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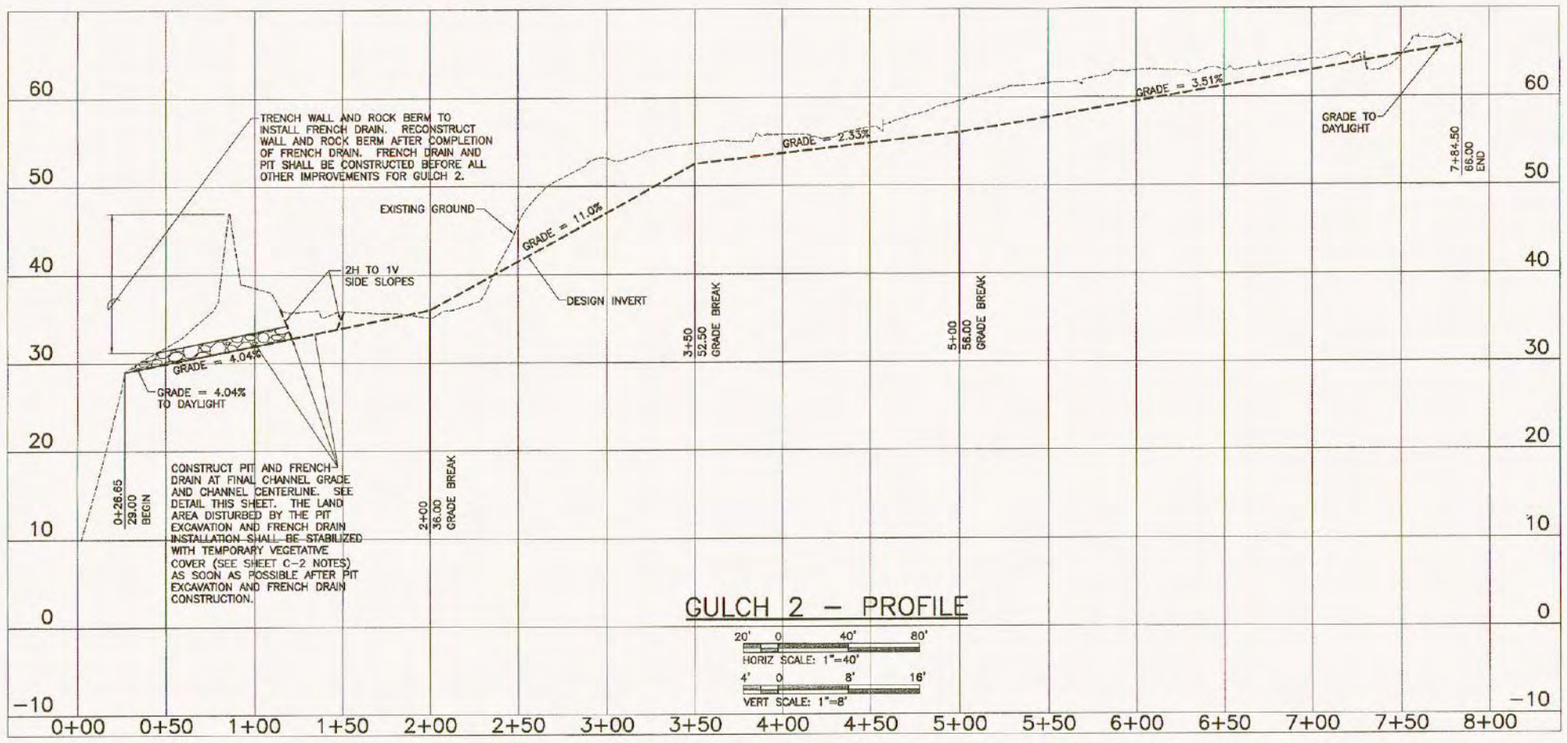
Attorneys for Plaintiff United States of America

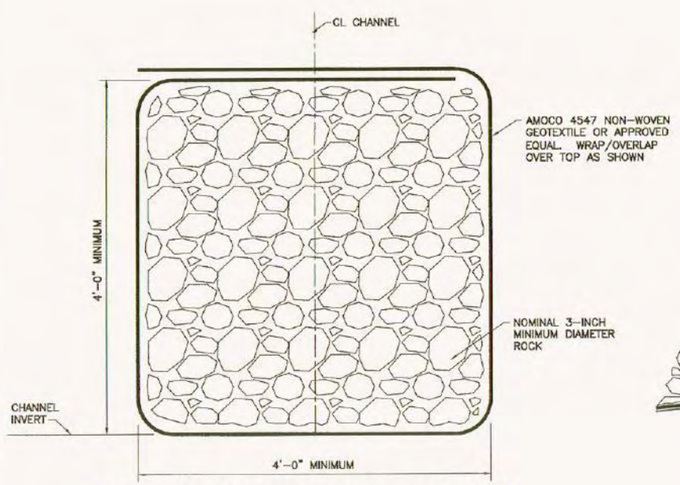
IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF HAWAI`I

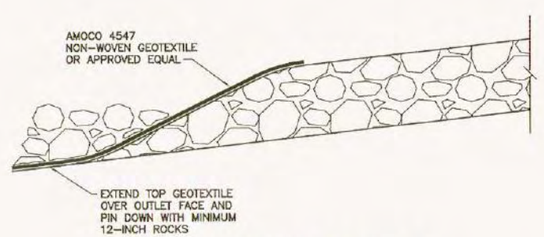
UNITED STATES OF AMERICA, and DEPARTMENT OF HEALTH, STATE OF HAWAI`I, Plaintiffs,  v.  JAMES H. PFLUEGER; PFLUEGER PROPERTIES; AND PILA`A 400 LLC, Defendants.	NO. CV 06-00140 BMK FIRST AMENDED CONSENT DECREE; APPENDIX E2



NOTE:
FOR TYPICAL SECTION IMPROVEMENTS, REFER TO SHEET C-12.



FRENCH DRAIN CROSS SECTION
NOT TO SCALE



FRENCH DRAIN OUTLET
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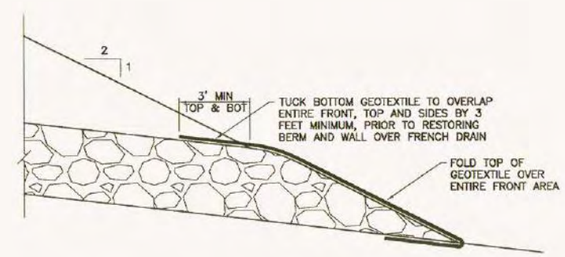

FRENCH DRAIN INLET ELEVATION AT PIT
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△		CONSENT DECREE VERSION: DECEMBER 16, 2005		
△		REV. APRIL 15, 2005		
△		REV. MARCH 23, 2005		
△		REV. FEBRUARY 04, 2005		

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APRIL 30, 2006
EXPIRATION DATE OF THE LICENSE
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Consultant:

Client:
PILA'A 400, LLC
1450 South Beretania Street
Honolulu, Hawaii 96814

PILA'A 400
REMEDIATION PLAN - PACKAGE 2

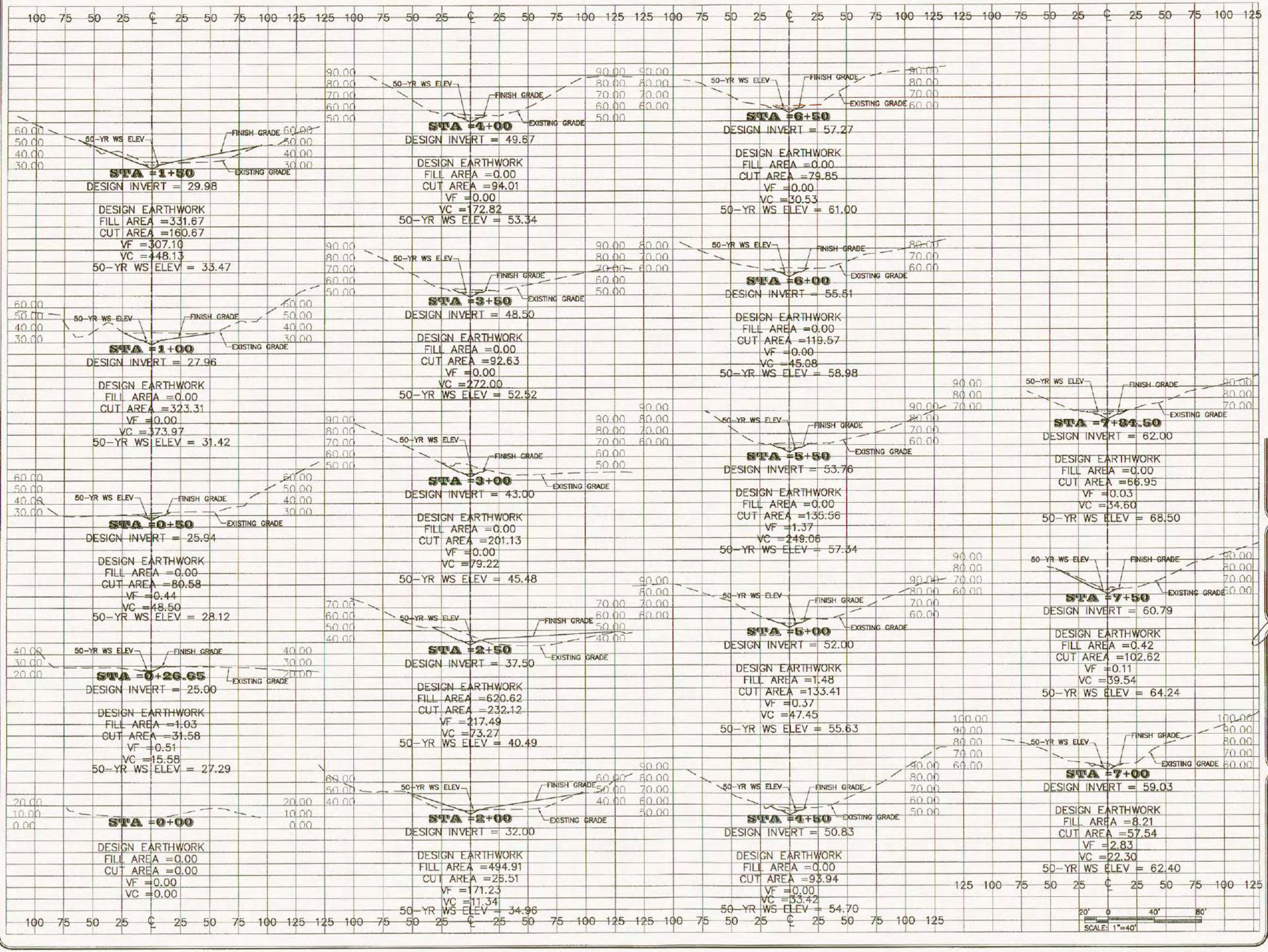
GULCH 2
PROFILE

Designed By: C.K.L. Drawn By: C.K.L., G.Y.
Project No. 2004.33.1900 Date: MARCH, 2004
Approved By:

FILE	PROJECT	FOLDER	NO.

Trim: 22"x36"

SHEET C-6 of 18 Sheets



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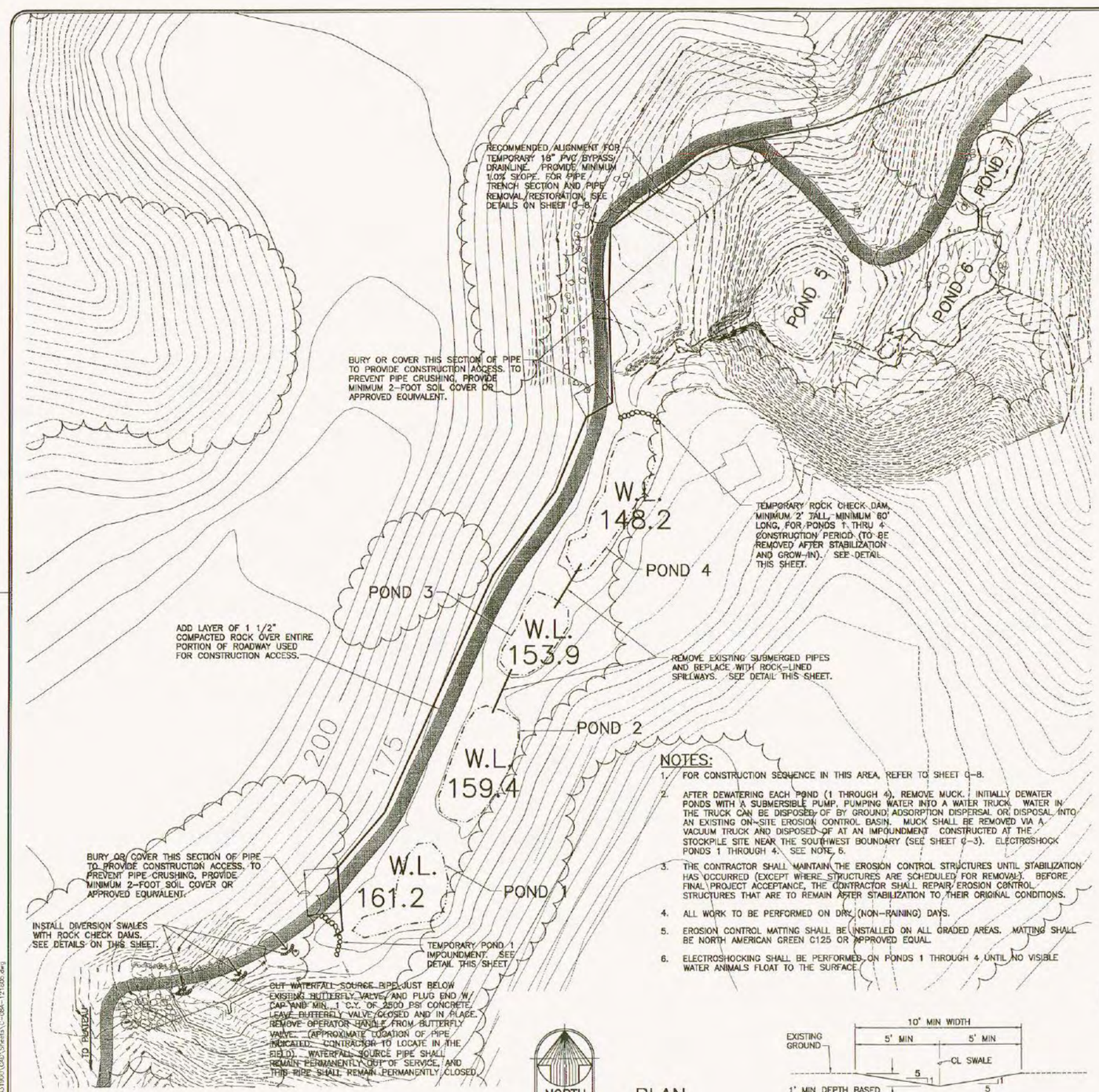
PILA'A 400
REMEDIATION PLAN - PACKAGE 2

GULCH 2
CROSS SECTIONS

Designed By: C.K.L. Drawn By: C.K.L., G.Y.
Project No. 2004.33.1900 Date: MARCH, 2004
Approved By:

Trim: 22"x36"

SHEET C-7 of 18 Sheets



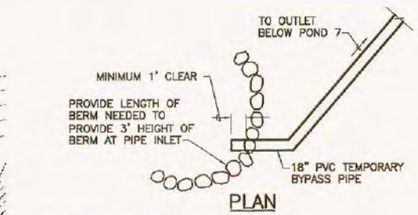
PLAN

NOTES:

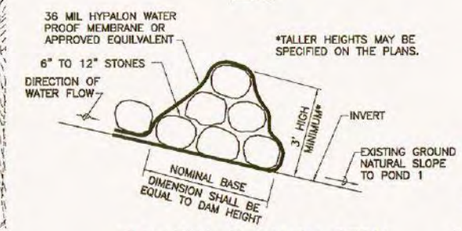
1. FOR CONSTRUCTION SEQUENCE IN THIS AREA, REFER TO SHEET C-8.
2. AFTER DEWATERING EACH POND (1 THROUGH 4), REMOVE MUCK. INITIALLY DEWATER PONDS WITH A SUBMERSIBLE PUMP, PUMPING WATER INTO A WATER TRUCK. WATER IN THE TRUCK CAN BE DISPOSED OF BY GROUND ADSORPTION DISPERSAL OR DISPOSAL INTO AN EXISTING ON-SITE EROSION CONTROL BASIN. MUCK SHALL BE REMOVED VIA A VACUUM TRUCK AND DISPOSED OF AT AN IMPOUNDMENT CONSTRUCTED AT THE STOCKPILE SITE NEAR THE SOUTHWEST BOUNDARY (SEE SHEET C-3). ELECTROSHOCK PONDS 1 THROUGH 4. SEE NOTE 6.
3. THE CONTRACTOR SHALL MAINTAIN THE EROSION CONTROL STRUCTURES UNTIL STABILIZATION HAS OCCURRED (EXCEPT WHERE STRUCTURES ARE SCHEDULED FOR REMOVAL). BEFORE FINAL PROJECT ACCEPTANCE, THE CONTRACTOR SHALL REPAIR EROSION CONTROL STRUCTURES THAT ARE TO REMAIN AFTER STABILIZATION TO THEIR ORIGINAL CONDITIONS.
4. ALL WORK TO BE PERFORMED ON DRY (NON-RAINING) DAYS.
5. EROSION CONTROL MATTING SHALL BE INSTALLED ON ALL GRADED AREAS. MATTING SHALL BE NORTH AMERICAN GREEN C125 OR APPROVED EQUAL.
6. ELECTROSHOCKING SHALL BE PERFORMED ON PONDS 1 THROUGH 4 UNTIL NO VISIBLE WATER ANIMALS FLOAT TO THE SURFACE.

DIVERSION SWALE SECTION

NOT TO SCALE



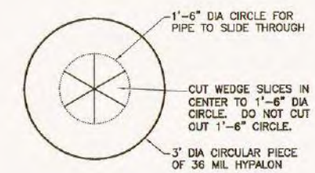
PLAN



ELEVATION THROUGH BERM

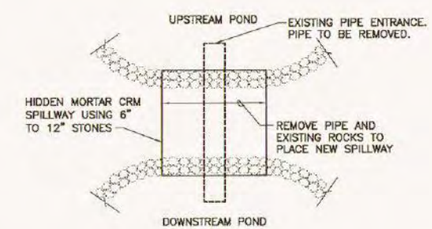
TEMPORARY IMPOUNDMENT DETAIL

NOT TO SCALE

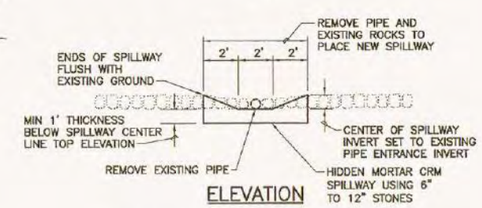


36 MIL HYPALON "FLANGE PLATE" DETAIL

NOT TO SCALE



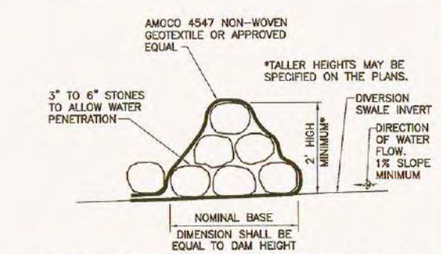
PLAN



ELEVATION

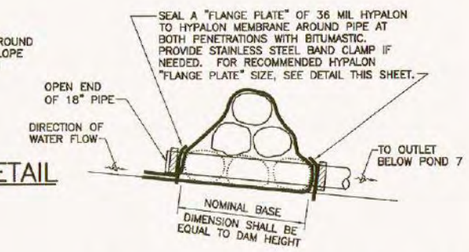
PONDS 2 & 3 OUTLET PIPE REMOVAL AND ROCK SPILLWAY DETAIL

NOT TO SCALE



ROCK CHECK DAM SECTION

NOT TO SCALE



18" PVC TEMPORARY BYPASS PIPE THROUGH BERM DETAIL

NOT TO SCALE

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PILA'A 400
REMEDIATION PLAN - PACKAGE 2

PONDS 1 THROUGH 4 REMEDIATION

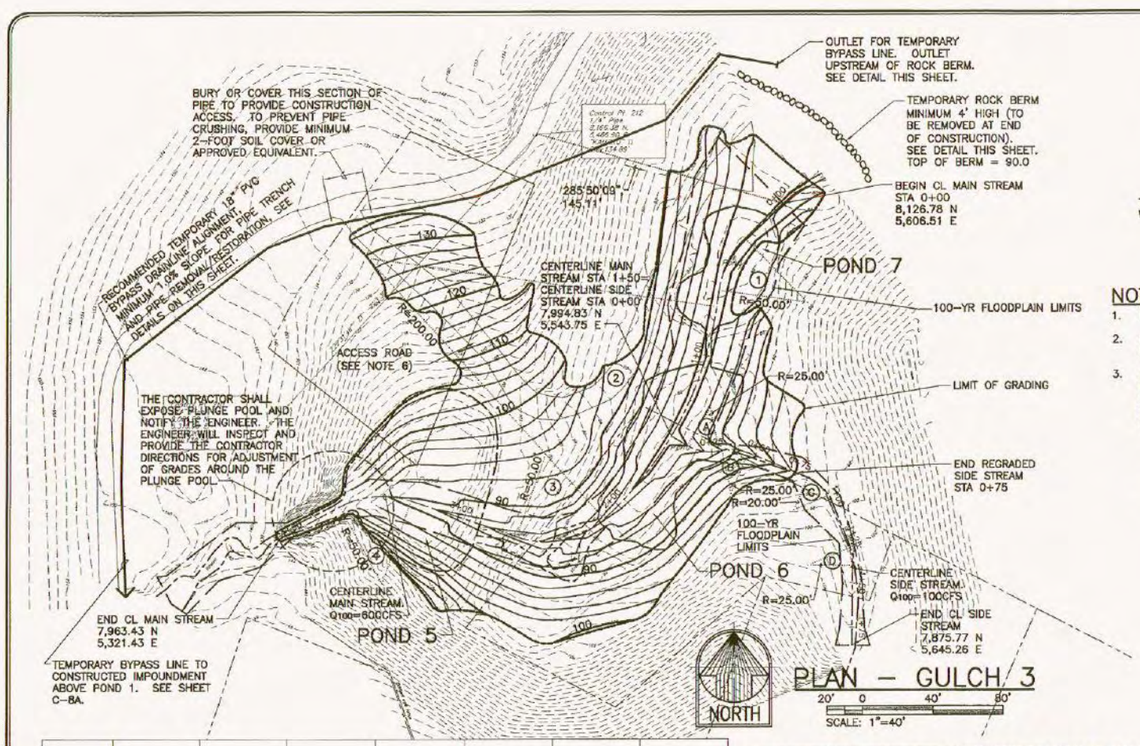
Designed By: C.K.L. Drawn By: C.K.L., G.Y.
Project No. 2004.33.1900 Date: MARCH, 2004
Approved By:

Date
Date
Date

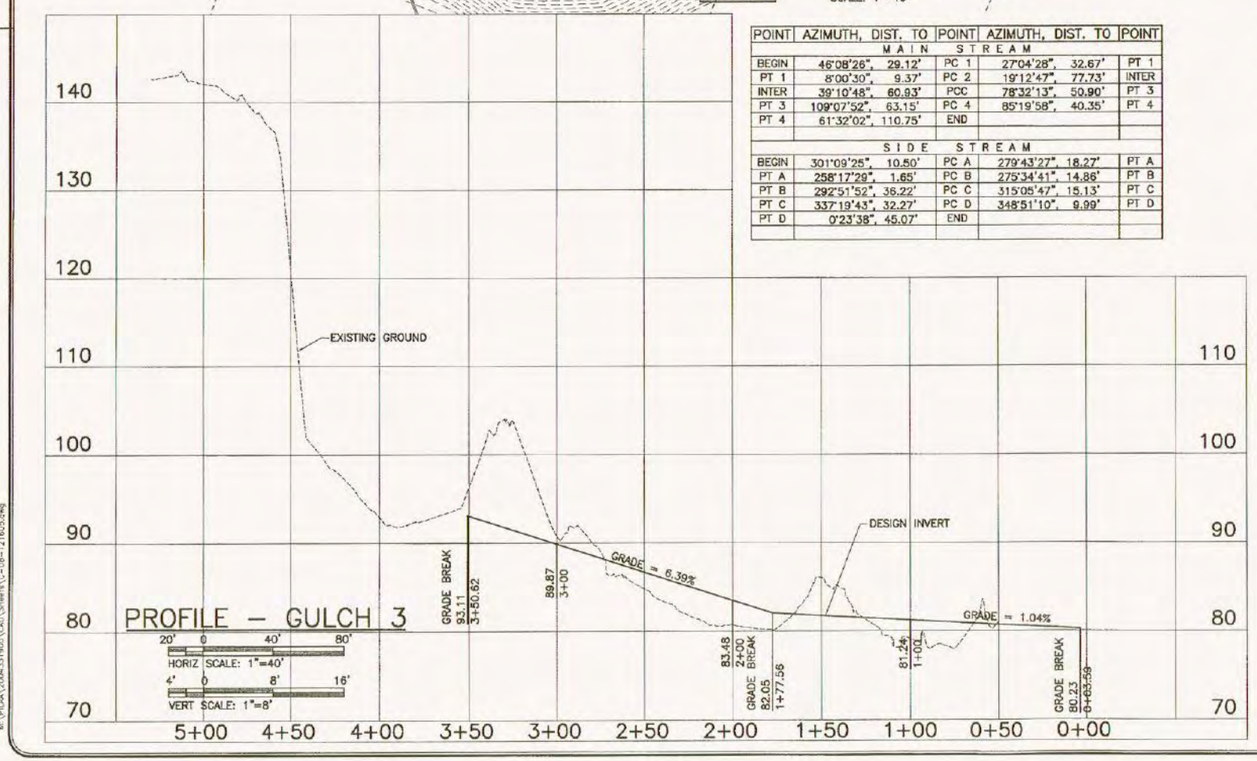
FILE	PROJECT	FILE DIR.	NO.

Trim: 22"x36"

SHEET C-8A of 18 Sheets

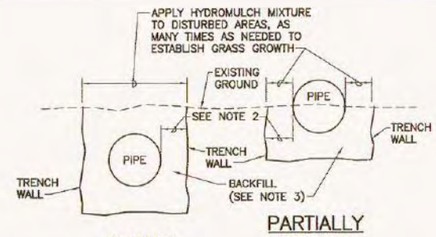


PLAN – GULCH 3



PROFILE – GULCH 3

POINT	AZIMUTH, DIST. TO	POINT	AZIMUTH, DIST. TO	POINT
	MAIN STREAM			
BEGIN	46°08'26", 29.12'	PC 1	27°04'28", 32.67'	PT 1
PT 1	8°00'30", 9.37'	PC 2	19°12'47", 77.73'	INTER
INTER	39°10'48", 60.93'	PCC	78°32'13", 50.90'	PT 3
PT 3	109°07'52", 63.15'	PC 4	85°19'58", 40.35'	PT 4
PT 4	61°32'02", 110.75'	END		
	SIDE STREAM			
BEGIN	301°09'25", 10.50'	PC A	279°43'27", 18.27'	PT A
PT A	258°17'29", 1.65'	PC B	275°34'41", 14.86'	PT B
PT B	292°51'52", 36.22'	PC C	315°05'47", 15.13'	PT C
PT C	337°19'43", 32.27'	PC D	348°51'10", 9.99'	PT D
PT D	0°23'38", 45.07'	END		

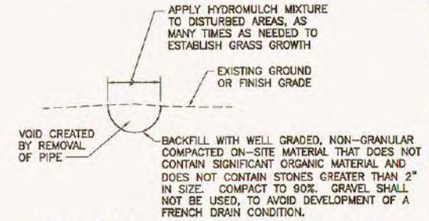


NOTES:

1. USE THIS DETAIL WHERE DRAINLINE REQUIRES BURIAL TO MEET MINIMUM SLOPE.
2. MINIMUM TRENCH CLEARANCE BASED ON WIDTH NEEDED TO ACHIEVE DESIRED COMPACTION TARGET .
3. BACKFILL WITH WELL GRADED, NON-GRANULAR COMPACTED ON-SITE MATERIAL THAT DOES NOT CONTAIN SIGNIFICANT ORGANIC MATERIAL AND DOES NOT CONTAIN STONES GREATER THAN 2" IN SIZE. COMPACT TO 90 %. GRAVEL SHALL NOT BE USED, TO AVOID DEVELOPMENT OF A FRENCH DRAIN CONDITION.

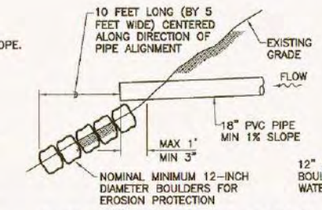
TYPICAL TEMPORARY BYPASS DRAINLINE TRENCH SECTIONS

NOT TO SCALE



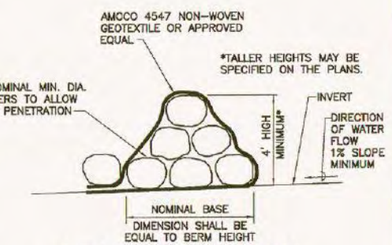
REMOVAL OF TEMPORARY BYPASS DRAINLINE

NOT TO SCALE



TEMPORARY BYPASS LINE OUTLET DETAIL

NOT TO SCALE



TEMPORARY ROCK BERM SECTION

NOT TO SCALE

NOTES:

1. FOR PLANTING PLAN, SEE SHEETS L-2 AND L-3.
2. REFER TO SHEET C-12 FOR PERMANENT CHANNEL EROSION CONTROL WITHIN THE 100-YR FLOOD PLAIN LIMITS AND LOW FLOW CHANNEL SECTION.
3. NEW ROCK CHECK DAM SHALL BE INSTALLED PRIOR TO START OF GRADING WORK, AND SHALL REMAIN IN PLACE UNTIL STABILIZATION HAS OCCURED.
4. REFER TO SHEETS C-9 & C-10 FOR CROSS SECTIONS ALONG GULCH CENTERLINE.
5. BYPASS DRAINLINE TO BE LAYED ON EXISTING GRADE SURFACE, EXCEPT WHERE MINIMUM 1% SLOPE IS TO BE MAINTAINED. BYPASS LINE, UPON COMPLETION OF REVEGETATION GROW-IN, SHALL BE REMOVED.
6. DURING THE CONSTRUCTION PERIOD, ADD A LAYER OF COMPACTED 1 1/2" ROCK OVER THE STEEP PORTION OF THE ACCESS ROAD TO THESE LOWER PONDS (UPPER 200 FEET), PRIOR TO REGRADING/CLOSING OF ACCESS ROAD. MAINTAIN COMPACTED 1 1/2" ROCK LAYER DURING CONSTRUCTION PERIOD.
7. GRADING WORK TO ONLY BE PERFORMED ON DRY (NON-RAINING) DAYS.
8. THE LAND AREA DISTURBED BY THE BYPASS LINE INSTALLATION SHALL BE STABILIZED WITH PERMANENT GRASS VEGETATIVE COVER USING A HYDROMULCH CARRIER, GRASS SEED MIX AND FERTILIZER AS SOON AS POSSIBLE AFTER BYPASS LINE CONSTRUCTION.
9. THE CONTRACTOR SHALL MAINTAIN THE EROSION CONTROL STRUCTURES UNTIL STABILIZATION HAS OCCURRED (EXCEPT WHERE STRUCTURES ARE SCHEDULED FOR REMOVAL). BEFORE FINAL PROJECT ACCEPTANCE, THE CONTRACTOR SHALL REPAIR EROSION CONTROL STRUCTURES THAT ARE TO REMAIN AFTER STABILIZATION TO THEIR ORIGINAL CONDITIONS.
10. ALL WORK TO BE PERFORMED ON DRY (NON-RAINING) DAYS.
11. ELECTROSHOCKING SHALL BE PERFORMED ON PONDS 5 THROUGH 7 UNTIL NO VISIBLE WATER ANIMALS FLOAT TO THE SURFACE.
12. EROSION CONTROL MATTING SHALL BE INSTALLED ON ALL GRADED AREAS. MATTING SHALL BE NORTH AMERICAN GREEN C125 OR APPROVED EQUAL.
13. AFTER DEWATERING EACH POND (5 THROUGH 7), REMOVE MUCK. INITIALLY DEWATER PONDS WITH A SUBMERSIBLE PUMP, PUMPING WATER INTO A WATER TRUCK. WATER IN THE TRUCK CAN BE DISPOSED OF BY GROUND ABSORPTION DISPERSAL OR DISPOSAL INTO AN EXISTING ON-SITE EROSION CONTROL BASIN. MUCK SHALL BE REMOVED VIA A VACUUM TRUCK AND DISPOSED OF AT AN IMPOUNDMENT CONSTRUCTED AT THE STOCKPILE SITE NEAR THE SOUTHEAST BOUNDARY (SEE SHEET C-3).
14. BERM DECONSTRUCTION SHALL BE CAREFULLY DONE TO PREVENT DEBRIS AND SOIL FROM ENTERING STATE WATERS.

CONSTRUCTION SEQUENCE:

1. CONSTRUCT ALL EROSION CONTROL FEATURES, INCLUDING TEMPORARY ROCK CHECK DAMS, TEMPORARY ROCK BERM, DIVERSION SWALES AND GRAVEL PLACEMENT ON ROADWAYS.
2. PLUG WATERFALL SOURCE PIPE.
3. CONSTRUCT TEMPORARY BYPASS DRAINLINE WITH IMPOUNDMENT ABOVE POND 1.
4. DEWATER, ELECTROSHOCK AND MUCK OUT POND 1. SEE NOTE 11.
5. DEWATER, ELECTROSHOCK AND MUCK OUT POND 2. SEE NOTE 11.
6. DEWATER, ELECTROSHOCK AND MUCK OUT POND 3. SEE NOTE 11.
7. REMOVE PIPES AND CONSTRUCT ROCK LINED SPILLWAYS BETWEEN PONDS 2 & 3 AND BETWEEN PONDS 3 & 4.
8. DEWATER, ELECTROSHOCK AND MUCK OUT POND 4. SEE NOTE 11.
9. INSTALL LANDSCAPE PLANTING AND STABILIZATION AROUND PONDS 1 THRU 4 (SEE SHEET L-6).
10. DEWATER AND MUCK OUT PONDS 5 THROUGH 7. CONSTRUCT NEW STREAM BED TO ELIMINATE PONDS 5 THROUGH 7. CONSTRUCTION OF NEW STREAMBED CAN BEGIN AFTER EROSION CONTROL MATTING HAS BEEN INSTALLED ON ALL GRADED AREAS SURRONDING PONDS 1 THROUGH 4.
11. PRIOR TO REMOVAL OF TEMPORARY ROCK CHECK DAM BELOW POND 4, TEMPORARY ROCK BERM AND TEMPORARY BYPASS DRAINLINE, EROSION CONTROL MATTING SHALL BE INSTALLED ON ALL GRADED AREAS.
12. REMOVE TEMPORARY BYPASS DRAINLINE, TEMPORARY ROCK CHECK DAM BELOW POND 4 AND TEMPORARY ROCK BERM.
13. REGRADE/CLOSE ACCESS ROAD TO PONDS 5 THROUGH 7. INSTALL EROSION CONTROL MATTING ON GRADED AREA.
14. LANDSCAPE PLANTING AND STABILIZATION FOR NEW STREAM BED, STREAM BANKS AND REGRADED/CLOSED ACCESS ROAD (SEE SHEETS L-2 & L-3).
15. ALLOW GROW-IN PERIOD.

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PILA'A 400
REMEDIATION PLAN - PACKAGE 2
PLAN AND PROFILE
GULCH 3 CHANNEL
GRADIENT RESTORATION

Designed By: C.K.L. Drawn By: C.K.L., G.Y.
Project No. 2004.33.1900 Date: MARCH, 2004

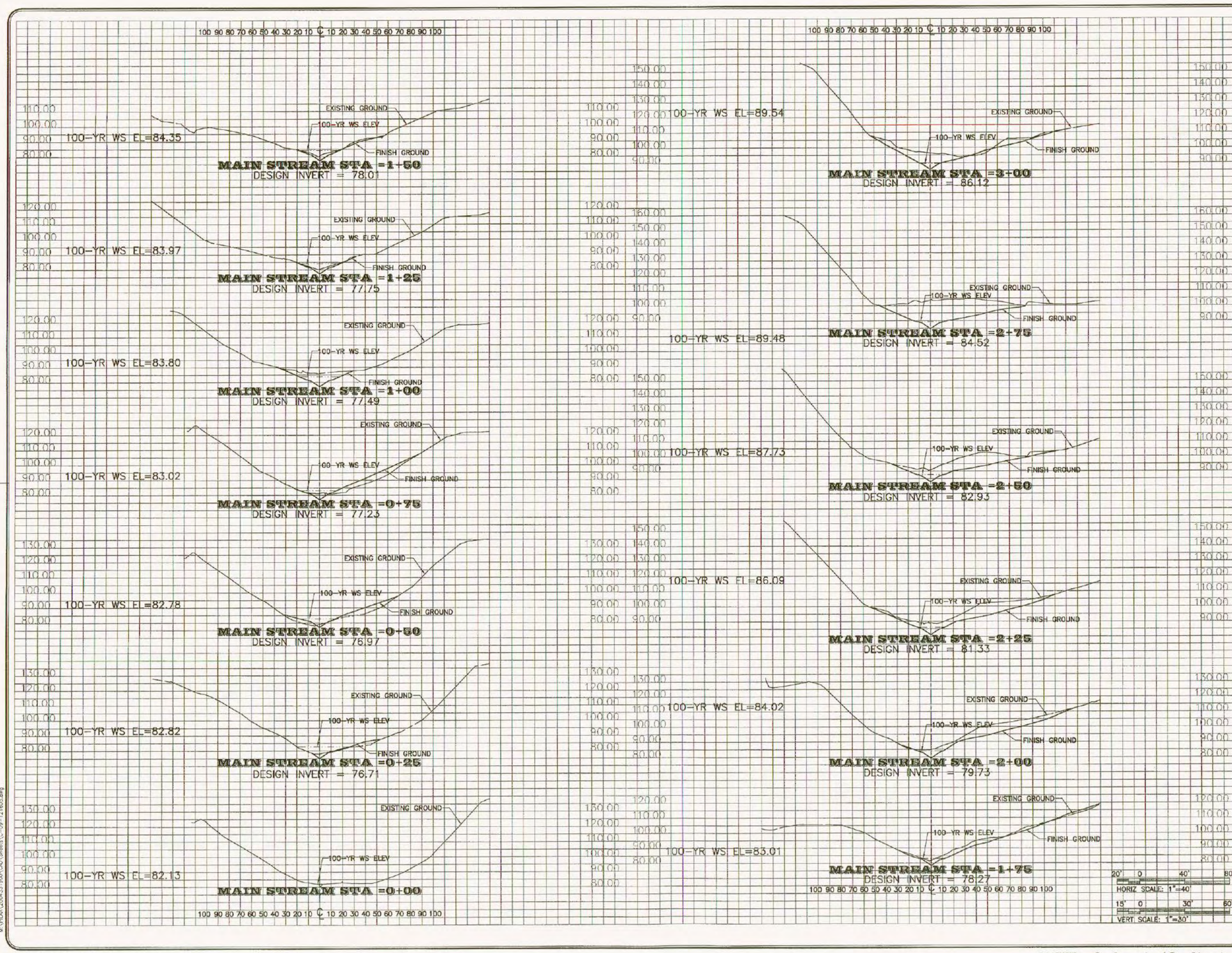
Approved By:

Date
Date
Date

FILE	PROJECT	FOLDER	NO.

Trim: 22"x36"

SHEET C-8 of 18 Sheets



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PILA'A 400
REMEDIATION PLAN - PACKAGE 2

GULCH 3
CROSS SECTIONS – 1

Designed By: C.K.L. Drawn By: C.K.L., G.Y.
Project No. 2004.33.1900 Date: MARCH, 2004

Approved By:

Date

Date

Date

FILE	POCKET	FOLDER	NO.

Trim: 22"x36"

SHEET C-9 of 18 Sheets