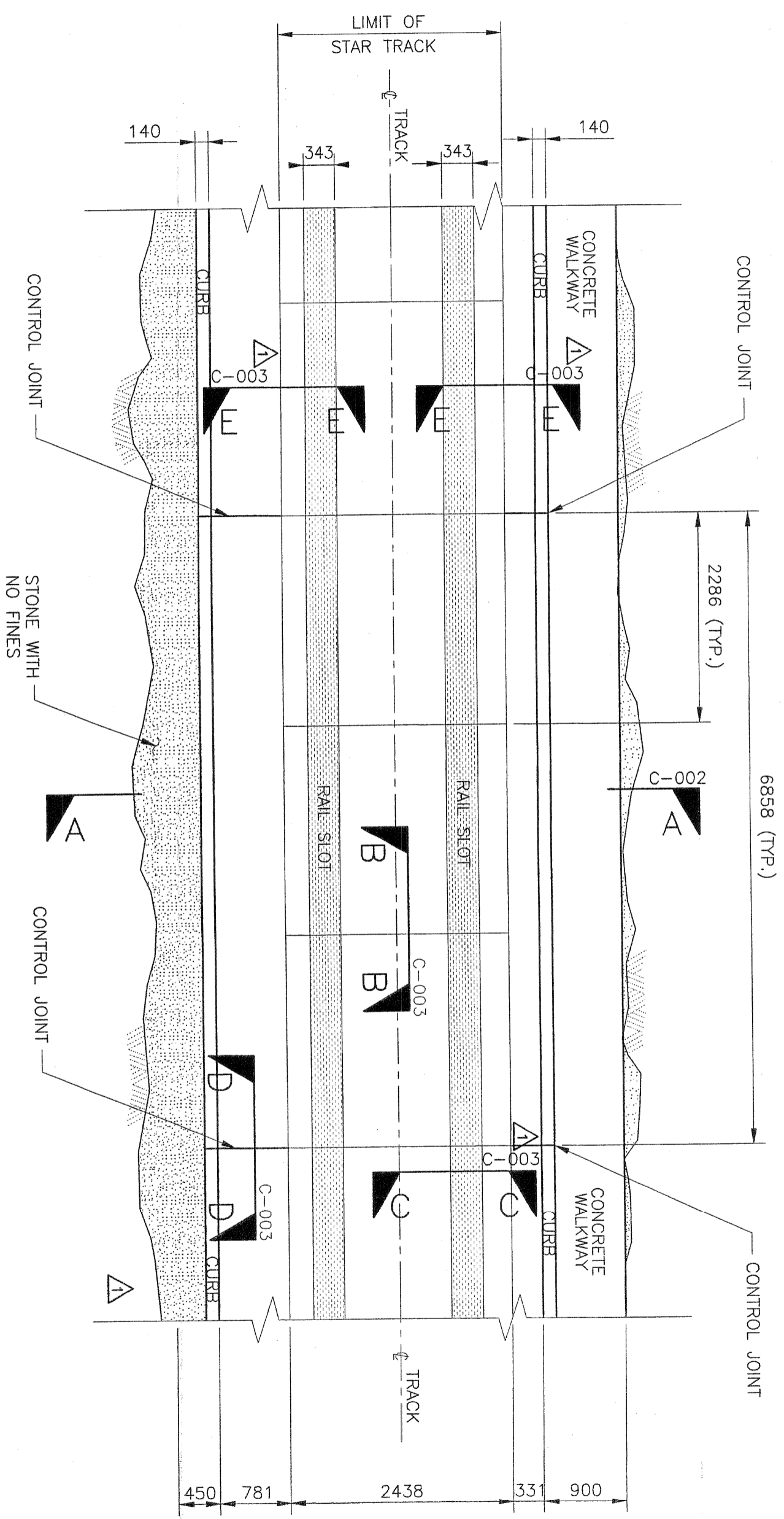
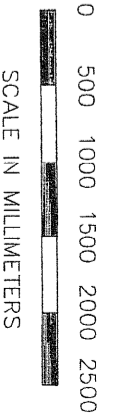
STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 WHITTIER ACCESS - TUNNEL  
 TUNNEL INVERT - ROAD AND TRACK  
 TYPICAL INVERT PLAN

PROJECT DESIGNATION	ACNH-0496(5)/52371
SCALE	1:50
DRAWING NO.	53.02A-C-001
SHEET NO.	1

# PLAN VIEW

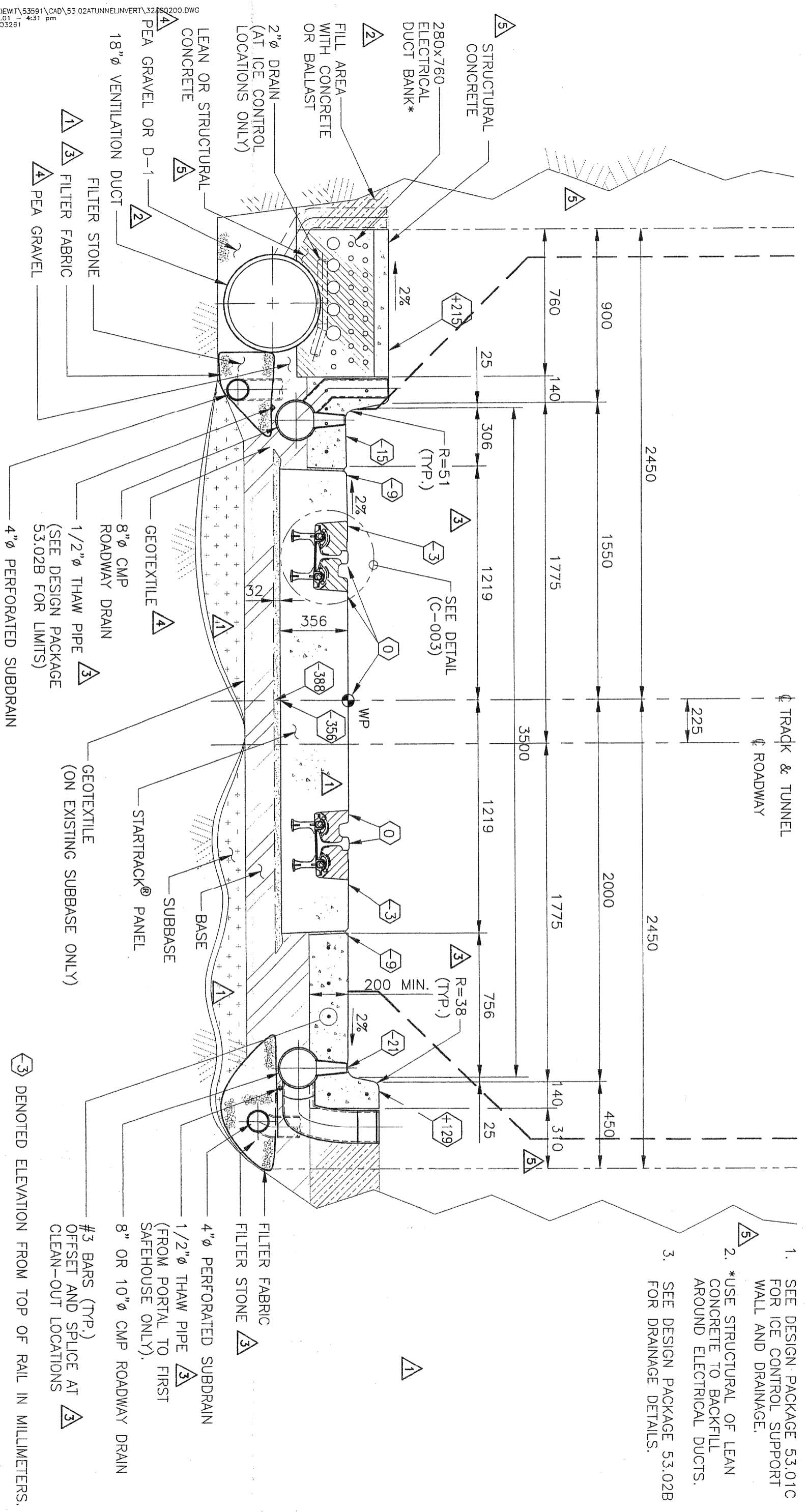
SCALE: 1:50

NOTE: DIMENSIONS ARE SHOWN TO THE WORKING POINT AT THE TOP OF THE CURB.



**NOTES:**

1. SEE DESIGN PACKAGE 53.01C FOR ICE CONTROL SUPPORT WALL AND DRAINAGE.
2. \* USE STRUCTURAL OF LEAN CONCRETE TO BACKFILL AROUND ELECTRICAL DUCTS.
3. SEE DESIGN PACKAGE 53.02B FOR DRAINAGE DETAILS.



NO.	DESCRIPTION	CHK'D	APPRO	DATE
1	RAISED N.CURB, DELETED S.DUCTBANK			
2	REV'D DRAINAGE, N.DUCTBANK & VENT DUCT	RAW	FPF	18MAR99
3	REV'D CHG'D TO REBAR & THAW PIPE DIA TO 1/2"	RAW	FPF	23MAR99
4	REVISED MIN. RAIL CLEAR. & CURB (N. SIDE)	FPF	FPF	23JUL99
5	ADDED PEA GRAVEL AROUND VENT. DUCT.	FPF	FPF	20AUG99

NO.	DESCRIPTION	CHK'D	APPRO	DATE
0	CONSTRUCTION			
1	FINAL APPROVAL	RAW	FPF	18MAR99
2	FINAL APPROVAL	FPF	FPF	23MAR99
3	CONSTRUCTION	FPF	FPF	04JUNE99
4	FINAL DESIGN APPROVAL	FPF	FPF	23JUL99
5	CONSTRUCTION	FPF	FPF	20AUG99

DESIGNED BY: R.J.WELLER  
 DRAWN BY: L.ROMAN/C.MULLON  
 CHECKED BY: F.P.FRANONIA  
 O.C. MGR: C.JATTERSALL  
 PROJ. MGR: F.P.FRANONIA

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 WHITTIER ACCESS - TUNNEL  
 TUNNEL INVERT - ROAD AND TRACK SECTION

KIEWIT  
 CONSTRUCTION COMPANY  
 Hatch Mott MacDonald

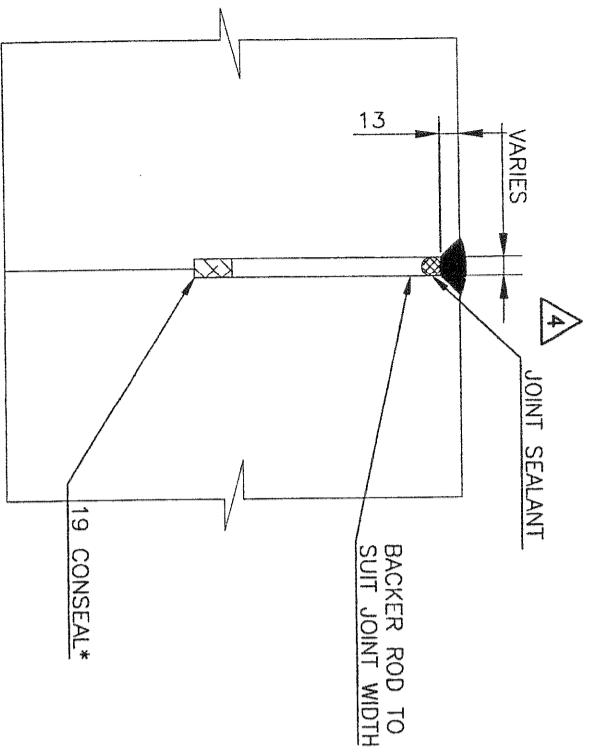
STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 WHITTIER ACCESS - TUNNEL  
 TUNNEL INVERT - ROAD AND TRACK SECTION

PROJECT DESIGNATION  
 ACNH-0496(5)/52371

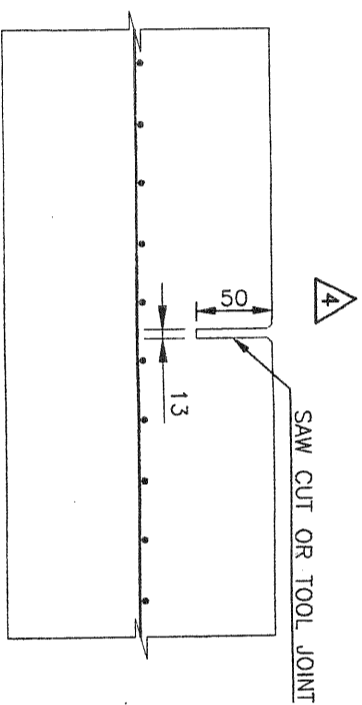
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SHEET NO. 53591  
 SHEET NO. 5

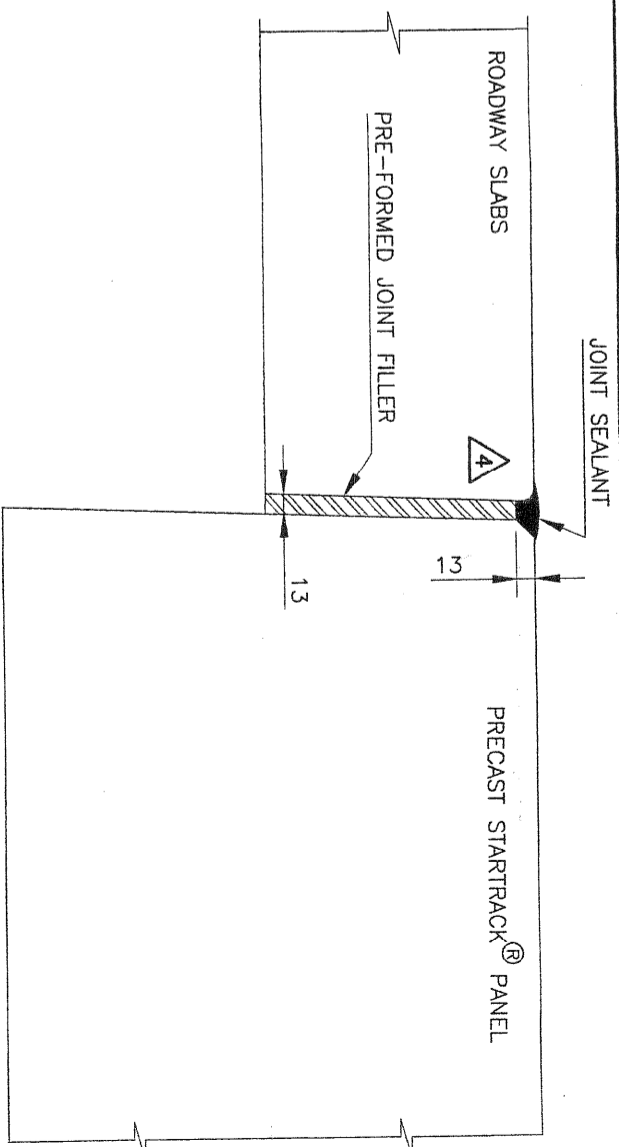
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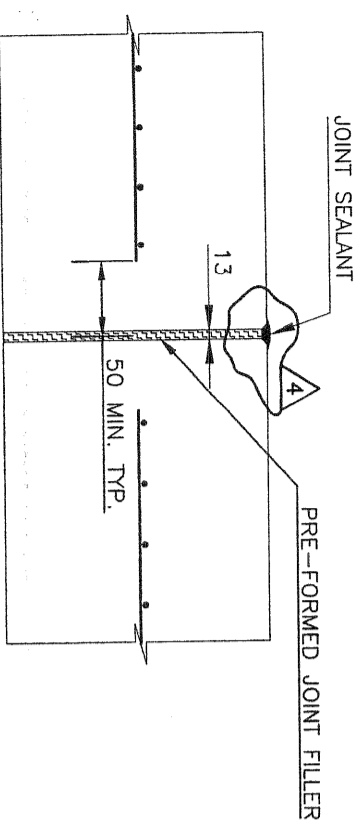
SECTION B-B (C-001)  
SCALE: 1:5



SECTION D-D, (C-001)  
TYP. CONTROL JOINT  
SCALE: 1:5  
NOTE: EXTEND JOINT THROUGH CURB

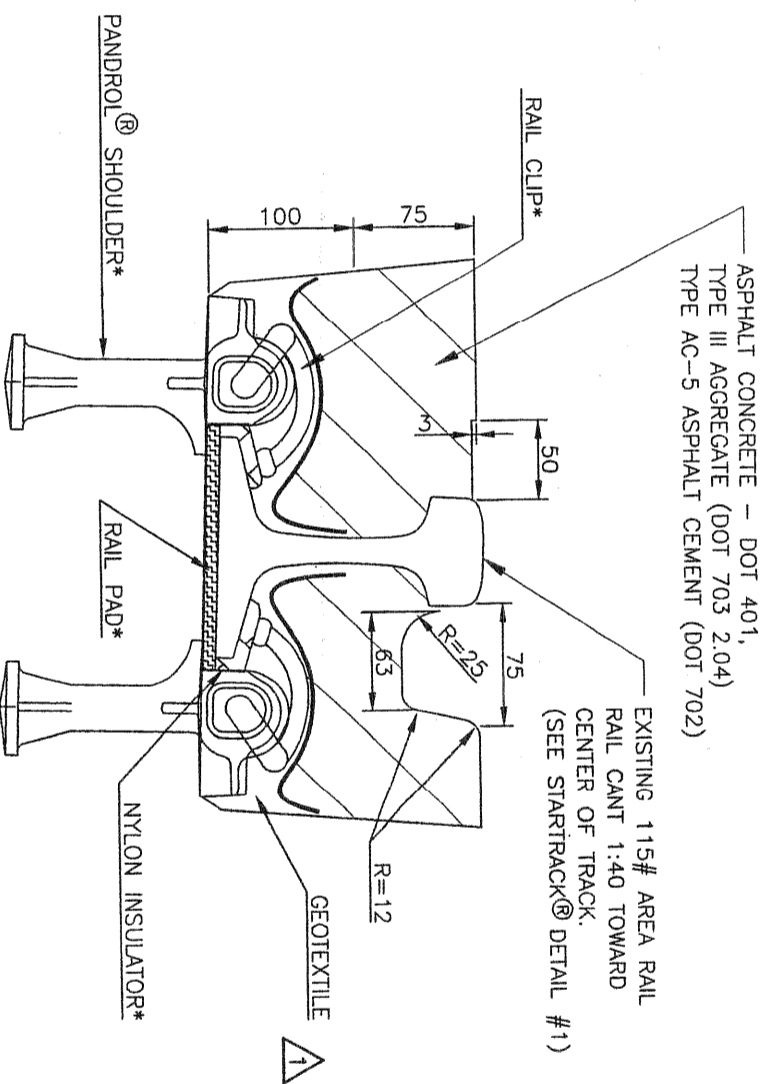


SECTION E-E, LONGITUDINAL JOINT (C-001)  
SCALE: 1:5

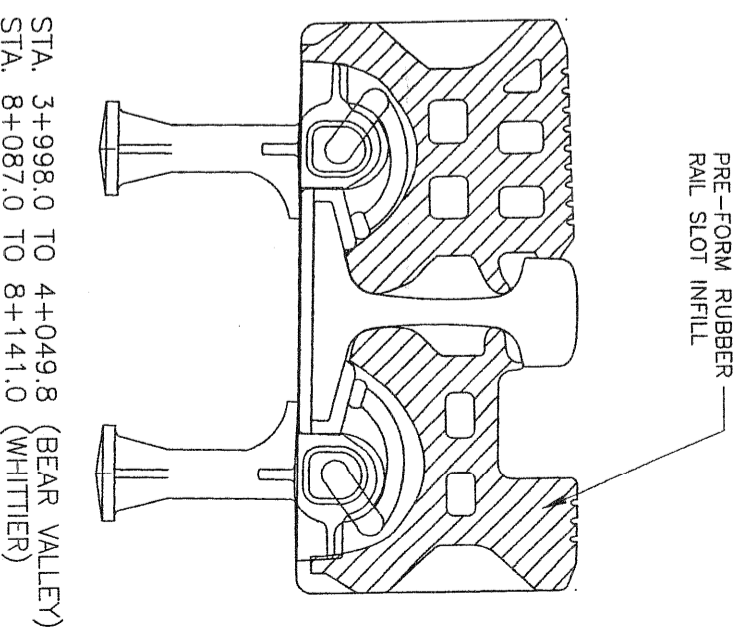


TYP. EXPANSION JOINT DETAIL  
SCALE: 1:5

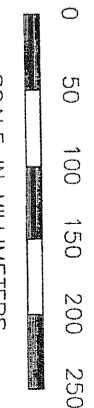
- NOTE:
1. USE AT END OF POUR.
  2. ALIGN JOINT WITH JOINT IN STARTTRACK® SYSTEM.
  3. EXTEND JOINT SEALER 12.5 mm BELOW BOTTOM OF CHAMFER. (TYP.)



SECTION C-C, TYP. RAIL SLOT DETAIL (C-001)  
SCALE: 1:5



SECTION C-C, TYP. RAIL SLOT DETAIL (C-001)  
SCALE: 1:5



\* SUPPLIED BY STARTTRACK®  
PANEL MANUFACTURER.

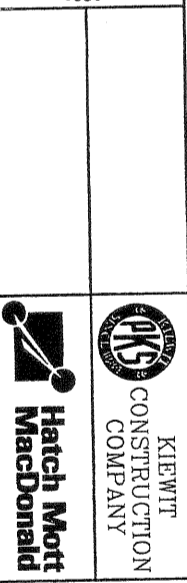
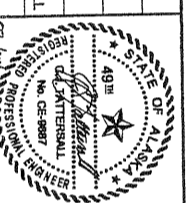
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NO.	DESCRIPTION	CHK'D	APP'D	DATE
1	RAIL SLOT DETAIL REV'D.	RAW	FPF	21APR99
2	HOLD ON ASPHALT RAIL SLOT DETAIL.	RAW	CJT	09JUN99
3	ADDED RAIL SLOT DETAIL.	RAW	FPF	22JUN99
4	REVISED JOINT SEALING PROFILES	CJT	14MAR00	

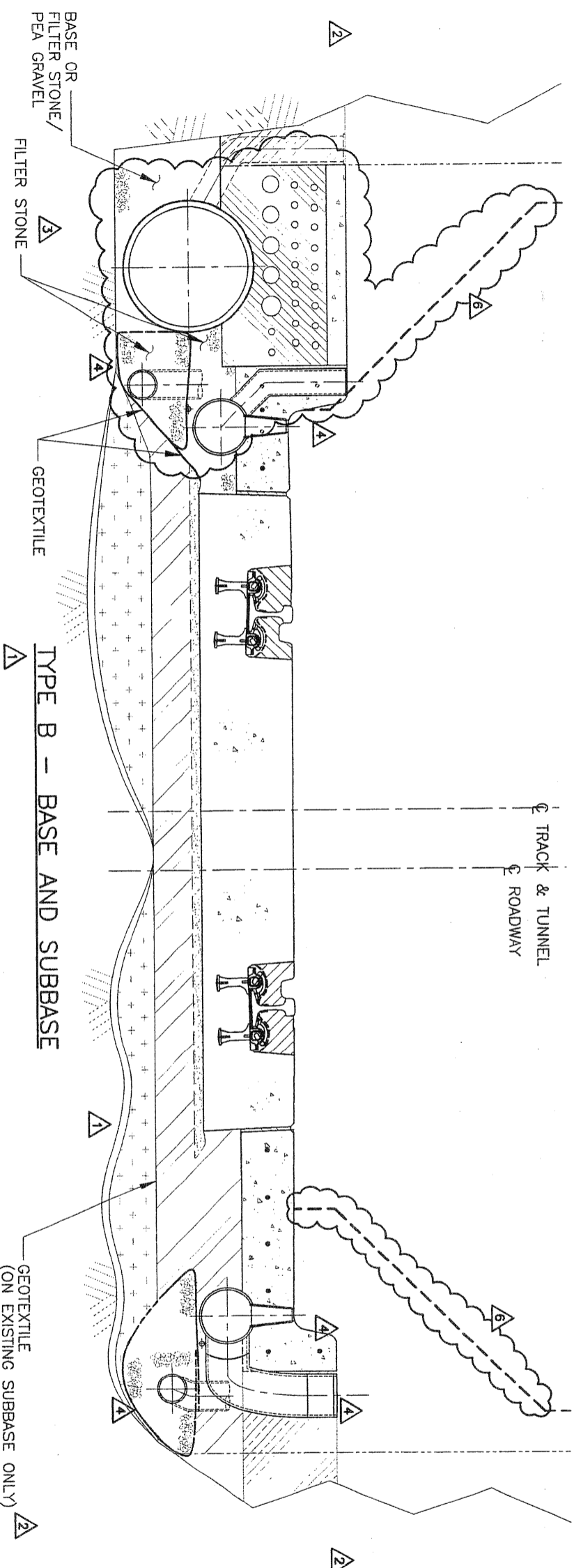
NO.	DESCRIPTION	CHK'D	APP'D	DATE
0	CONSTRUCTION	FPF	21APR99	
1	FINAL APPROVAL	CJT	09JUN99	
2	CONSTRUCTION	CJT	06JUL99	
3	CONSTRUCTION	CJT	06JUL99	
4	RECORD DRAWING	FPF	MAR2001	

DESIGNED BY:	DRAWN BY:	CHECKED BY:	Q.C. MGR:	PROJ. MGR:
C. TATTERSALL	I. ROMAN	F. FRANDINA	C. TATTERSALL	F. FRANDINA



STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
WHITTIER ACCESS - TUNNEL  
TUNNEL INVERT - ROAD AND TRACK  
TYPICAL DETAILS

PROJECT DESIGNATION	SCALE	SHEET NO.	REV.
ACHN-0496(5)/52371	1:5	U.N.	4
DRAWING NO. 53.02A-C-003			



NAME	MATERIAL	COMPACTION
LEVELING COURSE	3/8" MINUS, NFS	NOT COMPACTED
BASE	150 MIN. THICK AGGREGATE BASE	PER SPECIFICATION, MIN. 95% M.D.D. (ASHTO T-180)
SUBBASE	SUITABLE EXISTING MATERIAL (SEE NOTE 5.) OR AGGREGATE BASE	PROOF ROLL EXISTING 95% M.D.D. (ASHTO T-180)
EXISTING MATERIAL	MAX. DEPTH = "TOOTH DEPTH"	NOT COMPACTED
COARSE FILL	BALLAST	NOT COMPACTED
LEAN CONCRETE	10 MPa MINIMUM	N/A
FILTER STONE OR PEA GRAVEL	SEE DESIGN PKG 53.02B	SEE DESIGN PKG 53.02B

**SUBBASE PREPARATION PROCEDURE:**

- 1) REMOVE EXISTING MATERIAL TO TOP OF SUBBASE.
- 2) REMOVE ANY UNSUITABLE MATERIAL TO EXCAVATOR "TOOTH DEPTH" AS DEFINED BELOW.
- 3) PROOF ROLL SUBBASE WITH VIBRATORY COMPACTOR OR EQUIVALENT COMPACTIVE EFFORT BY CONSTRUCTION EQUIPMENT.
- 4) REMOVE ANY UNSUITABLE MATERIAL IDENTIFIED DURING THE PROOF ROLLING.
- 5) UNSUITABLE MATERIAL IS DEFINED AS:
  - A) FROST SUSCEPTIBLE MATERIAL.
  - B) FINE TO MEDIUM SAND POCKETS.
  - C) MATERIAL CONTAINING DELETERIOUS MATTER (e.g. ORGANIC MATTER, WASTE, DEBRIS)
  - D) FROZEN MATERIAL.
  - E) MATERIAL THAT IS NOT FIRM AND UNYIELDING.
- 6) REMOVE ALL EXISTING MATERIAL TO EXCAVATOR "TOOTH DEPTH" FOR A DISTANCE OF 300 m FROM EXISTING PORTAL DOORS.
- 7) FILL UNDRAINED POCKETS WITH SUBBASE MATERIAL TO ABOVE STATIC WATER LEVEL PRIOR TO PROOF ROLLING.

**NOTE:**

STRUCTURAL CONCRETE CAN BE USED IN PLACE OF LEAN CONCRETE AROUND THE ELECTRICAL CONDUIT.

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NO.	DESCRIPTION	CHK'D	APP'D	DATE
6	REVISED MIN. RAIL CLEAR. & CURB (N. SIDE).	FPF	FPF	20AUG99
5	REVISED MIN. RAIL CLEAR. & CURB (S. SIDE).	FPF	FPF	23JUL99
4	ADDED CLEAN-OUTS AT RT.-SIDE OF SIDEWALK PIPES. CHANGED WVF TO REINF. BARS.	RAW	FPF	21APR99
3	REVISED LIMITS OF LEAN CONCRETE.	RAW	FPF	23MAR99
2	REVISED DRAINAGE TO MATCH 53.02B, REVISED ELEC. DUCTBANK & VENT DUCT-N. SIDE, ELEM. DUCTBANK	RAW	FPF	18MAR99
5	SIDE, RAISED CURB HGT. TO 230mm-N. CURB.	CJT	FPF	31DEC98
1	SUBBASE & BASE REV'D. GEOTEXTILE REMOVED	CJT	FPF	31DEC98

NO.	DESCRIPTION	CHK'D	APP'D	DATE
6	RECORD DRAWING	FPF	FPF	MAR2001
4	CONSTRUCTION	FPF	FPF	20AUG99
3	FINAL DESIGN APPROVAL	FPF	FPF	23JUL99
2	CONSTRUCTION	FPF	FPF	04JUN99
1	FINAL APPROVAL	FPF	FPF	23MAR99
0	CONSTRUCTION	FPF	FPF	08MAR99
0	CONSTRUCTION	FPF	FPF	31DEC98
0	CONSTRUCTION	FPF	FPF	08DEC98

DESIGNED BY:	DRAWN BY:	CHECKED BY:	Q.C. MGR:	PROJ. MGR:
C. HATTERSALL	L. ROMAN/C. MALLON	R.A. WELLS	C. HATTERSALL	F. FRANDINA

ISSUED FOR:	ISSUE AUTHORIZATION:
ISSUE AUTHORIZATION	

**KIEWIT**  
CONSTRUCTION COMPANY

**Hatch Mott MacDonald**

STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
WHITTIER ACCESS - TUNNEL  
TUNNEL INVERT - ROAD AND TRACK  
TYPE B - BASE AND SUB-BASE

SCALE IN MILLIMETERS  
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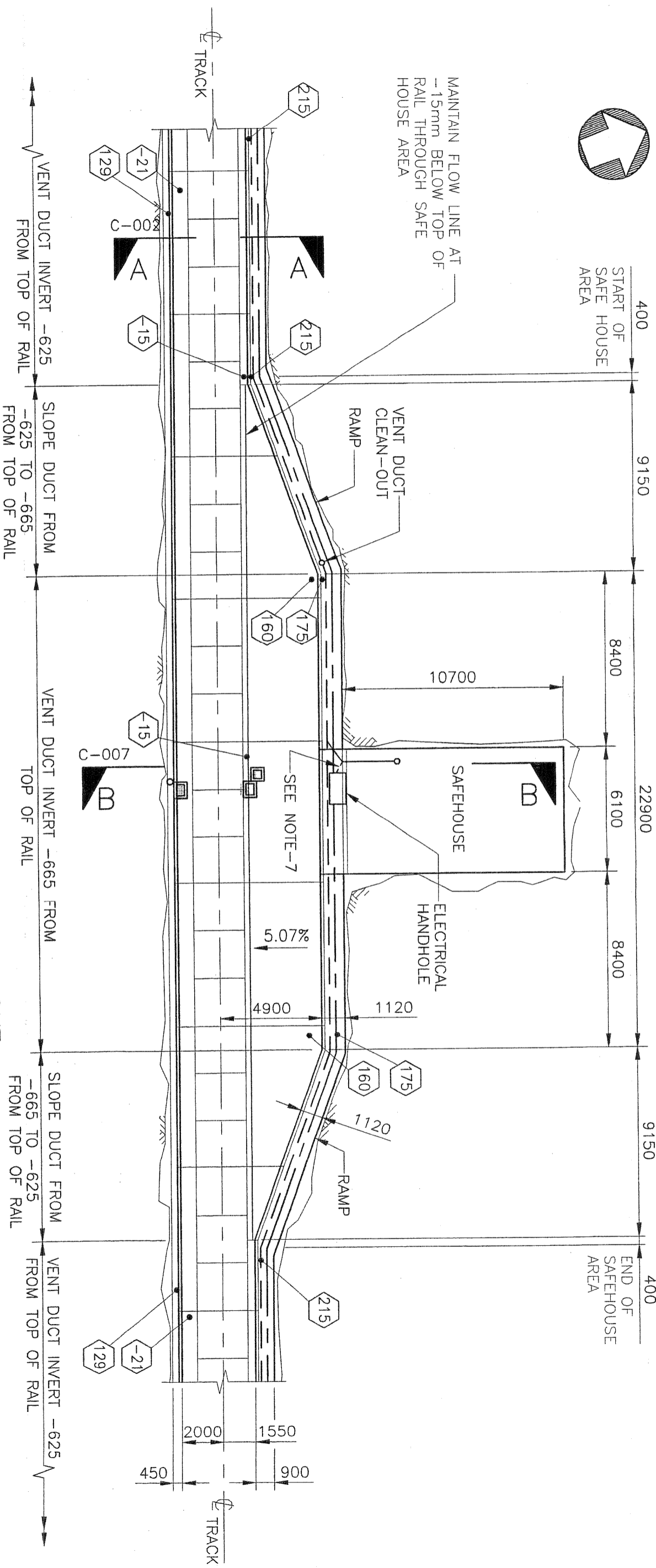
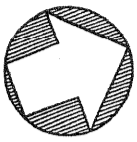
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DRAWING NO. 53.02A-C-005

PROJECT DESIGNATION ACHN-0496(5)/52371

SHEET NO. 53591

REV. 6

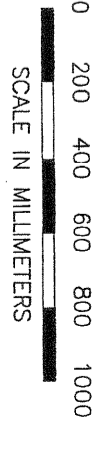


**PLAN VIEW-SAFE HOUSE TURN-OUT**  
SCALE: 1:200

- LEGEND**
- ELECTRICAL DUCT BANK
  - VENTILATION DUCT
  - DENOTES ELEVATION OF POINT MEASURED PERPENDICULAR TO TOP OF RAIL, IN MILLIMETERS.

- NOTES:**
1. CONTROL JOINTS IN INTEGRAL PAVEMENT/CURB SPACED NO GREATER THAN 6858 mm. CONTROL JOINTS MUST ALIGN WITH TRACK PANEL JOINTS. ADDITIONAL CONTROL JOINTS REQUIRED AT THE BEGINNING AND END OF EVERY TURN-OUT.
  2. FOR PROFILE OF NORTH CURB AT SAFE HOUSE SEE DWG. 53.02A-C-008.
  3. FOR DETAILS OF DRAINAGE SEE DESIGN PACKAGE 53.02B.
  4. FOR ELECTRICAL DETAILS; SEE DESIGN PACKAGE 52.01D.
  5. FOR VENTILATION DETAILS; SEE DESIGN PACKAGE 51.02B.

- NOTES: (CONT.)**
6. VENTILATION DUCT IS NOT INSTALLED BETWEEN SAFE HOUSE 4 AND 5.
  7. AIR FOR SAFE HOUSES 1-4 IS SUPPLIED FROM BEAR VALLEY (WEST). SAFE HOUSES 5-8 ARE SUPPLIED FROM WHITTIER (EAST). INSTALL WYE IN DIRECTION OF AIR FLOW.



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2:05:01 11/14/04 4:33 pm  
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NO.	DESCRIPTION	CHK'D	APP'D	DATE	REV.	ISSUED FOR
0	CONSTRUCTION				0	
0	RECORD DRAWING				0	

DESIGNED BY:	F. FRANDINA	CHECKED BY:	R. WELLER
DRAWN BY:	I. ROMAN/C. MALDON	Q.C. MGR:	C. TAITERSALL
DATE:	MAR2001	DATE:	04JUNE99

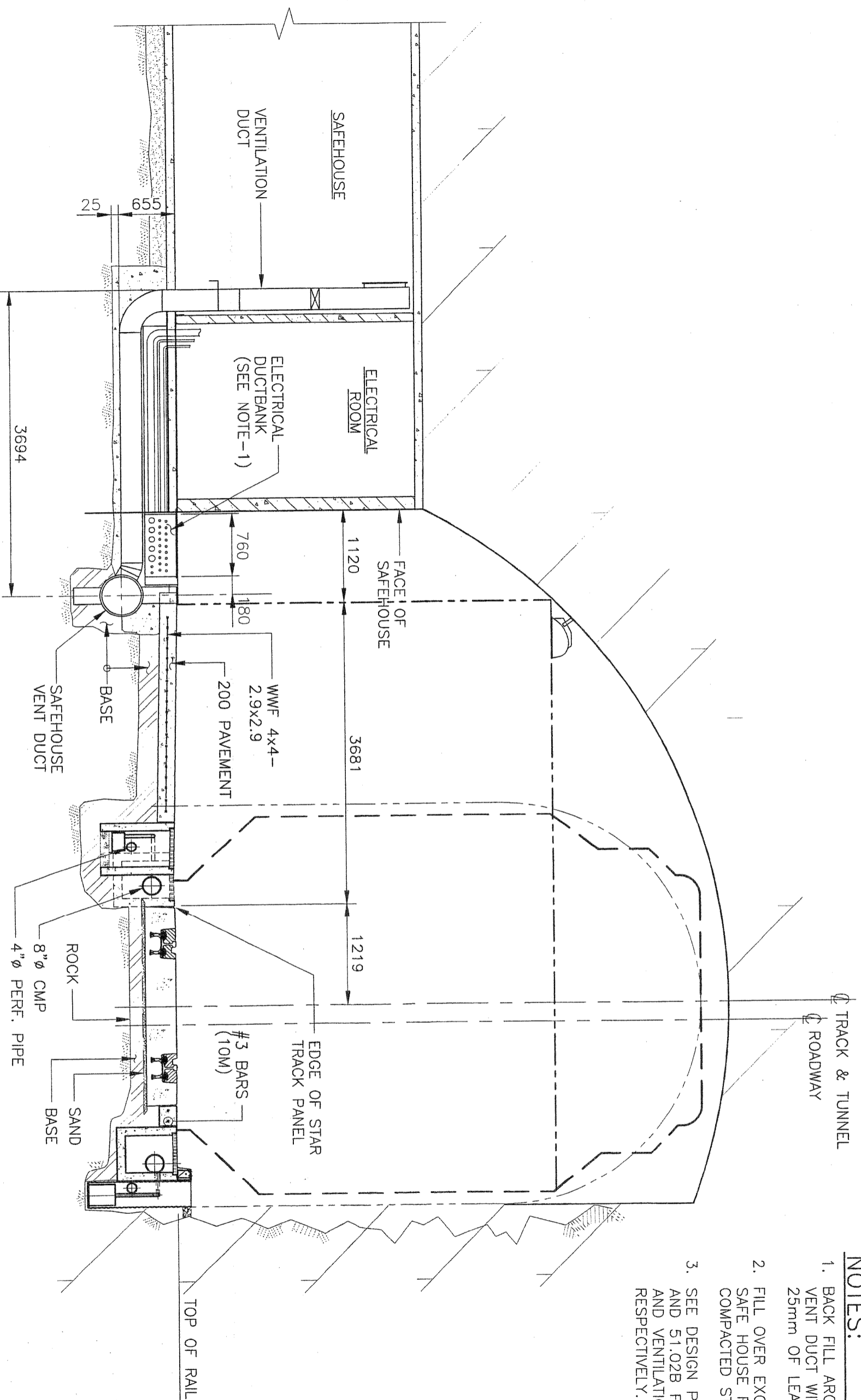
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SCALE:	U.N.
DRAWING NO:	53591
SHEET NO.:	
REV.:	



STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
WHITTIER ACCESS - TUNNEL  
TUNNEL INVERT - ROAD AND TRACK  
TYPICAL TURN-OUT INVERT PLAN

**NOTES:**

1. BACK FILL AROUND SAFE HOUSE VENT DUCT WITH A MINIMUM 25mm OF LEAN CONCRETE.
2. FILL OVER EXCAVATIONS IN SAFE HOUSE FLOOR WITH WELL COMPACTED STONE.
3. SEE DESIGN PACKAGE 52.01D AND 51.02B FOR ELECTRICAL AND VENTILATION DETAILS RESPECTIVELY.



**CROSS SECTION B-B (C-006)**  
SCALE: 1:50



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cad file: 32AC0700.DWG					
NO.	DESCRIPTION	CHK'D	APP'D	DATE	REV.
	RECORD DRAWING			MAR2001	0
	CONSTRUCTION			04JUNE99	0
DESIGNED BY: R.J. WELLS DRAWN BY: IROMAN/C.MALLON CHECKED BY: F.P. FRANDONIA D.C. MGR: C.JATTERSALL PROD. MGR: F.P. FRANDONIA		ISSUED FOR: FPF AUTH. BY: FPF DATE: 04JUNE99		REVISIONS:	
KIEWIT CONSTRUCTION COMPANY Hatch Mott MacDonald		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES WHITTIER ACCESS - TUNNEL TUNNEL INVERT - ROAD AND TRACK TURN-OUT CROSS SECTION		PROJECT DESIGNATION: ACNH-0496(5)/52371 53591 SCALE: 1:50 U.N. DRAWING NO: 53.02A-C-007 SHEET NO: 0 REV: 0	