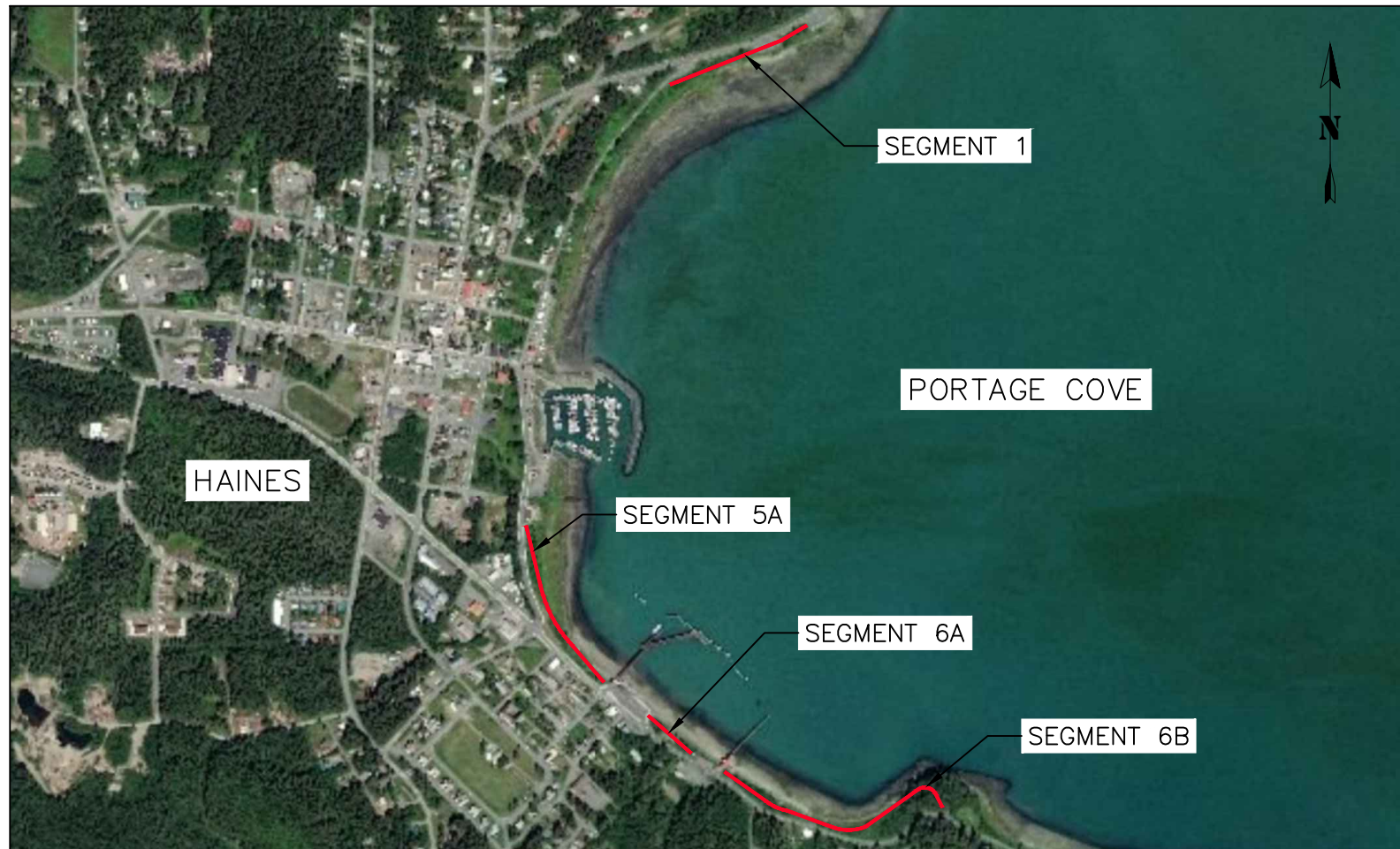


# PORTAGE COVE TRAILS

## HAINES, AK

PREPARED FOR:  
HAINES BOROUGH



PROJECT LOCATION MAP  
NTS

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	LEGEND, ABBREVIATIONS & GENERAL NOTES
3-4	TYPICAL SECTIONS
5-7	DETAILS
8	PLAN OVERVIEW
9	PLAN & PROFILE - SEGMENT 1A
10	PLAN & PROFILE: 1B STA: 5+00 - 10+50
11	PLAN & PROFILE: 1B STA: 10+50 - 12+67
12	PLAN & PROFILE: 5 STA: 15+00 - 17+50
13	PLAN & PROFILE: 5 STA: 25+25 - 26+82
14	PLAN & PROFILE: 6A STA: 30+00 - 3425
15	PLAN & PROFILE: 6B STA: 40+00 - 45+80
16	PLAN & PROFILE: 6B STA: 45+80 - 51+80
17	PLAN & PROFILE: 6B STA: 51+80 - 56+83
18	PLAN & PROFILE: 6B STA: 56+83 - 60+60

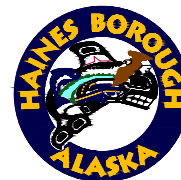


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RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



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PORTAGE COVE TRAILS

HAINES BOROUGH

COVER SHEET

SHEET NUMBER
1
OF
32

## LEGEND

DESCRIPTION	EXISTING	PROPOSED
BUILDING		
CULVERT		
CURB STANDARD		
CURB VALLEY		
DITCH		
EDGE OF ASPHALT		
EDGE OF CONC SIDEWALK		
EDGE OF GRAVEL		
FIRE HYDRANT		
OVERHEAD POWER		
PROPERTY LINE		
SANITARY SEWER CLEANOUT		
SANITARY SEWER PIPE		
SANITARY SEWER MANHOLE		
SAWCUT & MTE LIMITS		
TOE OF FILL		
UTILITY POLE		
WATER LINE PIPE		

## ABBREVIATIONS

ACP	ASBESTOS CEMENT PIPE
BTM	BOTTOM
CB	CATCH BASIN
C/L	CENTERLINE
CONC	CONCRETE
CTE	CONNECT TO EXISTING
DIA	DIAMETER
EL	ELEVATION
FG	FINISHED GRADE
FH	FIRE HYDRANT
INV	INVERT
LT	LEFT
MH	MANHOLE
MIN	MINIMUM
MTE	MATCH TO EXISTING
NTS	NOT TO SCALE
RT	RIGHT
ROW	RIGHT-OF-WAY
STA	STATION
STD	STANDARD
TYP	TYPICAL

## GENERAL NOTES

- ALL WORK FOR THESE PLANS SHALL BE CONDUCTED IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL LAWS AND STANDARDS.
- CALL HAINES BOROUGH UTILITIES BEFORE YOU DIG FOR UNDERGROUND UTILITY LOCATES. SCOTT BRADFORD (HAINES BOROUGH WATER/SEWER PLANT SUPERVISOR): 907-766-2200, BRAD RYAN (HAINES BOROUGH DIRECTOR OF PUBLIC FACILITIES): 907-766-6414, DAN HANSON (AP&T): 907-766-6500. LOCATIONS AND ELEVATION OF EXISTING UNDERGROUND WATER, SEWER, POWER, TELEPHONE AND CABLE TELEVISION SHOWN ON THE PLANS WERE DERIVED FROM HAINES BOROUGH AS-BUILTS AND FIELD LOCATES. THE ACTUAL LOCATION OF UTILITIES MAY VARY FROM THOSE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, PROTECTING AND MAINTAINING THE UTILITIES THROUGHOUT THE CONSTRUCTION OF THE PROJECT. ANY DAMAGE TO THE UNDERGROUND UTILITIES DURING CONSTRUCTION SHALL BE PAID FOR BY THE CONTRACTOR AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- A GEOTECHNICAL INVESTIGATION WAS NOT PERFORMED AS PART OF THIS DESIGN. GROUNDWATER, LARGE BOULDERS, BEDROCK, STUMPS, LOGS, ORGANICS, AND OTHER NATIVE MATERIALS MAY BE ENCOUNTERED AT VARIOUS DEPTHS DURING TRENCHING AND SITE GRADING OPERATIONS.
- SURFACE DATA AND EXISTING FEATURES SHOWN ARE BASED OFF LIDAR DATA AND AERIAL PHOTOS.
- ADJUST ALIGNMENT AND PROFILE AS NECESSARY TO AVOID LARGE BOULDERS AND OR TREES.

## TRAFFIC CONTROL NOTES

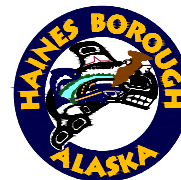
- ALL TRAFFIC TO BE CONTROLLED PER REQUIREMENTS OF THE ALASKA TRAFFIC MANUAL, U.S. DEPARTMENT OF TRANSPORTATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE ALASKA SUPPLEMENT.
- DETOURS SHALL BE APPROVED BY THE ENGINEER.
- ROAD CLOSURES SHALL BE APPROVED BY THE ENGINEER.
- THE CONTRACTOR WILL NOT BE PERMITTED TO OBSTRUCT VEHICULAR TRAFFIC BETWEEN THE HOURS OF 4:30 PM AND 8:00 AM SEVEN DAYS A WEEK. DURING THIS PERIOD ONE LANE SHALL BE OPEN TO VEHICULAR TRAFFIC AND HAVE A MINIMUM WIDTH OF 9 FEET.
- PROVIDE ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES.
- A MINIMUM OF ONE LANE (9 FOOT MINIMUM WIDTH) SHALL BE KEPT OPEN TO VEHICULAR TRAFFIC AT ALL TIMES, EXCEPT A FIVE MINUTE MAXIMUM STOPPAGE TO VEHICULAR TRAFFIC WILL BE PERMITTED WITH NO MORE THAN ONE TRAFFIC STOPPAGE PER HOUR. THIS REQUIREMENT DOES NOT APPLY FOR THE DAY OF PAVING.
- PEDESTRIAN TRAFFIC SHALL BE AVAILABLE ALONG AT LEAST ONE SIDE OF THE STREET AT ALL TIMES. THE PEDESTRIAN PATHWAY SHALL BE CLEARLY MARKED.

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RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



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PORTAGE COVE TRAILS

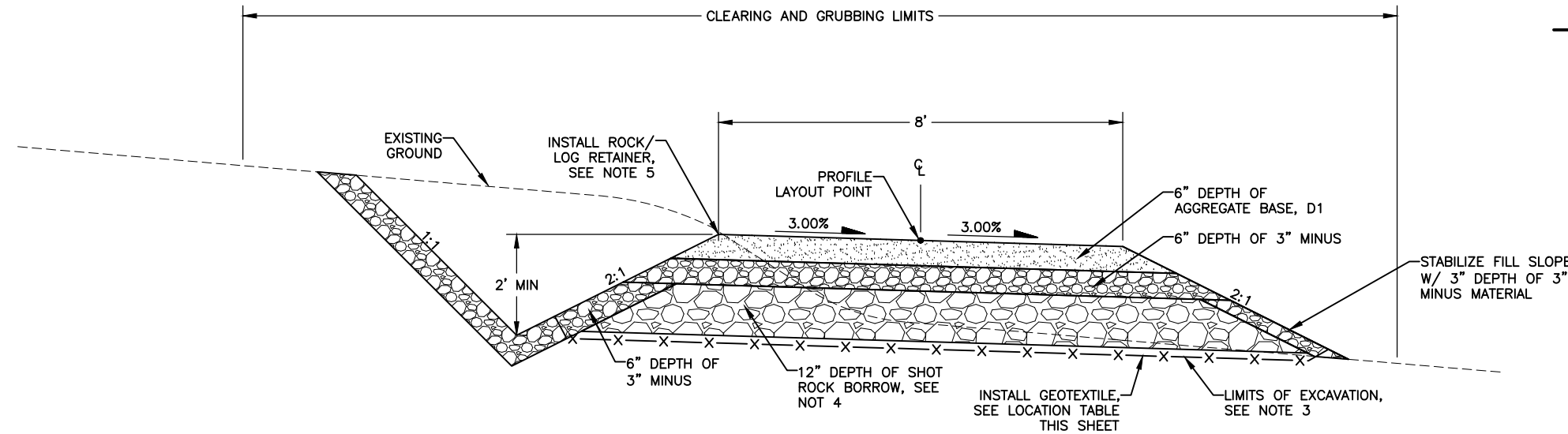
HAINES BOROUGH

LEGEND,  
ABBREVIATIONS &  
NOTES

SHEET NUMBER
2
OF
32

# PATH TYPICAL SECTION NOTES

1. SEE PLAN AND PROFILE SHEETS FOR TRAIL LAYOUT INFORMATION.
2. SLOPE LIMITS WILL VARY IN DISTANCE FROM TRAIL CENTER LINE.
3. SEE CLEARING AND GRUBBING LIMITS DETAIL 2 SHEET 5. PRIOR TO PLACING GEOTEXTILE OR SHOT ROCK BORROW REMOVE EXISTING VEGETATION MATERIAL.
4. OMIT 12" DEPTH OF SHOT ROCK BORROW SEGMENT 1 (PICTURE POINT) STA: 3+50 TO 6+50.
5. INSTALL ROCK & LOG RETAINER PER DETAILS 3 & 4 SHEET 5 AT LOCATIONS OUTLINED IN THE LOCATION TABLE THIS SHEET.

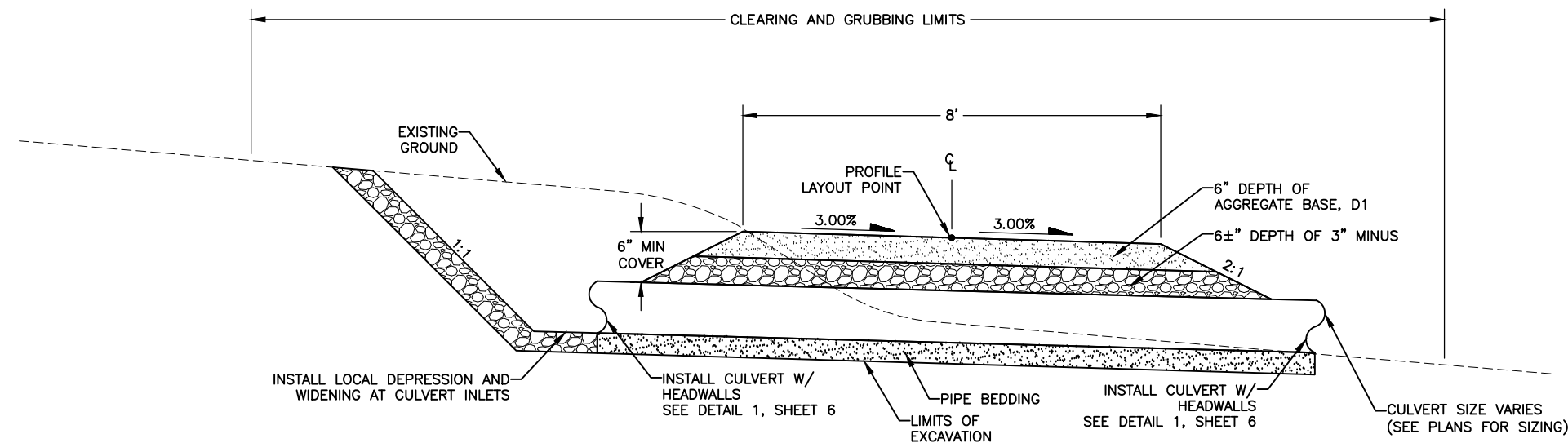


TYPICAL WHEN IN CUT

TYPICAL WHEN IN FILL

GRAVEL PATH TYPICAL SECTION  
NTS

GEOTEXTILE INSTALLATION LOCATION	
START STATION	END STATION
<b>SEGMENT 1 (PICTURE POINT)</b>	
1+85	2+15
10+00	10+50
<b>SEGMENT 5 (HARBOR)</b>	
17+50	19+00
<b>SEGMENT 6B (PICTURE POINT CAMPGROUND)</b>	
50+50	55+00



GRAVEL PATH AT CULVERT CROSSING TYPICAL SECTION  
NTS

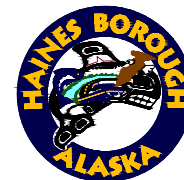
ROCK/ LOG RETAINER INSTALLATION LOCATION	
START STATION	END STATION
<b>SEGMENT 1 (PICTURE POINT)</b>	
1+00	3+20
6+25	13+73
<b>SEGMENT 5 (HARBOR)</b>	
15+00	25+80
LANDING PERIMETER STATION 25+90	
<b>SEGMENT 6B (PICTURE POINT CAMPGROUND)</b>	
LANDING PERIMETER STATION 49+50	
49+60	51+50
56+10	60+20

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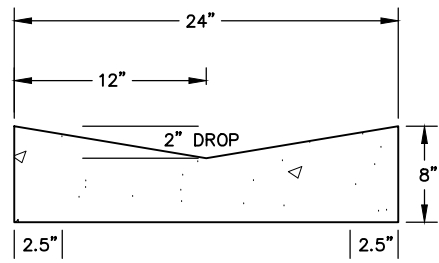
HAINES BOROUGH

PATH TYPICAL SECTIONS

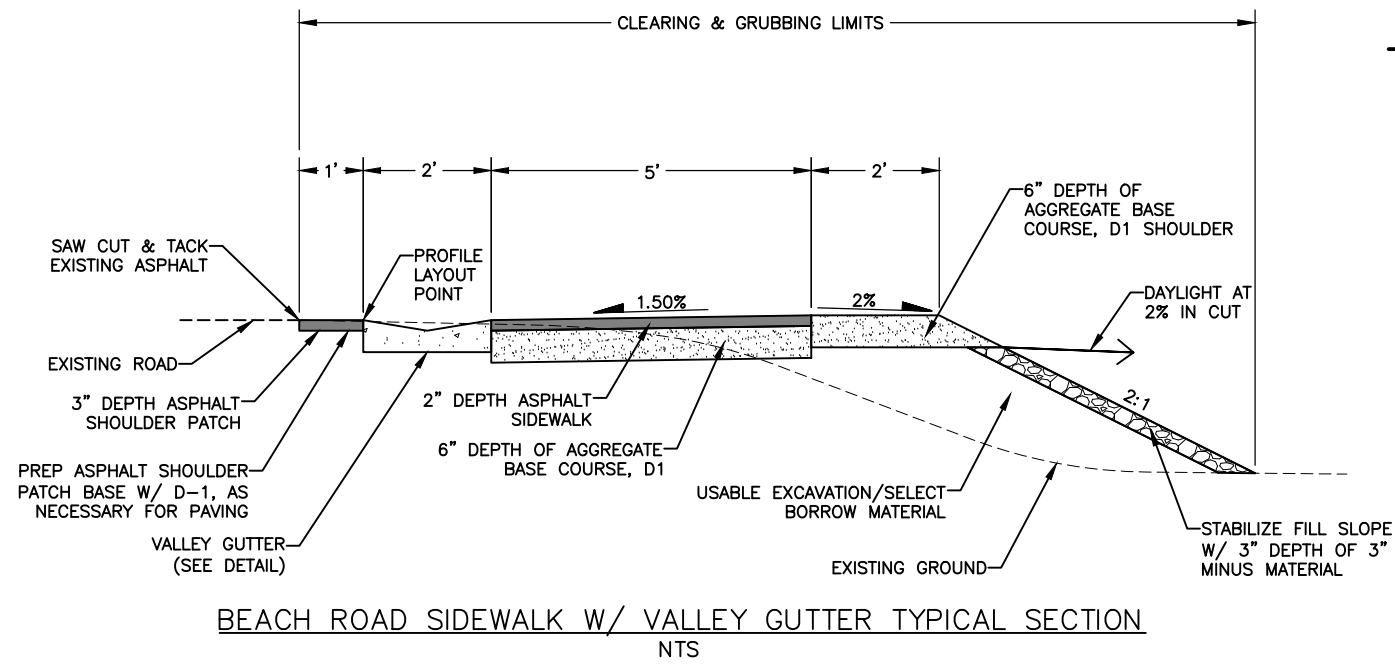
SHEET NUMBER
3
OF
32

# SIDEWALK TYPICAL SECTION NOTES

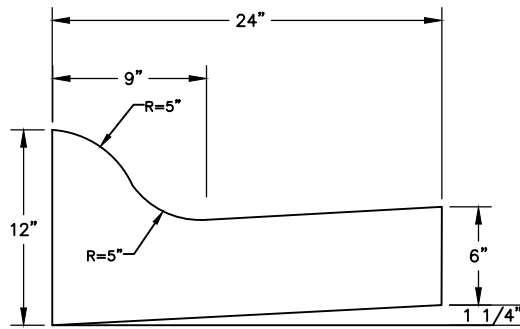
1. DRIVEWAYS DISTURBED DURING CONSTRUCTION SHALL BE RECONSTRUCTED TO EQUAL OR BETTER CONDITION WITH SUBGRADE REPLACED IN LAYERS TO MATCH THOSE REMOVED, EXCEPT:
  - 1.A. EXISTING GRAVEL DRIVEWAYS DISTURBED DURING CONSTRUCTION SHALL BE SUBCUT TO 4" BELOW FINISHED GRADE AND REPLACED WITH 4" OF BASE COURSE GRADING, D-1.
  - 1.B. ORGANICS, ROOTS, WOOD OR OTHER DELETERIOUS MATERIALS ENCOUNTERED IN THE DRIVEWAYS DURING EXCAVATION OPERATIONS SHALL BE REMOVED AS DIRECTED BY THE ENGINEER AND DISPOSED OF AT AN APPROVED OFFSITE DISPOSAL SITE. BACKFILL VOIDS BELOW THE REQUIRED SUBCUT LAYER WITH USABLE EXCAVATION.
2. THE LIMITS OF USABLE MATERIAL, BASE COURSE GRADING D-1 AND TOPSOIL BEHIND THE PROPOSED SIDEWALK VARY IN DISTANCE. PLACE AND GRADE THESE MATERIALS TO PROVIDE A SMOOTH, WELL-DRAINED TRANSITION TO EXISTING GRADES, AS DIRECTED BY THE ENGINEER.
3. PLACE AND GRADE BASE COURSE GRADING, D-1 USED TO MATCH TO EXISTING GROUND TO PROVIDE A SMOOTH, WELL DRAINED TRANSITION TO EXISTING GRADES, AS DIRECTED BY THE ENGINEER.



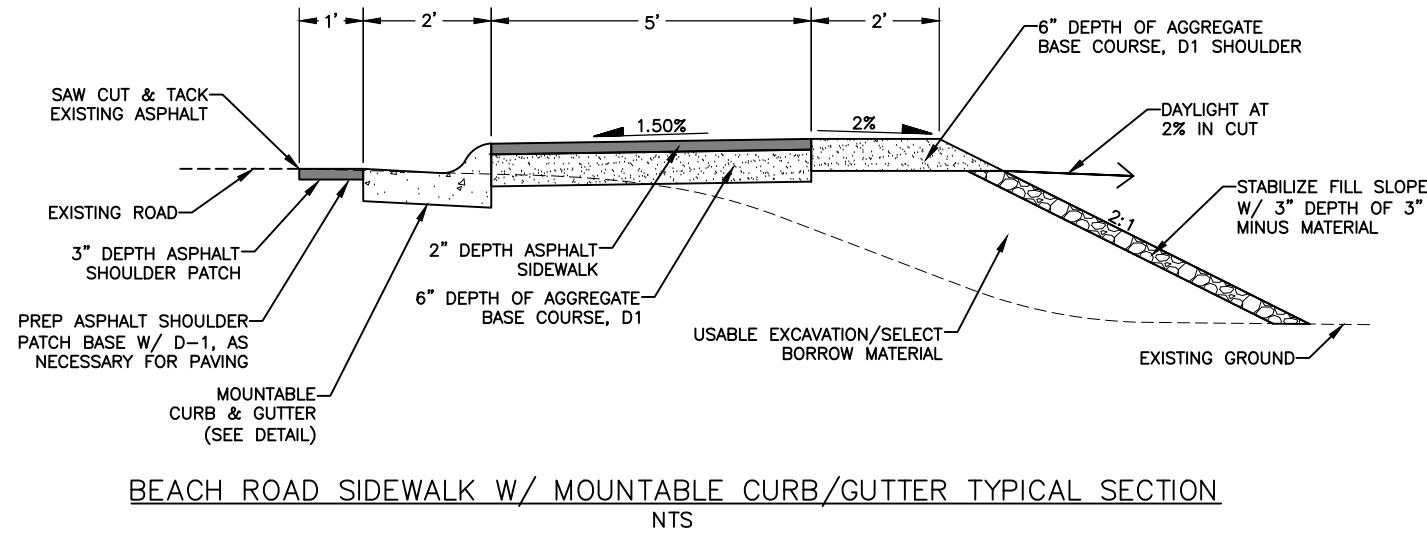
1 VALLEY GUTTER DETAIL  
SCALE: NOT TO SCALE



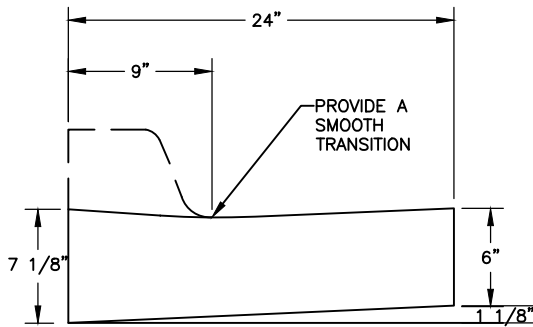
BEACH ROAD SIDEWALK W/ VALLEY GUTTER TYPICAL SECTION  
NTS



2 MOUNTABLE CURB & GUTTER DETAIL  
SCALE: NOT TO SCALE



BEACH ROAD SIDEWALK W/ MOUNTABLE CURB/GUTTER TYPICAL SECTION  
NTS



3 ADA CURB & GUTTER DETAIL  
SCALE: NOT TO SCALE

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	No.	DATE	DESCRIPTION	BY

**proHNS LLC**

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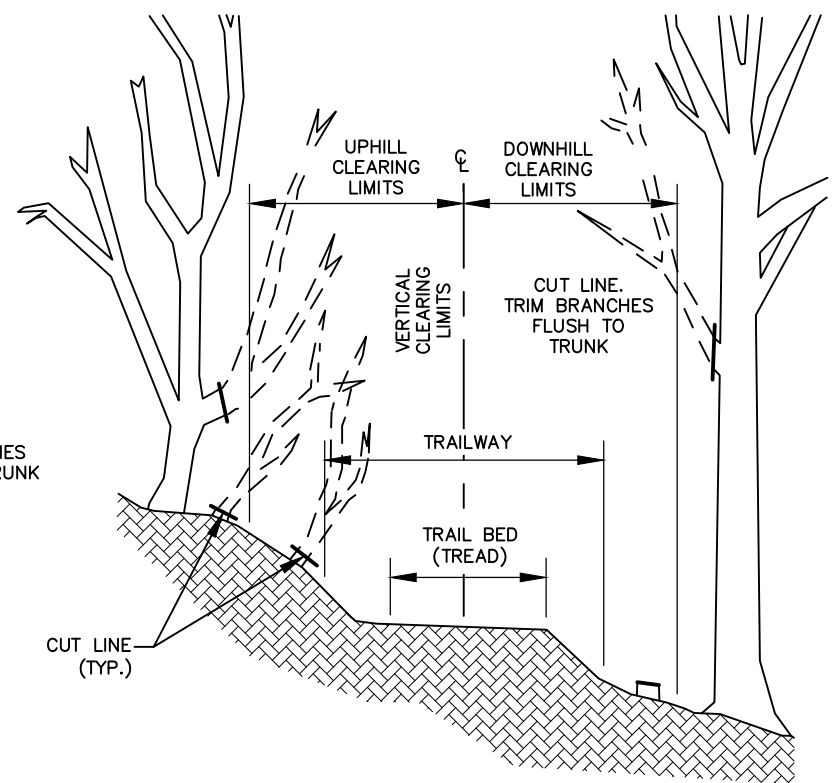
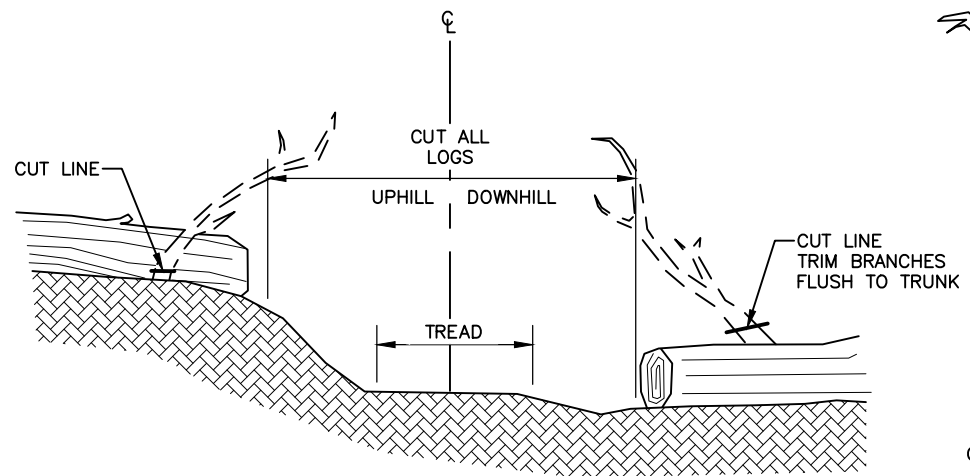
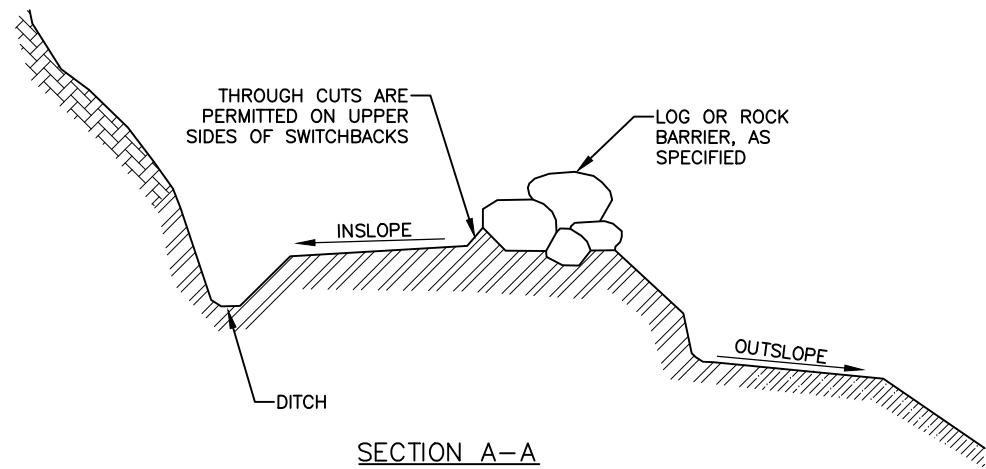
**PORTAGE COVE TRAILS**

HAINES BOROUGH

**SIDEWALK TYPICAL SECTIONS**

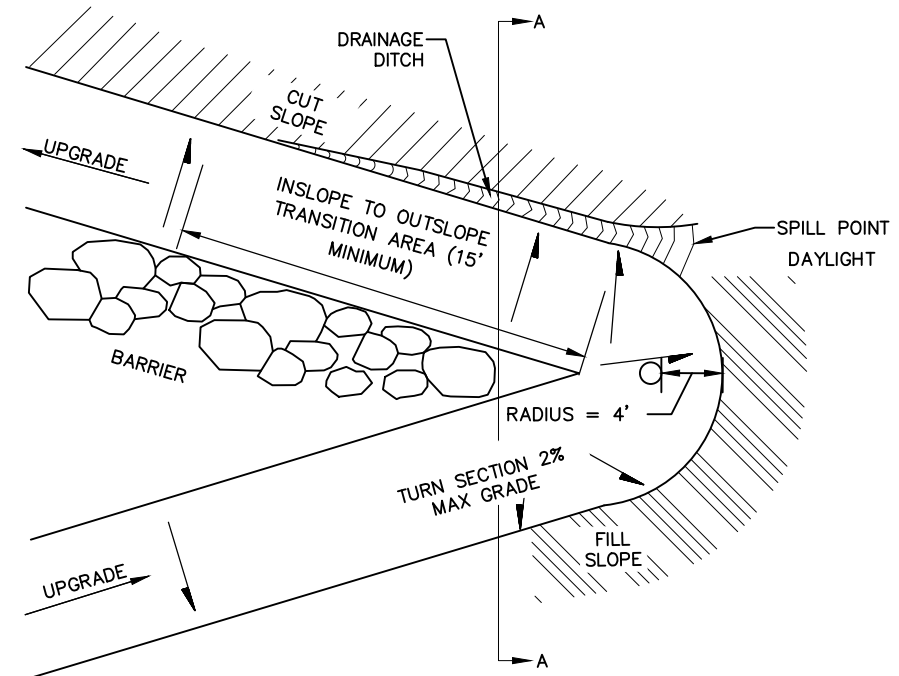
SHEET NUMBER
4
OF
32



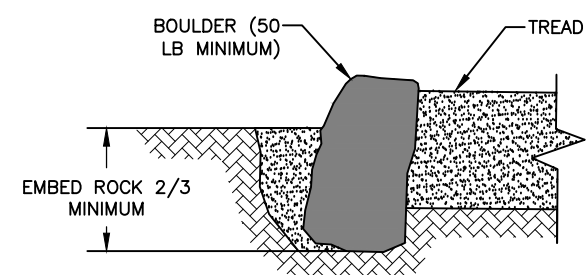


2 CLEARING LIMITS DETAIL  
SCALE: NOT TO SCALE

4 TYPICAL LOG RETAINER DETAIL  
SCALE: NOT TO SCALE



1 SWITCH BACK DETAIL  
SCALE: NOT TO SCALE



3 TYPICAL ROCK RETAINER DETAIL  
SCALE: NOT TO SCALE

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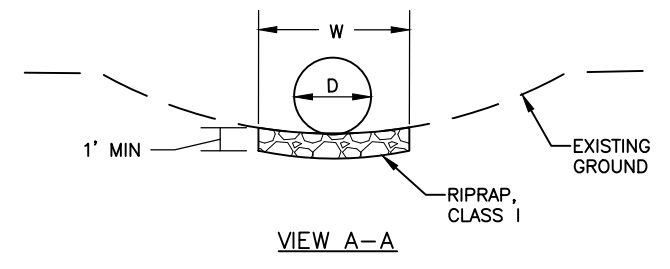
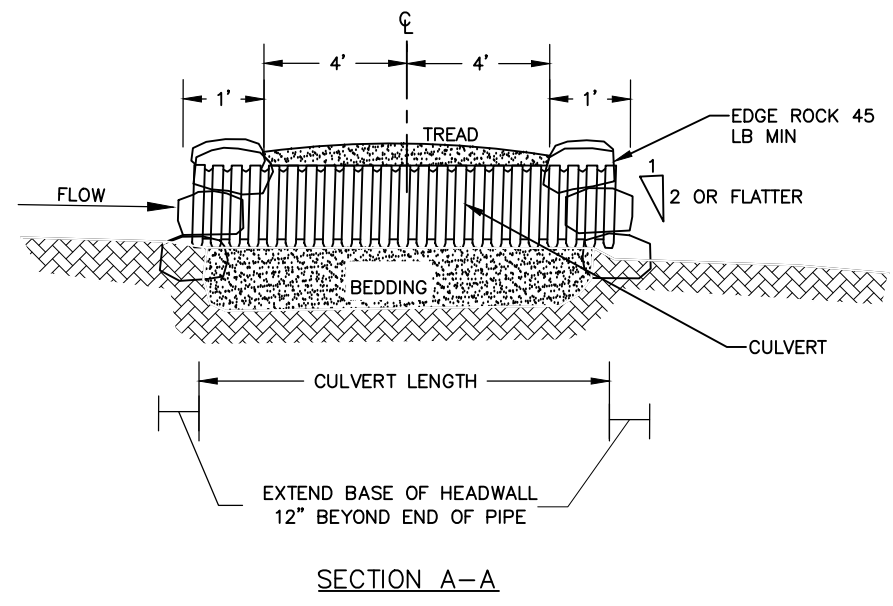
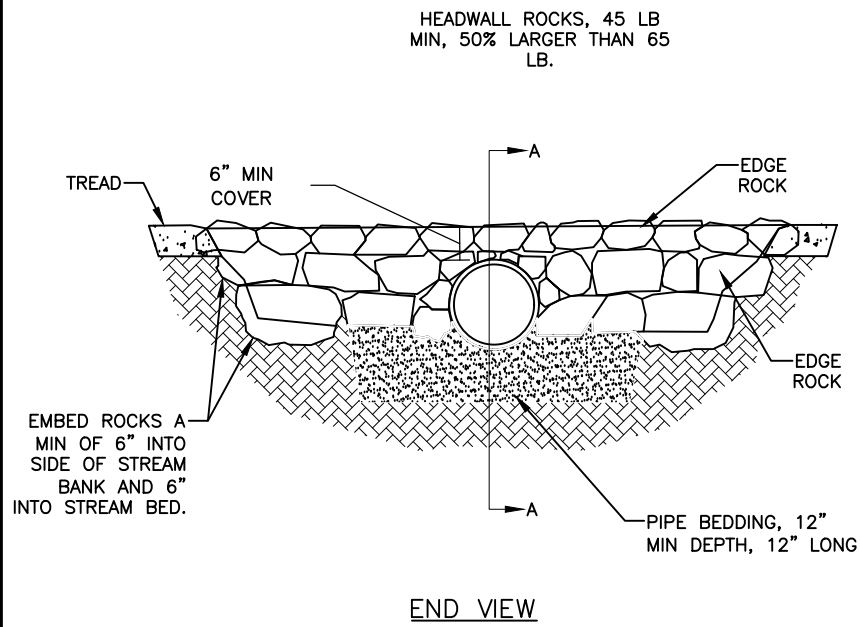


PORTAGE COVE TRAILS

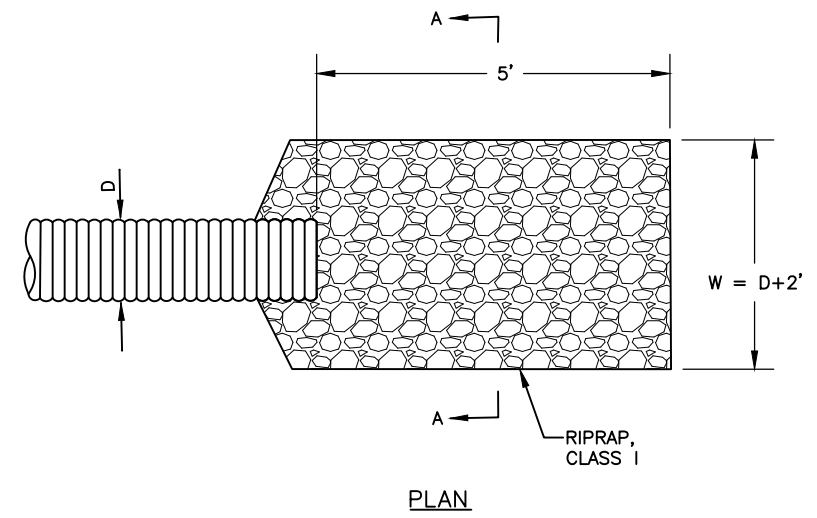
HAINES BOROUGH

DETAILS

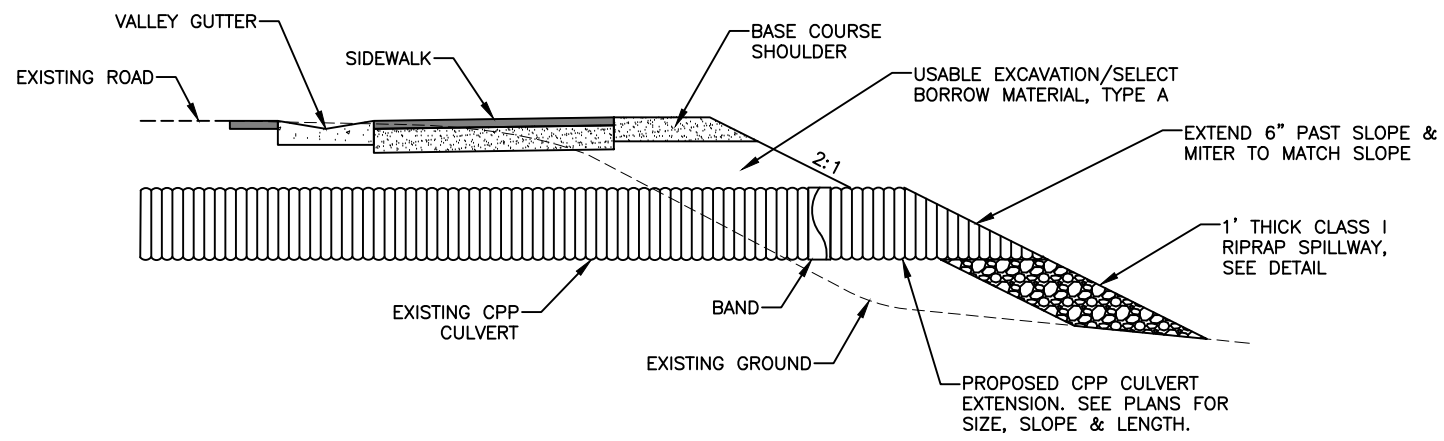
SHEET NUMBER
5
OF
32



1  
6 CULVERT W/ HEADWALLS DETAIL  
SCALE: NOT TO SCALE



3  
6 RIPRAP LINED OUTLET APRON DETAIL  
SCALE: NOT TO SCALE

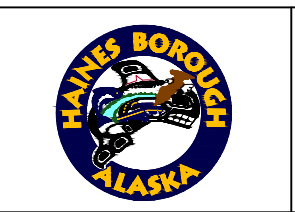


2  
6 EXISTING CULVERT EXTENSION DETAIL  
SCALE: NOT TO SCALE

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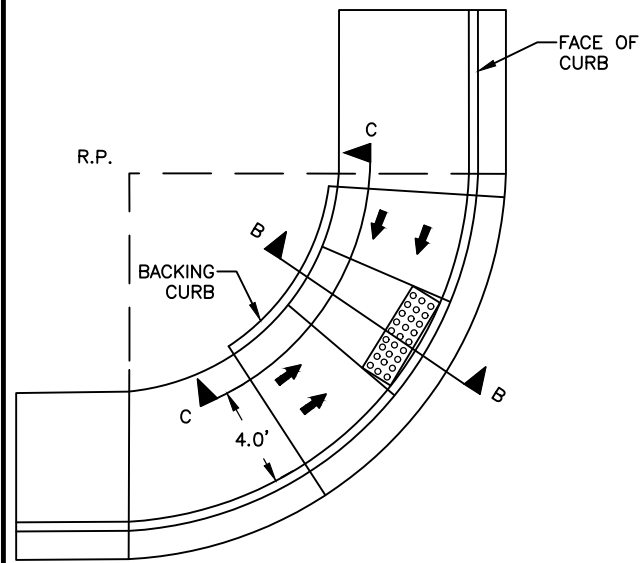
PORTAGE COVE TRAILS  
 HAINES BOROUGH

DETAILS

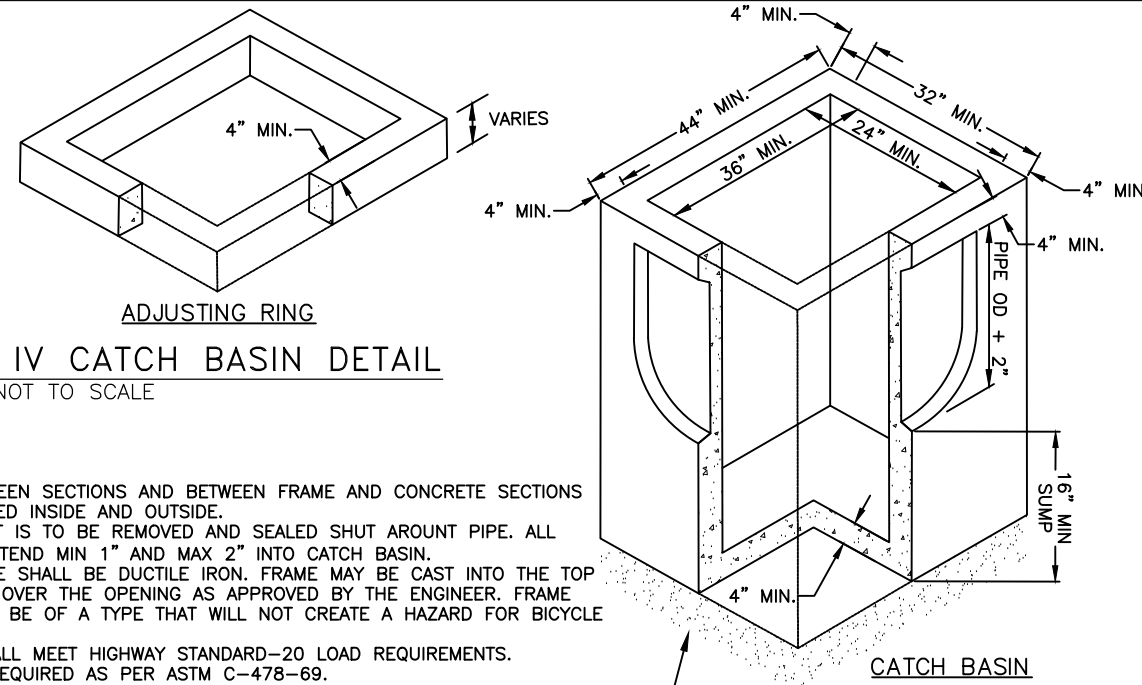
SHEET NUMBER
6
OF
32

# Fire Hydrant Relocation Detail

## Bridge Details



ONE CROSSING DIRECTION  
AT CORNER - GENERIC LOCATION SHOWN

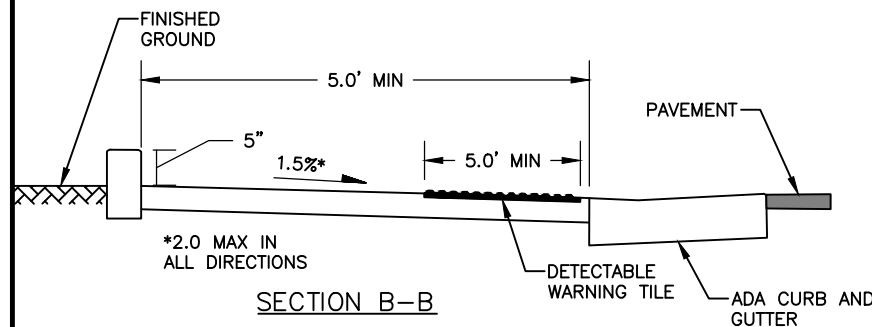


3  
7 TYPE IV CATCH BASIN DETAIL  
SCALE: NOT TO SCALE

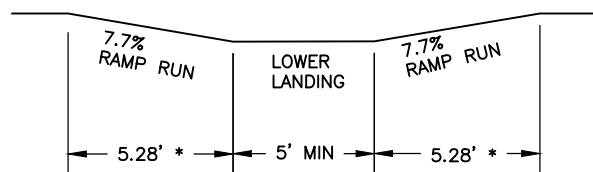
NOTES:

1. ALL JOINTS BETWEEN SECTIONS AND BETWEEN FRAME AND CONCRETE SECTIONS SHALL BE GROUTED INSIDE AND OUTSIDE.
2. ENTIRE KNOCKOUT IS TO BE REMOVED AND SEALED SHUT AROUND PIPE. ALL PIPES ARE TO EXTEND MIN 1" AND MAX 2" INTO CATCH BASIN.
3. FRAME AND GRATE SHALL BE DUCTILE IRON. FRAME MAY BE CAST INTO THE TOP UNIT OR PLACED OVER THE OPENING AS APPROVED BY THE ENGINEER. FRAME AND GRATE MUST BE OF A TYPE THAT WILL NOT CREATE A HAZARD FOR BICYCLE TRAFFIC.
4. CATCH BASIN SHALL MEET HIGHWAY STANDARD-20 LOAD REQUIREMENTS.
5. MINIMUM STEEL REQUIRED AS PER ASTM C-478-69.
6. MINIMUM SUMP DEPTH SHALL BE 16".
7. ADJUSTING RING SHALL BE THE SAME SIZE AS THE CATCH BASIN. THE AREA BETWEEN THE TOP OF THE CATCH BASIN AND THE FRAME SHALL BE FORMED AND FILLED WITH CONCRETE. NO BRICKS, WOOD OR OTHER MATERIALS ARE PERMITTED AND ANY FORM WORK SHALL BE REMOVED.

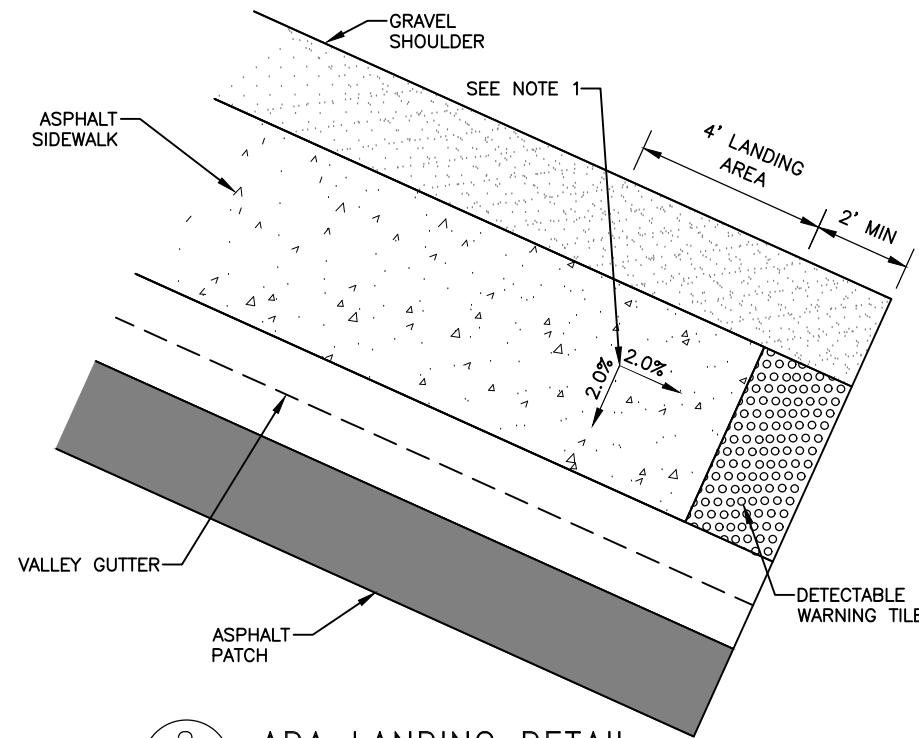
BED WITH A MINIMUM OF 12" NFS SAND OR D-1. OTHER MATERIALS MAY BE USED IF COMPACTED TO 95% OF MAXIMUM PER ASTM C-478-69.



SECTION B-B



SECTION C-C



2  
7 ADA LANDING DETAIL  
SCALE: NOT TO SCALE

NOTES:

1. LANDING AREA - 4'x4' MIN DIMENSIONS AND MAX 2% SLOPE IN ALL DIRECTIONS.

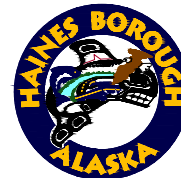
1  
7 SIDEWALK TO GRAVEL PATH TRANSITION  
SCALE: NOT TO SCALE

95% DRAFT

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proHNS LLC  
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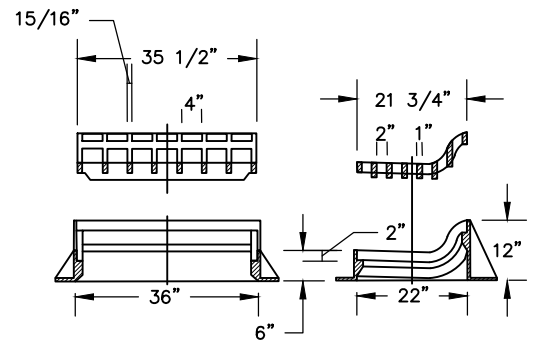


PORTAGE COVE TRAILS

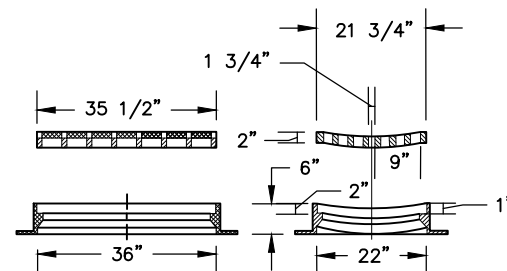
HAINES BOROUGH

DETAILS

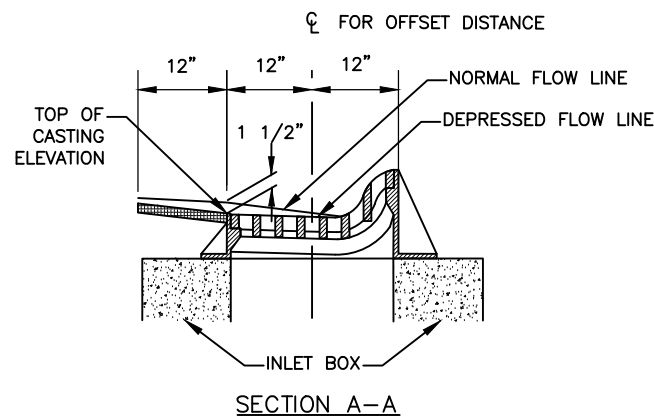
SHEET NUMBER
7
OF
32



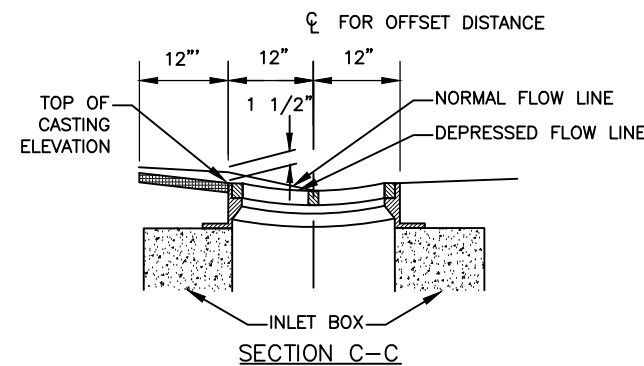
MOUNTABLE INLET FRAME AND GRATE



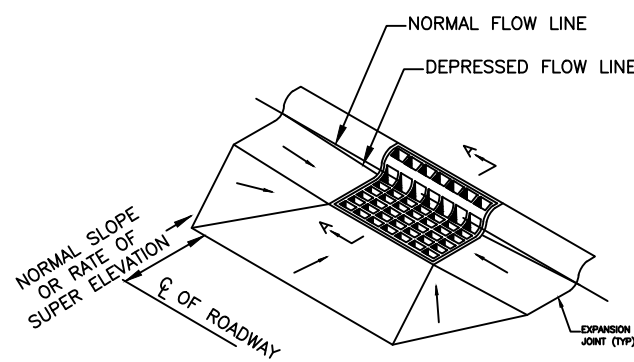
GUTTER INLET FRAME AND GRATE



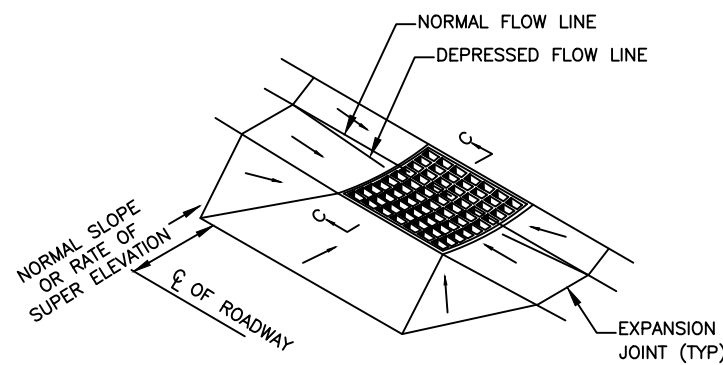
SECTION A-A



SECTION C-C



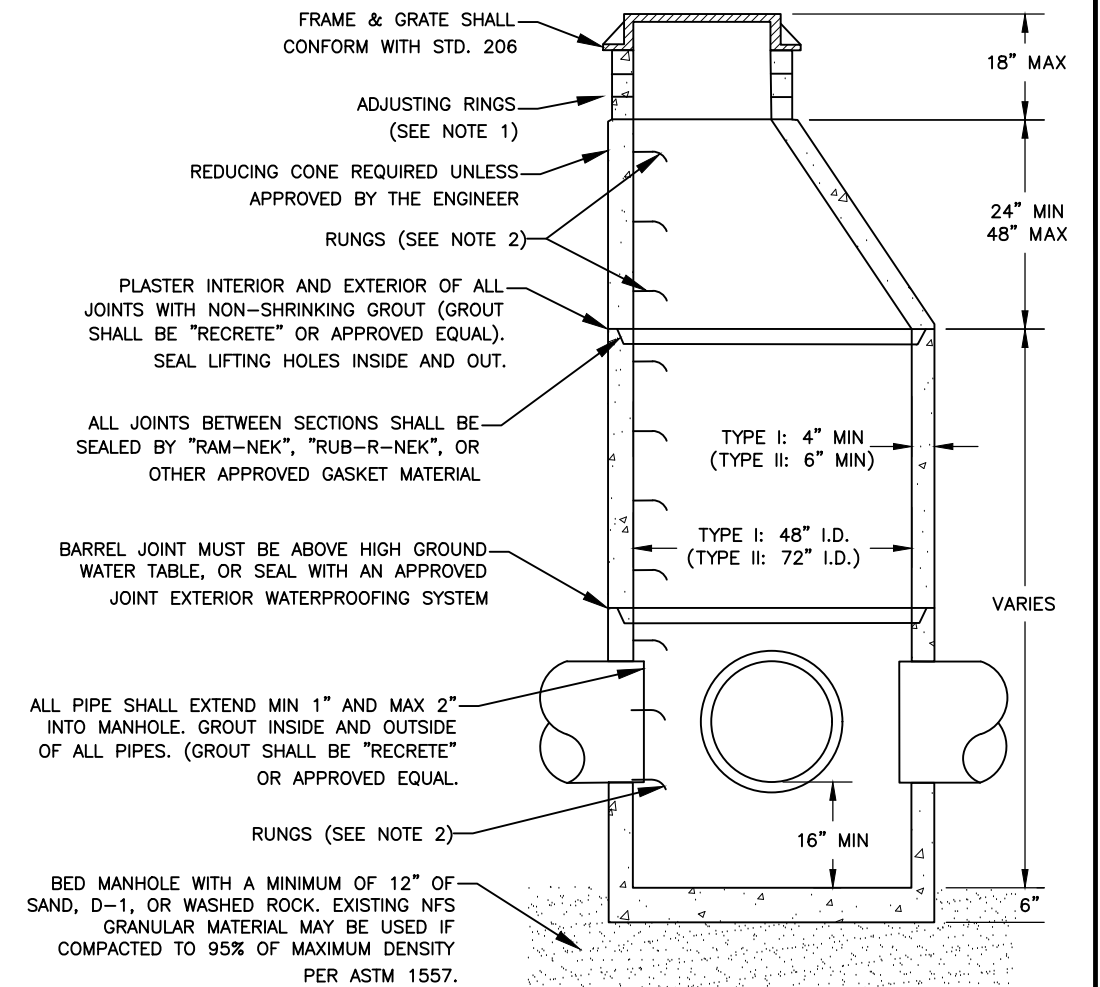
MOUNTABLE INLET INSTALLATION



GUTTER INLET INSTALLATION

1 MOUNTABLE CURB DETAIL  
8 SCALE: NOT TO SCALE

2 GUTTER INLET DETAIL  
8 SCALE: NOT TO SCALE



3 STORM DRAIN MANHOLE - TYPES I & II  
6 SCALE: NOT TO SCALE

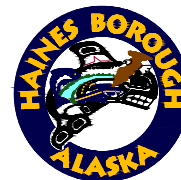
NOTES:

1. THE AREA BETWEEN THE TOP OF THE CATCH BASIN AND THE FRAME SHALL BE FILLED WITH CONCRETE MEETING THE REQUIREMENTS OF CBJ SPECIFICATION 03302-CONCRETE STRUCTURES. NO BRICKS, WOOD, STONES, ADJUSTING RINGS, OR OTHER GRADE ADJUSTMENT DEVICES SHALL BE USED. TEMPORARY FORM WORK SHALL BE CONSTRUCTED TO PROVIDE A SMOOTH INSIDE EXPOSED SURFACE FREE OF VOIDS AND PROJECTIONS. THE CONSTRUCTED FRAME SUPPORT MUST MATCH THE INTERIOR OF THE FRAME INSTALLED AS APPROVED BY THE ENGINEER.
2. RUNGS TO BE PLACED 12" O.C. ON UNOBSTRUCTED SIDE OF MANHOLE. LAST RUNG SHALL BE 18" MAX FROM BOTTOM OF MANHOLE, AND TOP RUNG SHALL BE 6" MAXIMUM FROM TOP OF CONE. IF UNOBSTRUCTED SIDE NOT AVAILABLE, LAST RUNG SHALL BE PLACED 6" OVER SMALLEST PIPE. REFER TO A.S.T.M. C-478 FOR DESIGN REQUIREMENTS AND C-478-69 FOR MINIMUM STEEL FOR BARREL. BARREL SHALL BE IMBEDDED IN BASE SO THAT FIRST BARREL SECTION IS CONNECTED WITH BASE.
3. FOR TYPE I MANHOLE, PRIMARY LEADS SHALL NOT EXCEED 30" C.M.P. OR 27" R.C.P. WITH INCLUDED ANGLE BETWEEN LEADS NO LESS THAN 135°. OR PRIMARY LEAD NOT TO EXCEED 24" C.M.P. OR 21" R.C.P. WITH INCLUDED ANGLE LESS THAN 135°.
4. FOR TYPE II MANHOLE, PRIMARY LEADS SHALL NOT EXCEED TWO 42" C.M.P. OR 36" R.C.P. WITH INCLUDED ANGLE BETWEEN LEADS NE LESS THAN 135° OR PRIMARY LEADS NOT TO EXCEED TWO 36" C.M.P. OR R.C.P. WITH INCLUDED ANGLE BETWEEN LEADS LESS THAN 135°.

95% DRAFT

RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

**proHNS LLC**  
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 219 MAIN ST #13 HAINES, AK 99827  
 1945 ALEX HOLDEN WAY #101 JUNEAU, AK 99801  
 solutions@proHNS.com www.proHNS.com



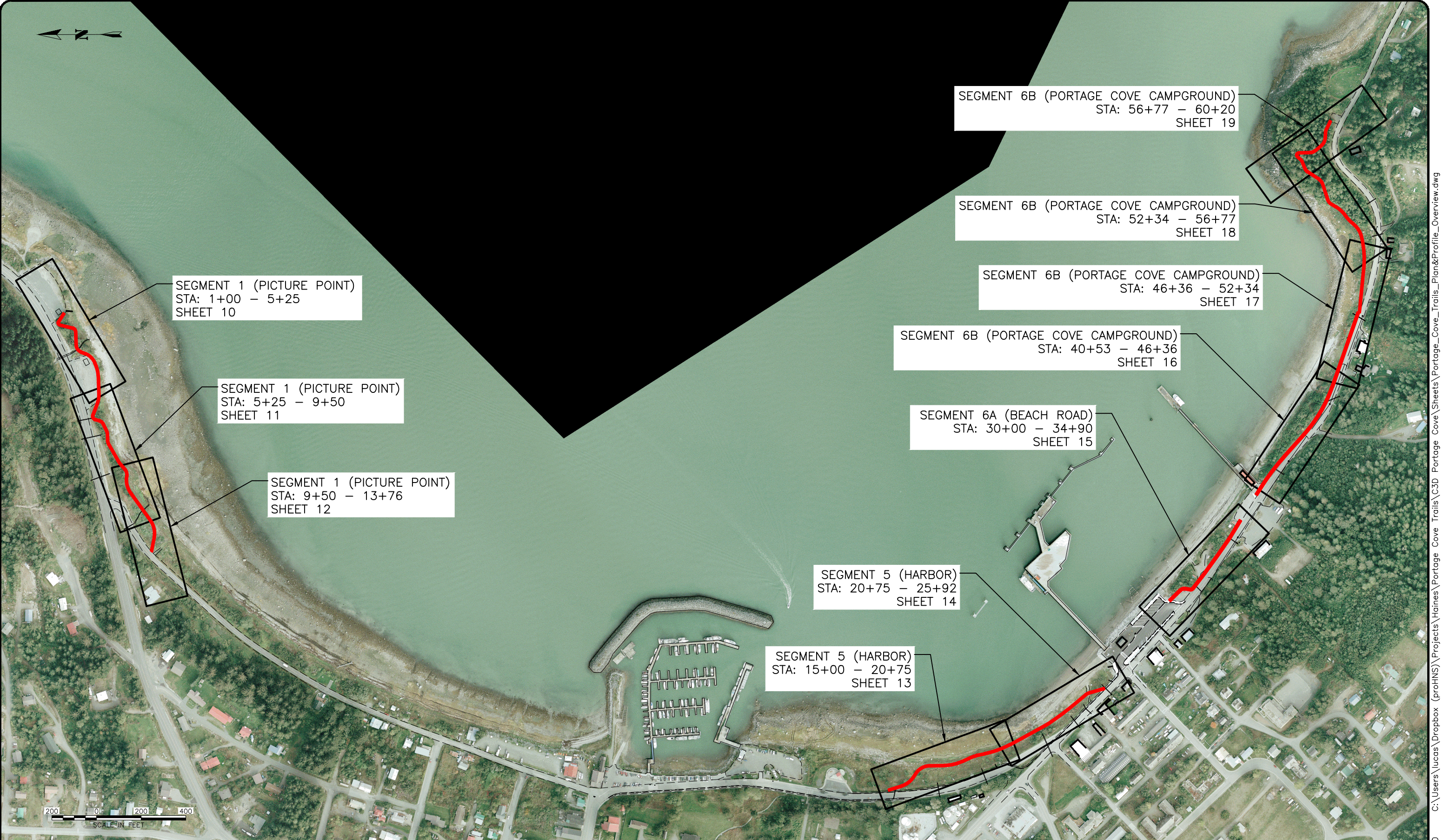
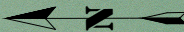
PORTAGE COVE TRAILS

HAINES BOROUGH

DETAILS

SHEET NUMBER	8
OF	32





SEGMENT 1 (PICTURE POINT)  
STA: 1+00 - 5+25  
SHEET 10

SEGMENT 1 (PICTURE POINT)  
STA: 5+25 - 9+50  
SHEET 11

SEGMENT 1 (PICTURE POINT)  
STA: 9+50 - 13+76  
SHEET 12

SEGMENT 6B (PORTAGE COVE CAMPGROUND)  
STA: 56+77 - 60+20  
SHEET 19

SEGMENT 6B (PORTAGE COVE CAMPGROUND)  
STA: 52+34 - 56+77  
SHEET 18

SEGMENT 6B (PORTAGE COVE CAMPGROUND)  
STA: 46+36 - 52+34  
SHEET 17

SEGMENT 6B (PORTAGE COVE CAMPGROUND)  
STA: 40+53 - 46+36  
SHEET 16

SEGMENT 6A (BEACH ROAD)  
STA: 30+00 - 34+90  
SHEET 15

SEGMENT 5 (HARBOR)  
STA: 20+75 - 25+92  
SHEET 14

SEGMENT 5 (HARBOR)  
STA: 15+00 - 20+75  
SHEET 13

200 0 200 400  
SCALE IN FEET

<b>95% DRAFT</b>	RECORD OF REVISIONS			
	No.	DATE	DESCRIPTION	BY



DRAWN BY: C. BYDLON  
 DESIGNED BY: L. CHAMBERS  
 CHECKED BY: L. CHAMBERS  
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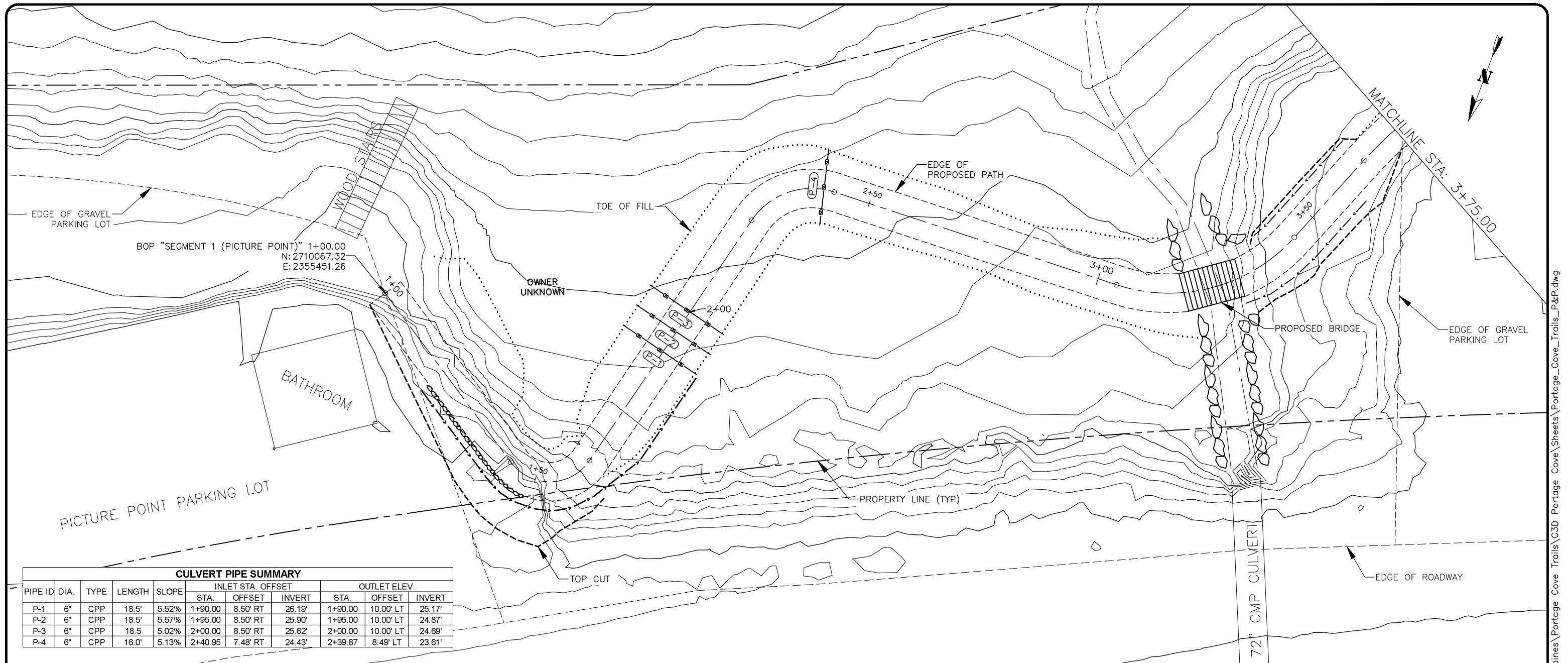
PORTAGE COVE TRAILS

HAINES BOROUGH

# PLAN & PROFILE SHEETS OVERVIEW

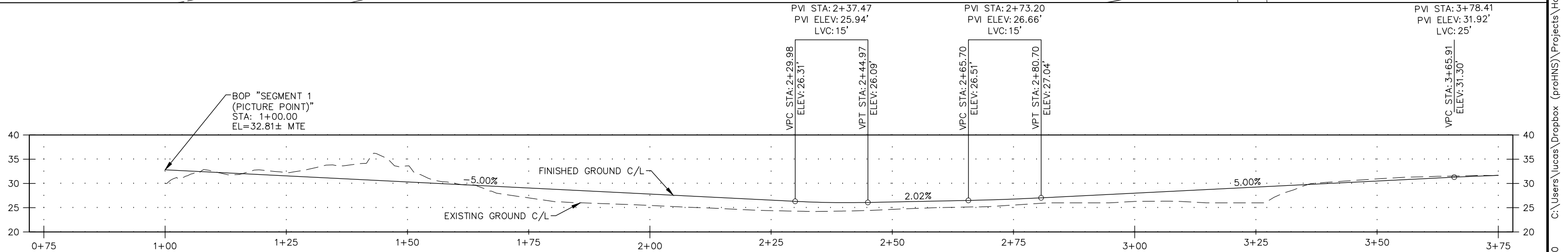
SHEET NUMBER	
9	
OF	
32	






**CULVERT PIPE SUMMARY**

PIPE ID	DIA.	TYPE	LENGTH	SLOPE	INLET STA. OFFSET			OUTLET ELEV.		
					STA.	OFFSET	INVERT	STA.	OFFSET	INVERT
P-1	6"	CPP	18.5'	5.52%	1+90.00	8.50' RT	26.19'	1+90.00	10.00' LT	25.17'
P-2	6"	CPP	18.5'	5.57%	1+95.00	8.50' RT	25.90'	1+95.00	10.00' LT	24.87'
P-3	6"	CPP	18.5'	5.02%	2+00.00	8.50' RT	25.62'	2+00.00	10.00' LT	24.69'
P-4	6"	CPP	16.0'	5.13%	2+40.95	7.48' RT	24.43'	2+39.87	8.49' LT	23.61'



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

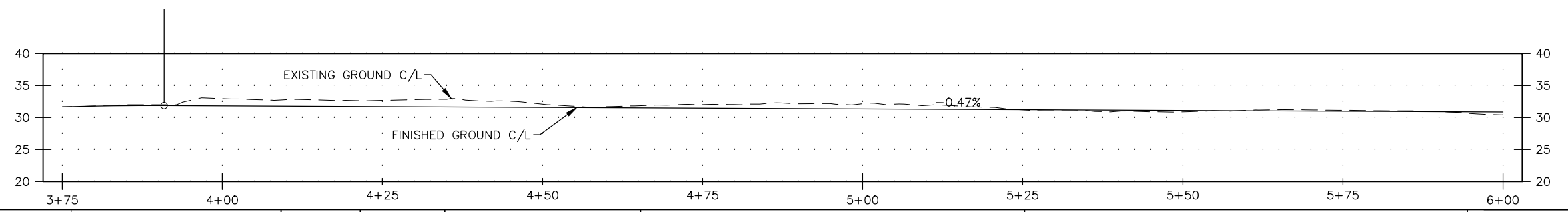
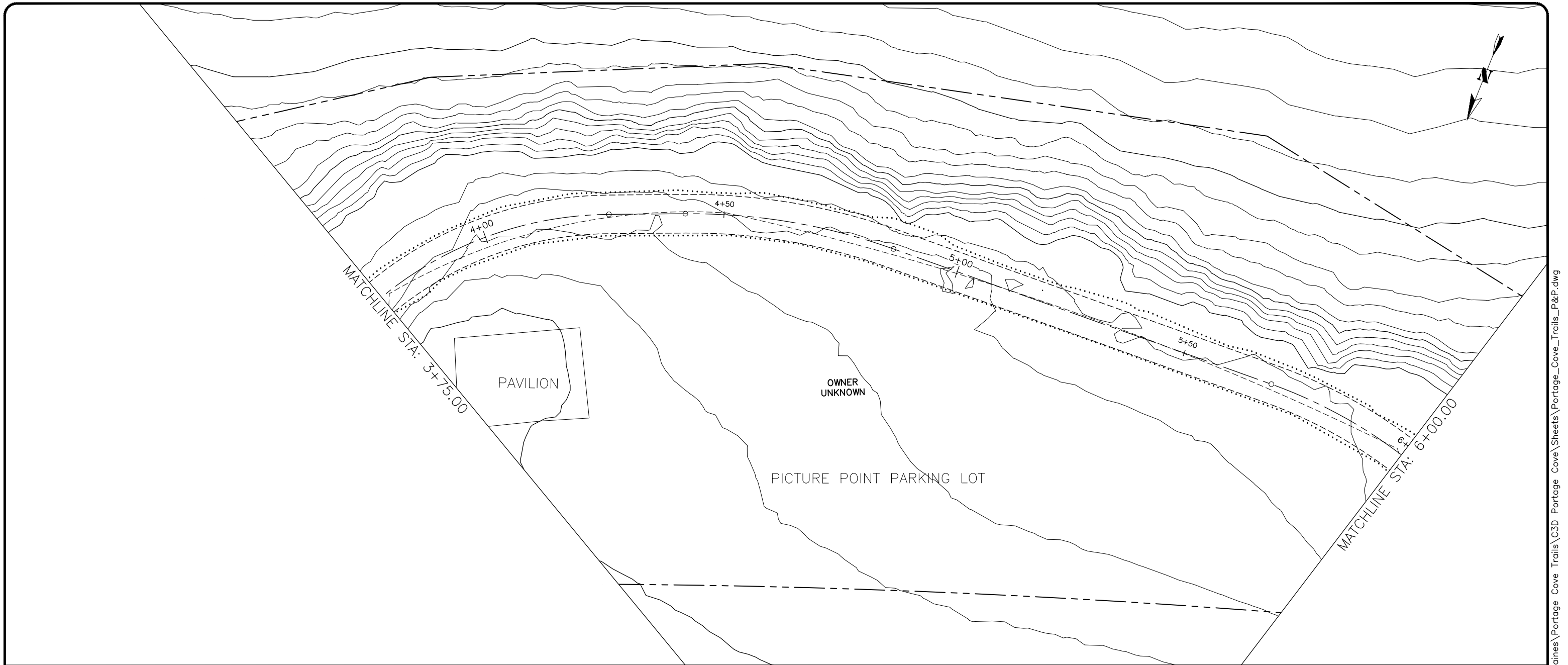
  
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 HAINES BOROUGH

PORTAGE COVE TRAILS  
 HAINES BOROUGH

**SEGMENT 1 (PICTURE POINT) STA 1+00 TO 3+75**

SHEET NUMBER	10
OF	32



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



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 CHECKED BY: L. CHAMBERS  
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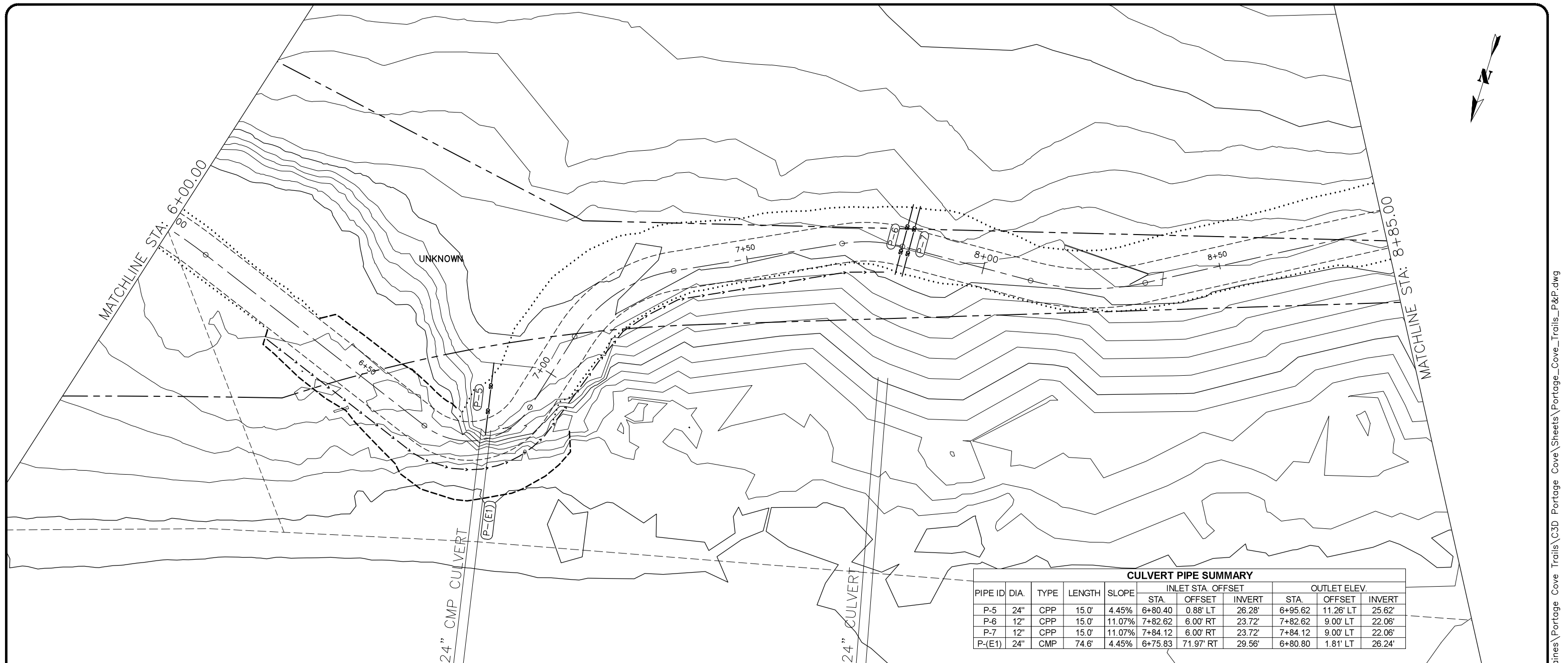


PORTAGE COVE TRAILS

HAINES BOROUGH

SEGMENT 1 (PICTURE POINT) STA 3+75 TO 6+00

SHEET NUMBER	
11	OF
32	

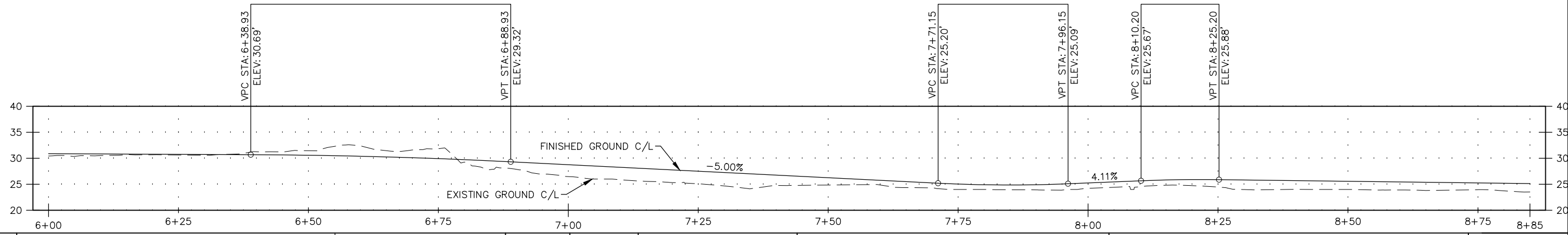


CULVERT PIPE SUMMARY										
PIPE ID	DIA.	TYPE	LENGTH	SLOPE	INLET STA. OFFSET			OUTLET ELEV.		
					STA.	OFFSET	INVERT	STA.	OFFSET	INVERT
P-5	24"	CPP	15.0'	4.45%	6+80.40	0.88' LT	26.28'	6+95.62	11.26' LT	25.62'
P-6	12"	CPP	15.0'	11.07%	7+82.62	6.00' RT	23.72'	7+82.62	9.00' LT	22.06'
P-7	12"	CPP	15.0'	11.07%	7+84.12	6.00' RT	23.72'	7+84.12	9.00' LT	22.06'
P-(E1)	24"	CMP	74.6'	4.45%	6+75.83	71.97' RT	29.56'	6+80.80	1.81' LT	26.24'


PVI STA: 6+63.93  
PVI ELEV: 30.57'  
LVC: 50'

PVI STA: 7+83.65  
PVI ELEV: 24.58'  
LVC: 25'

PVI STA: 8+17.70  
PVI ELEV: 25.98'  
LVC: 15'



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



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 DESIGNED BY: L. CHAMBERS  
 CHECKED BY: L. CHAMBERS  
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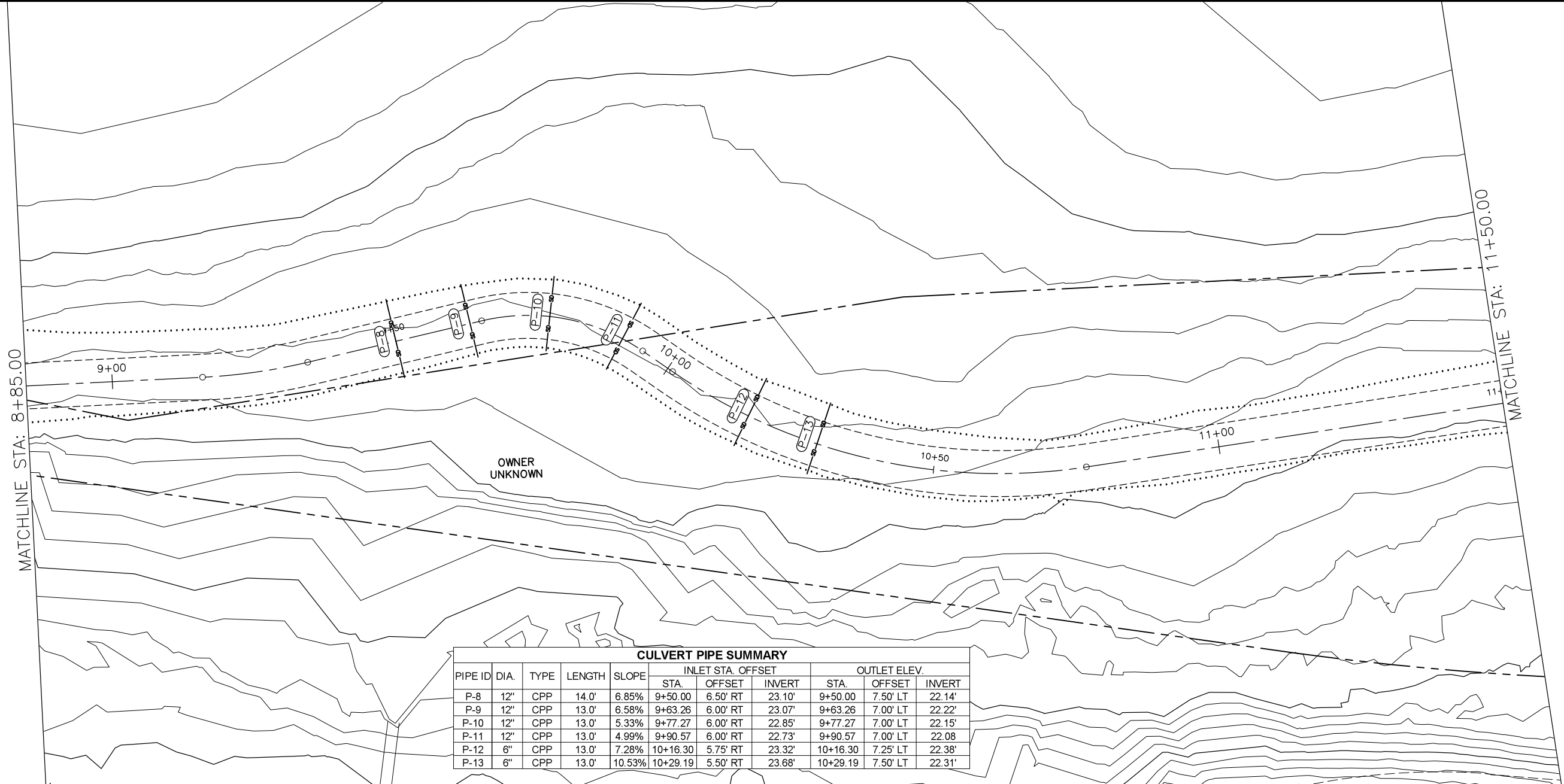


PORTAGE COVE TRAILS  
 HAINES BOROUGH

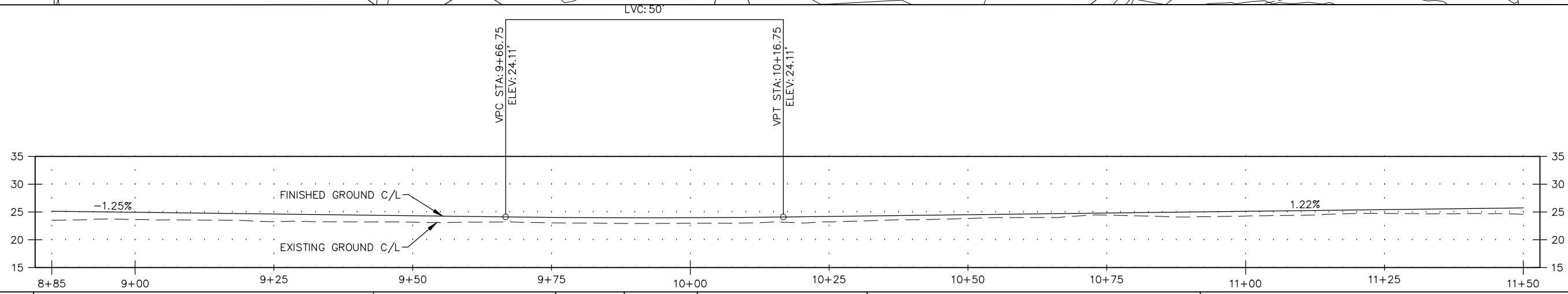
SEGMENT 1 (PICTURE POINT) STA 6+00 TO 8+85

SHEET NUMBER	12
OF	32





CULVERT PIPE SUMMARY										
PIPE ID	DIA.	TYPE	LENGTH	SLOPE	INLET STA. OFFSET			OUTLET ELEV.		
					STA.	OFFSET	INVERT	STA.	OFFSET	INVERT
P-8	12"	CPP	14.0'	6.85%	9+50.00	6.50' RT	23.10'	9+50.00	7.50' LT	22.14'
P-9	12"	CPP	13.0'	6.58%	9+63.26	6.00' RT	23.07'	9+63.26	7.00' LT	22.22'
P-10	12"	CPP	13.0'	5.33%	9+77.27	6.00' RT	22.85'	9+77.27	7.00' LT	22.15'
P-11	12"	CPP	13.0'	4.99%	9+90.57	6.00' RT	22.73'	9+90.57	7.00' LT	22.08'
P-12	6"	CPP	13.0'	7.28%	10+16.30	5.75' RT	23.32'	10+16.30	7.25' LT	22.38'
P-13	6"	CPP	13.0'	10.53%	10+29.19	5.50' RT	23.68'	10+29.19	7.50' LT	22.31'



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

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CERTIFICATE OF AUTHORIZATION  
#100662

DRAWN BY: C. BYDLON  
DESIGNED BY: L. CHAMBERS  
CHECKED BY: L. CHAMBERS

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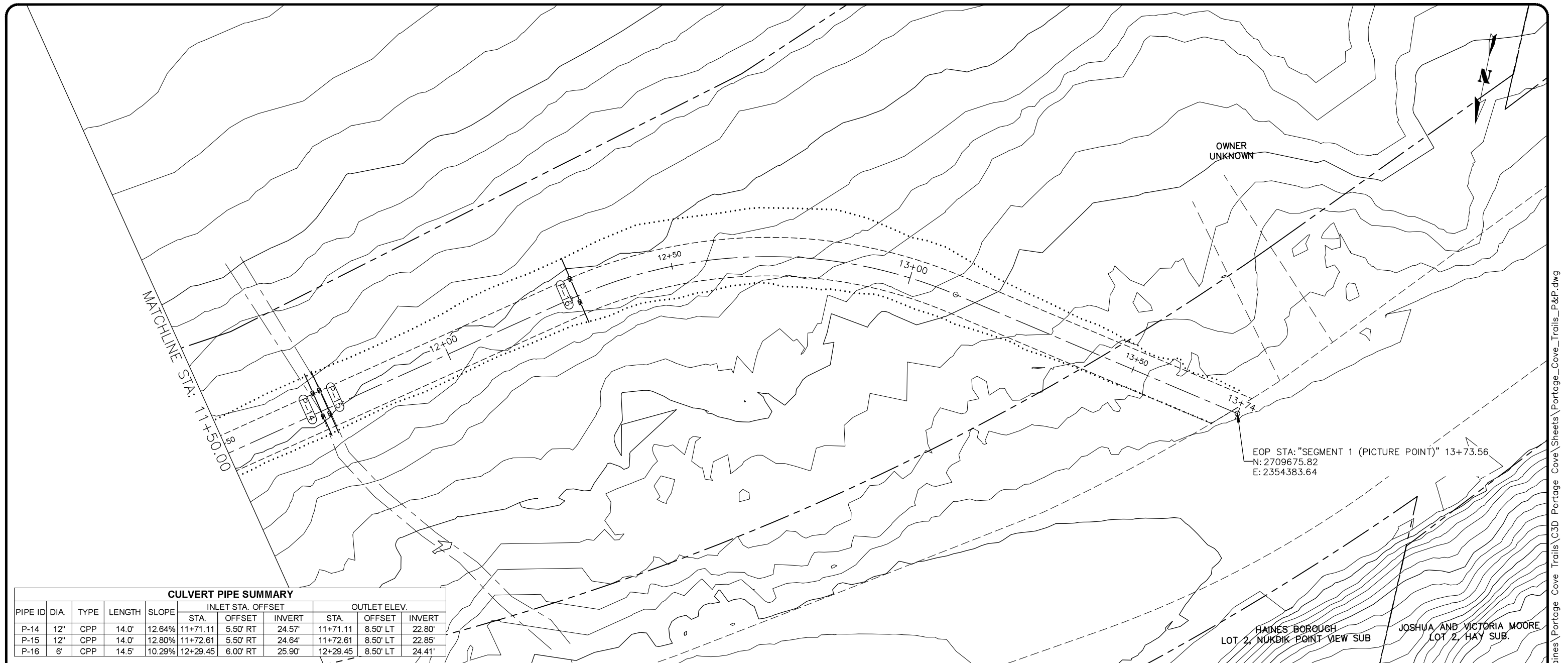


**PORTAGE COVE TRAILS**

HAINES BOROUGH

**SEGMENT 1 (PICTURE POINT) STA 8+85 TO 11+50**

SHEET NUMBER	
<b>13</b>	OF
<b>32</b>	



MATCHLINE STA: 11+50.00

OWNER UNKNOWN

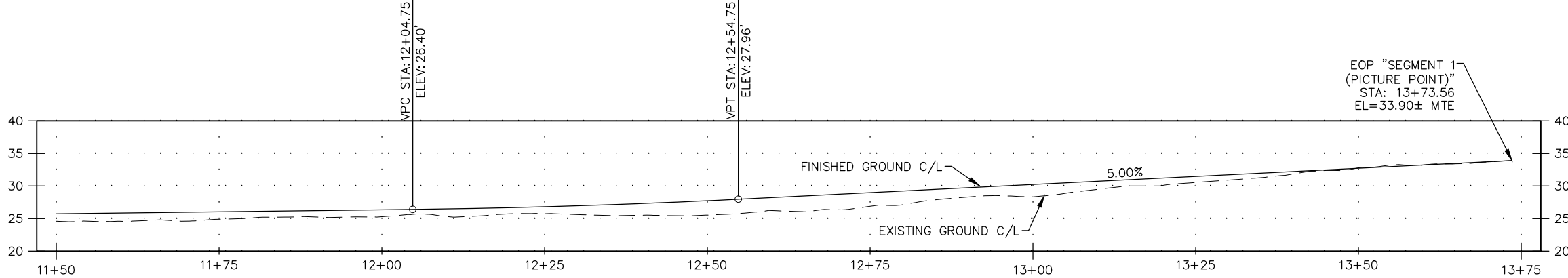
EOP STA: "SEGMENT 1 (PICTURE POINT)" 13+73.56  
 N: 2709675.82  
 E: 2354383.64

HAINES BOROUGH  
 LOT 2, NUKDIK POINT VIEW SUB  
 JOSHUA AND VICTORIA MOORE  
 LOT 2, HAY SUB.

**CULVERT PIPE SUMMARY**

PIPE ID	DIA.	TYPE	LENGTH	SLOPE	INLET STA. OFFSET			OUTLET ELEV.		
					STA.	OFFSET	INVERT	STA.	OFFSET	INVERT
P-14	12"	CPP	14.0'	12.64%	11+71.11	5.50' RT	24.57'	11+71.11	8.50' LT	22.80'
P-15	12"	CPP	14.0'	12.80%	11+72.61	5.50' RT	24.64'	11+72.61	8.50' LT	22.85'
P-16	6'	CPP	14.5'	10.29%	12+29.45	6.00' RT	25.90'	12+29.45	8.50' LT	24.41'

PVI STA: 12+29.75  
 PVI ELEV: 26.71'  
 LVC: 50'



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



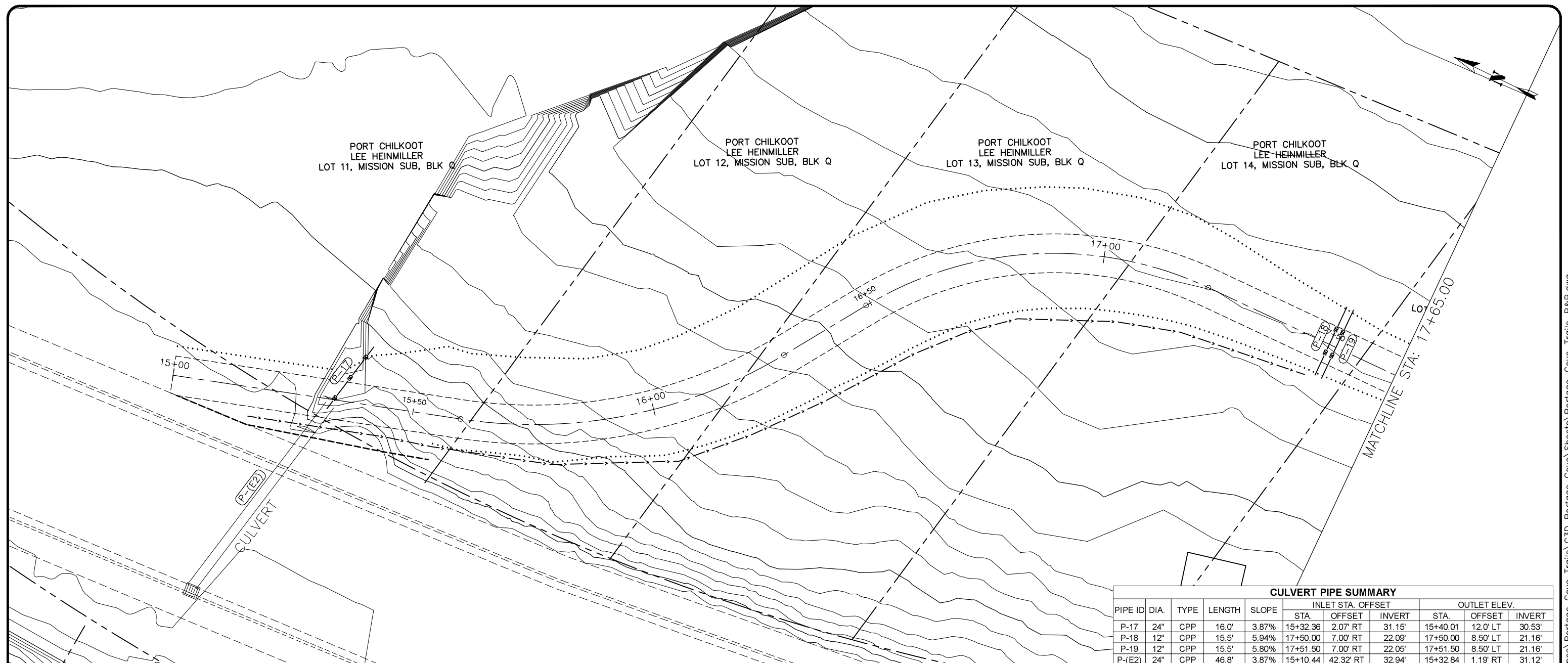
DRAWN BY: C. BYDLON  
 DESIGNED BY: L. CHAMBERS  
 CHECKED BY: L. CHAMBERS  
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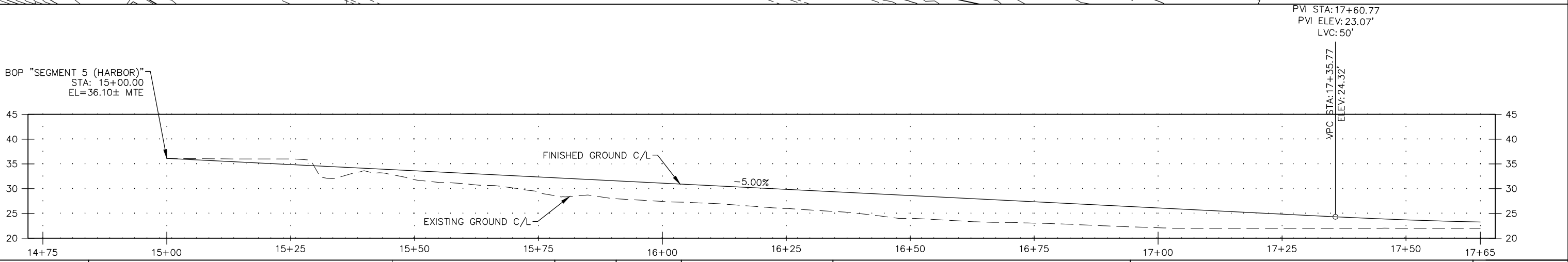
PORTAGE COVE TRAILS  
 HAINES BOROUGH

SEGMENT 1 (PICTURE POINT) STA 11+50 TO 13+73


SHEET NUMBER	
14	OF
32	




CULVERT PIPE SUMMARY										
PIPE ID	DIA.	TYPE	LENGTH	SLOPE	INLET STA. OFFSET			OUTLET ELEV.		
					STA.	OFFSET	INVERT	STA.	OFFSET	INVERT
P-17	24"	CPP	16.0'	3.87%	15+32.36	2.07' RT	31.15'	15+40.01	12.0' LT	30.53'
P-18	12"	CPP	15.5'	5.94%	17+50.00	7.00' RT	22.09'	17+50.00	8.50' LT	21.16'
P-19	12"	CPP	15.5'	5.80%	17+51.50	7.00' RT	22.05'	17+51.50	8.50' LT	21.16'
P-(E2)	24"	CPP	46.8'	3.87%	15+10.44	42.32' RT	32.94'	15+32.84	1.19' RT	31.12'



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 219 MAIN ST #13 HAINES, AK 99827  
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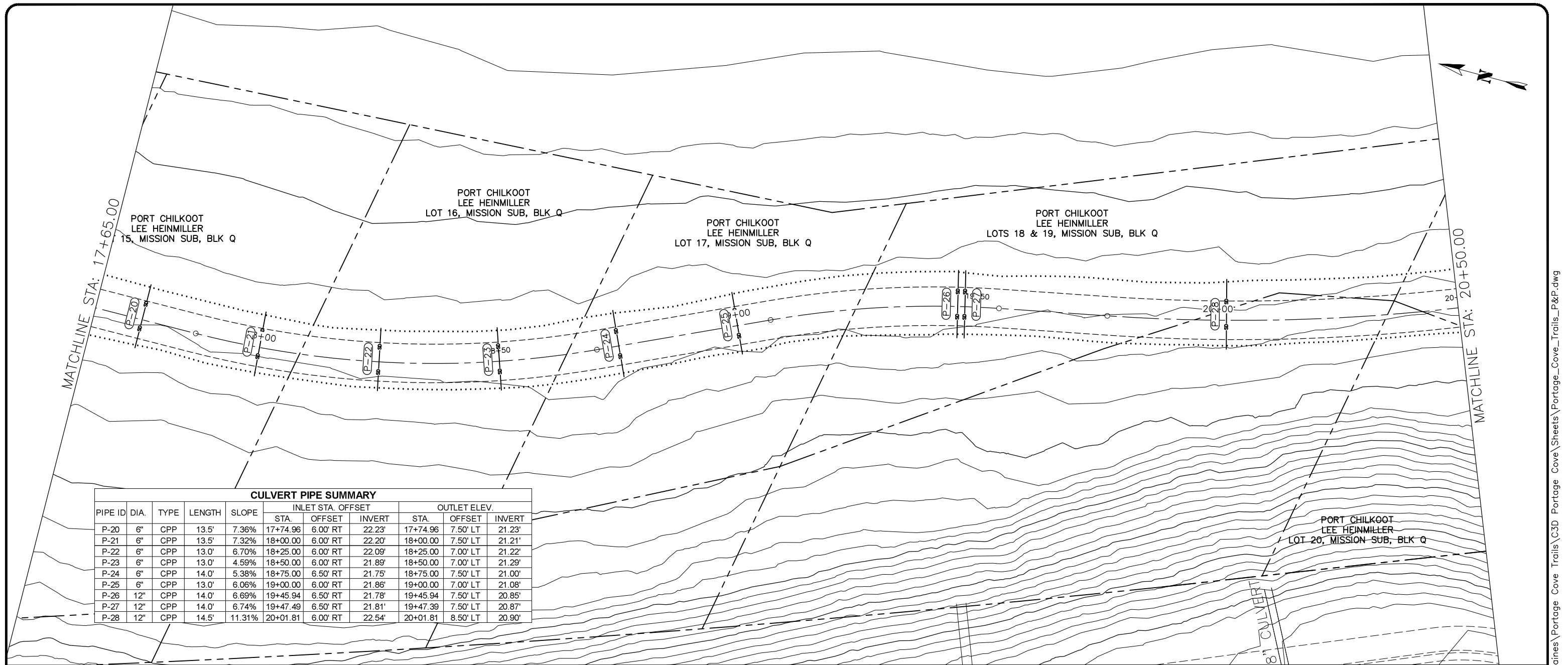
DRAWN BY: C. BYDLON  
 DESIGNED BY: L. CHAMBERS  
 CHECKED BY: L. CHAMBERS  


**PORTAGE COVE TRAILS**  
 HAINES BOROUGH

**SEGMENT 5 (HARBOR)**  
**STA 15+00 TO 17+65**

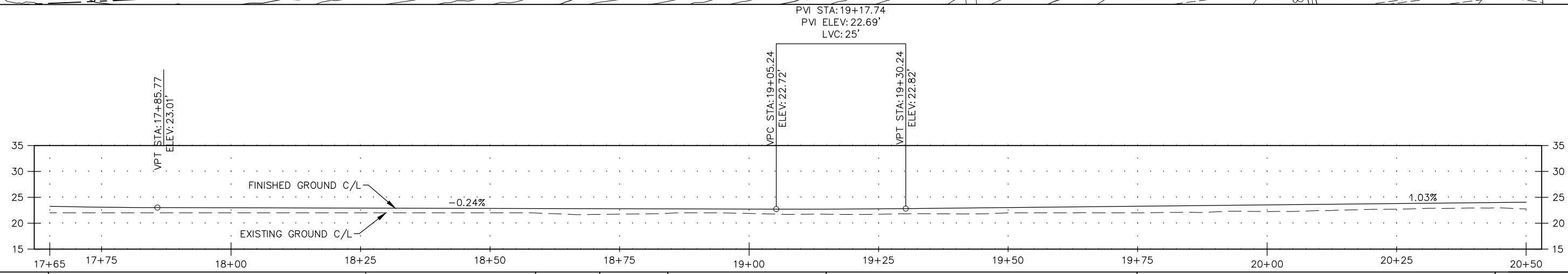
SHEET NUMBER  
**15**  
 OF  
**32**

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 January 13, 2020



**CULVERT PIPE SUMMARY**

PIPE ID	DIA.	TYPE	LENGTH	SLOPE	INLET STA. OFFSET			OUTLET ELEV.		
					STA.	OFFSET	INVERT	STA.	OFFSET	INVERT
P-20	6"	CPP	13.5'	7.36%	17+74.96	6.00' RT	22.23'	17+74.96	7.50' LT	21.23'
P-21	6"	CPP	13.5'	7.32%	18+00.00	6.00' RT	22.20'	18+00.00	7.50' LT	21.21'
P-22	6"	CPP	13.0'	6.70%	18+25.00	6.00' RT	22.09'	18+25.00	7.00' LT	21.22'
P-23	6"	CPP	13.0'	4.59%	18+50.00	6.00' RT	21.89'	18+50.00	7.00' LT	21.29'
P-24	6"	CPP	14.0'	5.38%	18+75.00	6.50' RT	21.75'	18+75.00	7.50' LT	21.00'
P-25	6"	CPP	13.0'	6.06%	19+00.00	6.00' RT	21.86'	19+00.00	7.00' LT	21.08'
P-26	12"	CPP	14.0'	6.69%	19+45.94	6.50' RT	21.78'	19+45.94	7.50' LT	20.85'
P-27	12"	CPP	14.0'	6.74%	19+47.49	6.50' RT	21.81'	19+47.39	7.50' LT	20.87'
P-28	12"	CPP	14.5'	11.31%	20+01.81	6.00' RT	22.54'	20+01.81	8.50' LT	20.90'



**RECORD OF REVISIONS**

No.	DATE	DESCRIPTION	BY



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**PORTAGE COVE TRAILS**

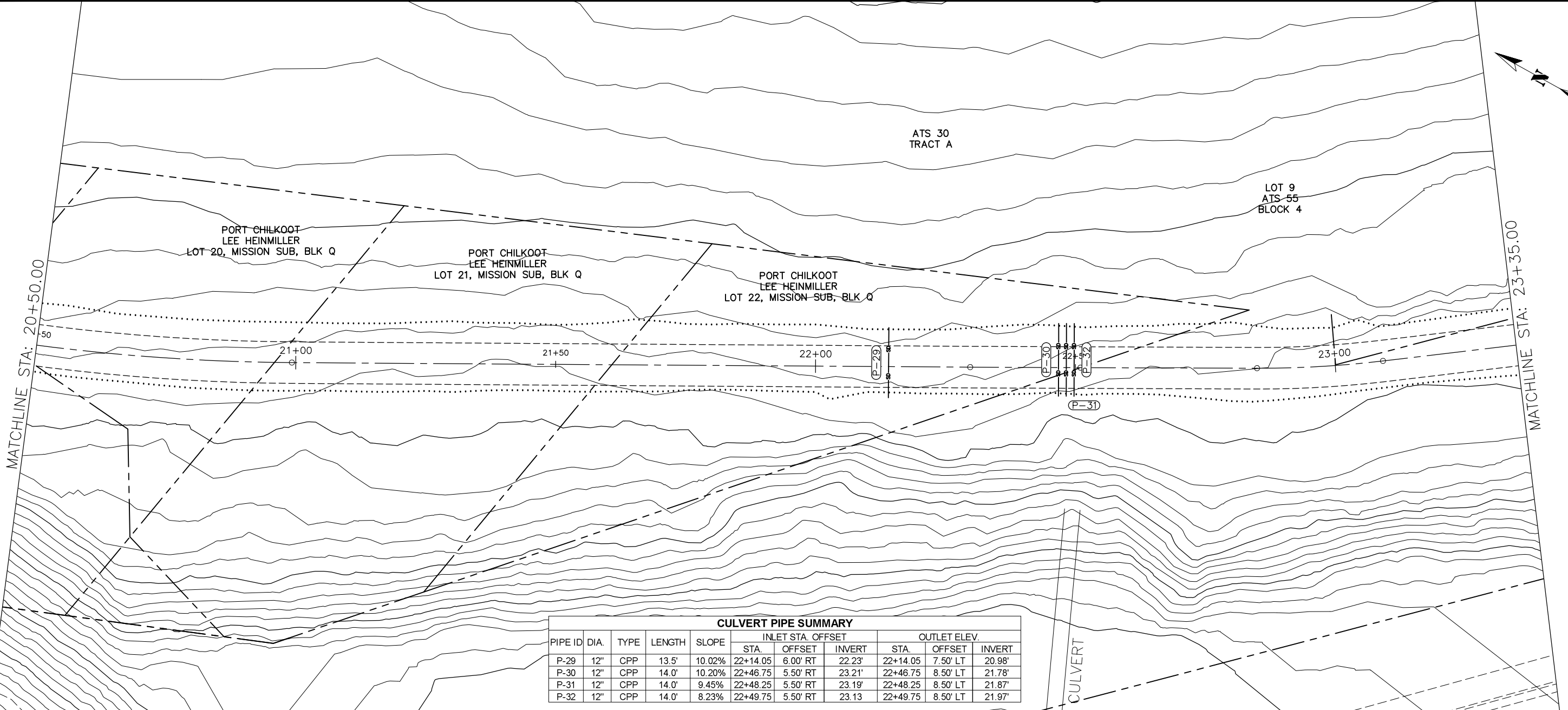
HAINES BOROUGH

**SEGMENT 5 (HARBOR)**  
**STA 17+65 TO 20+50**

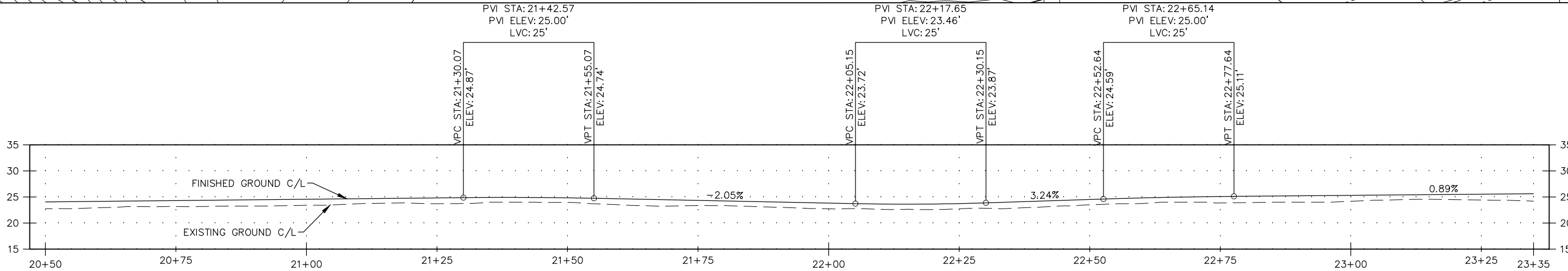
**SHEET NUMBER**

16
OF
32







PIPE ID	DIA	TYPE	LENGTH	SLOPE	INLET STA. OFFSET			OUTLET ELEV.		
					STA.	OFFSET	INVERT	STA.	OFFSET	INVERT
P-29	12"	CPP	13.5'	10.02%	22+14.05	6.00' RT	22.23'	22+14.05	7.50' LT	20.98'
P-30	12"	CPP	14.0'	10.20%	22+46.75	5.50' RT	23.21'	22+46.75	8.50' LT	21.78'
P-31	12"	CPP	14.0'	9.45%	22+48.25	5.50' RT	23.19'	22+48.25	8.50' LT	21.87'
P-32	12"	CPP	14.0'	8.23%	22+49.75	5.50' RT	23.13	22+49.75	8.50' LT	21.97'



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 DESIGNED BY: L. CHAMBERS  
 CHECKED BY: L. CHAMBERS  


**PORTAGE COVE TRAILS**  
 HAINES BOROUGH

**SEGMENT 5 (HARBOR)**  
**STA 20+50 TO 23+35**

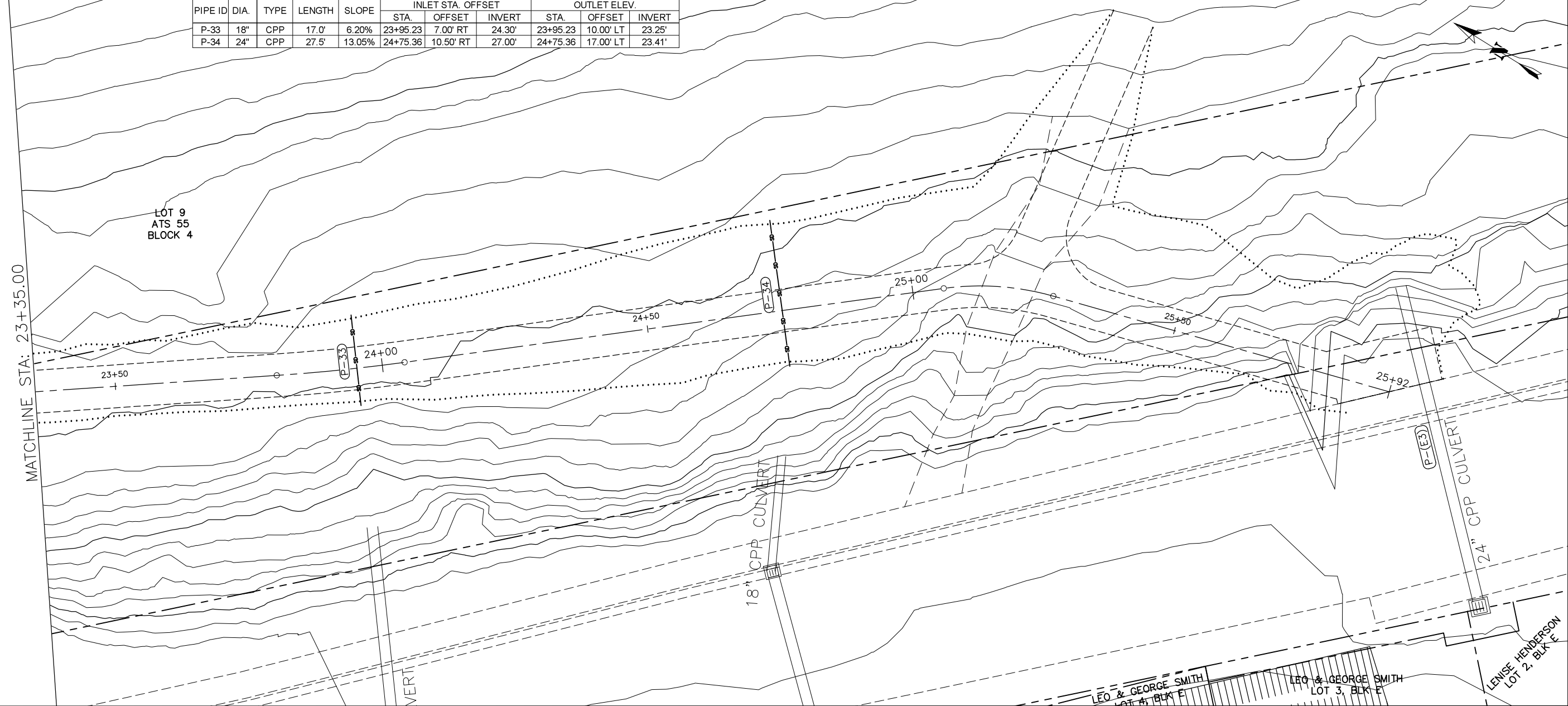
SHEET NUMBER  
**17**  
 OF  
**32**

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 January 13, 2020

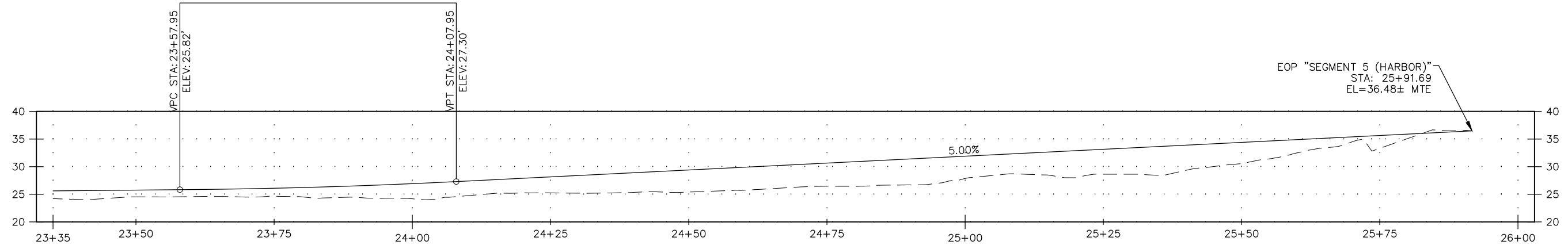
CULVERT PIPE SUMMARY										
PIPE ID	DIA.	TYPE	LENGTH	SLOPE	INLET STA. OFFSET			OUTLET ELEV.		
					STA.	OFFSET	INVERT	STA.	OFFSET	INVERT
P-33	18"	CPP	17.0'	6.20%	23+95.23	7.00' RT	24.30'	23+95.23	10.00' LT	23.25'
P-34	24"	CPP	27.5'	13.05%	24+75.36	10.50' RT	27.00'	24+75.36	17.00' LT	23.41'

MATCHLINE STA: 23+35.00

LOT 9  
ATS 55  
BLOCK 4



PVI STA: 23+82.95  
PVI ELEV: 26.05'  
LVC: 50'



EOP "SEGMENT 5 (HARBOR)"  
STA: 25+91.69  
EL=36.48± MTE

RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

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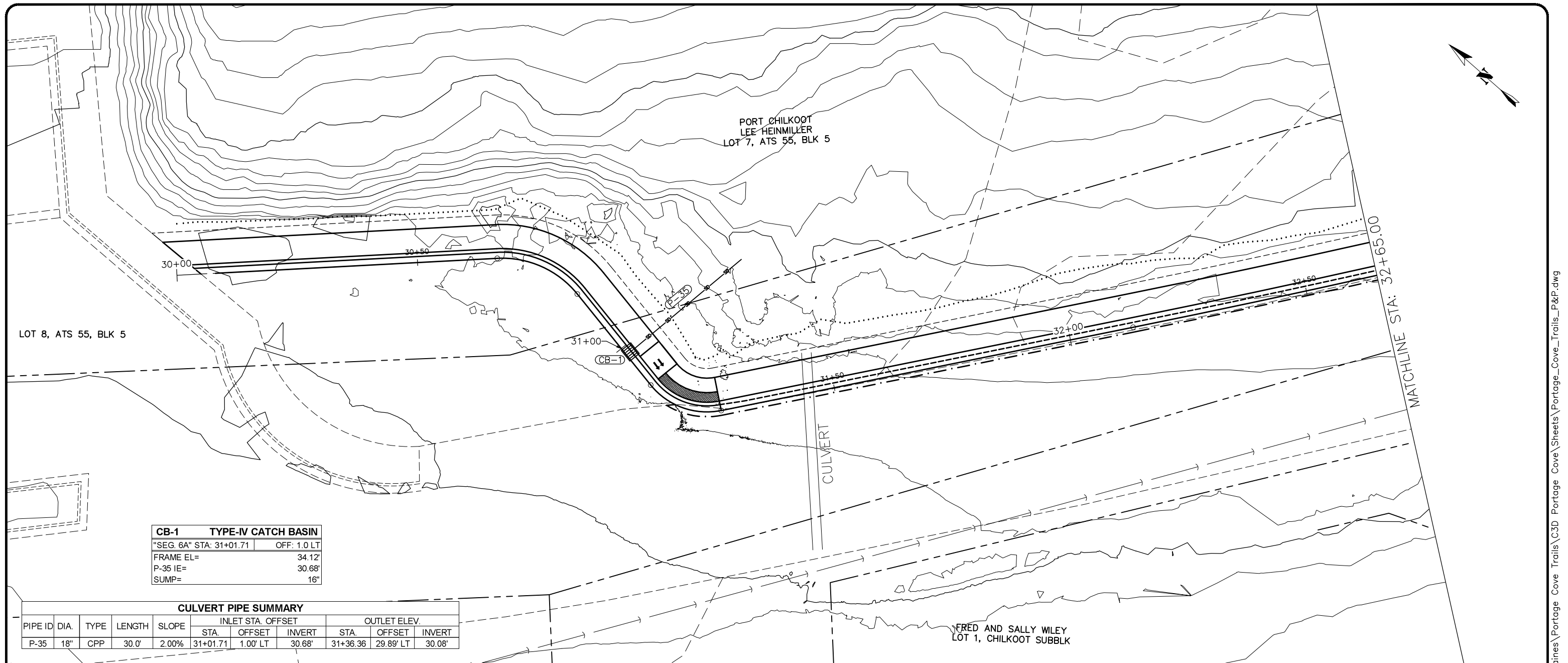


PORTAGE COVE TRAILS

HAINES BOROUGH

**SEGMENT 5 (HARBOR)**  
**STA 23+35 TO 25+91**

SHEET NUMBER	18
OF	32

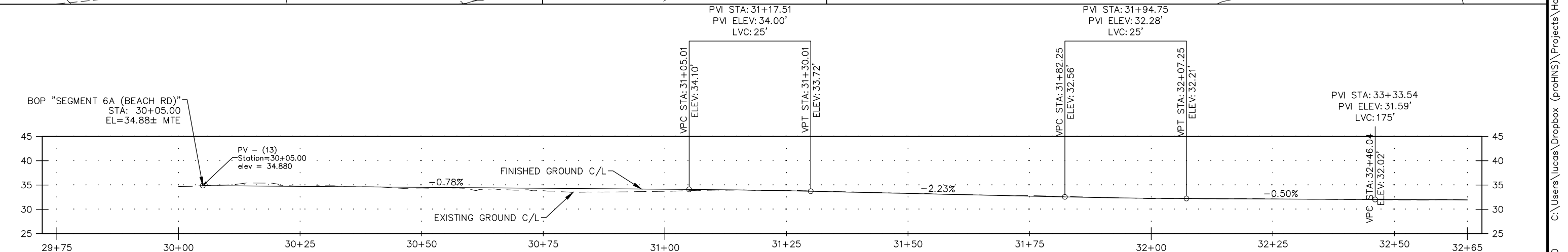


**CB-1 TYPE-IV CATCH BASIN**

"SEG. 6A" STA: 31+01.71	OFF: 1.0 LT
FRAME EL=	34.12'
P-35 IE=	30.68'
SUMP=	16"


**CULVERT PIPE SUMMARY**

PIPE ID	DIA.	TYPE	LENGTH	SLOPE	INLET STA. OFFSET		OUTLET ELEV.			
					STA	OFFSET	INVERT	STA	OFFSET	INVERT
P-35	18"	CPP	30.0'	2.00%	31+01.71	1.00' LT	30.68'	31+36.36	29.89' LT	30.08'




**RECORD OF REVISIONS**

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**HAINES BOROUGH ALASKA**

**PORTAGE COVE TRAILS**  
 HAINES BOROUGH

**SEGMENT 6A (BEACH ROAD) STA 30+00 TO 32+65**

**SHEET NUMBER**

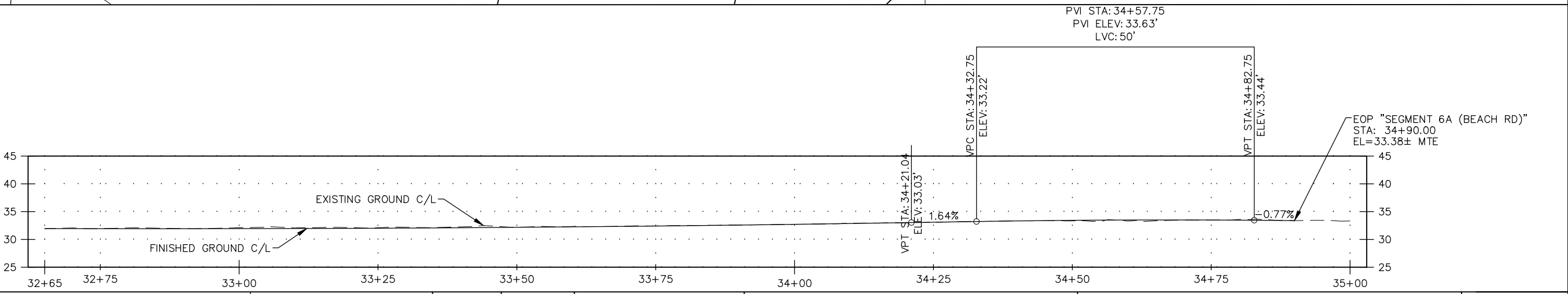
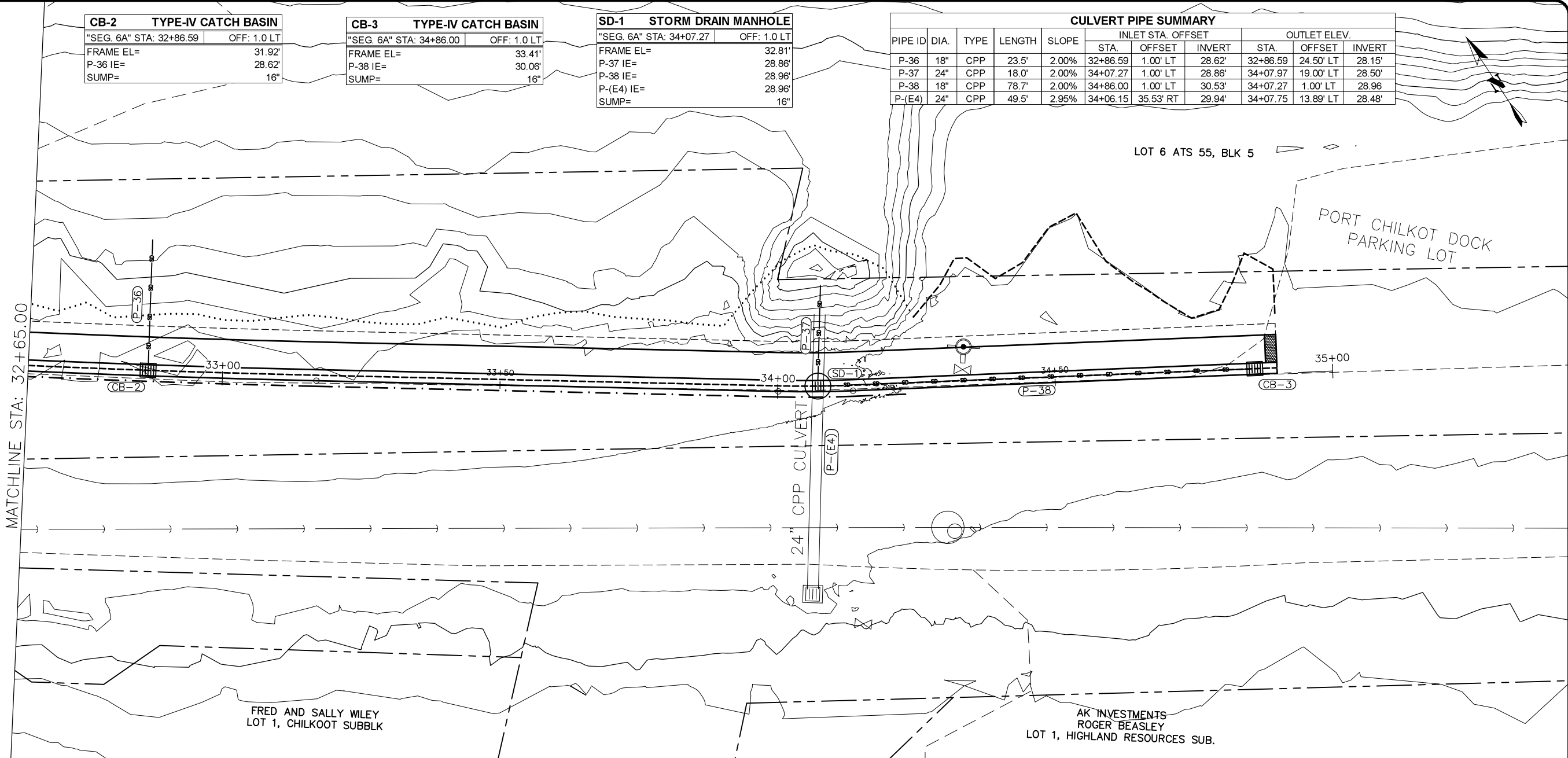
19
OF
32

CB-2 TYPE-IV CATCH BASIN	
"SEG. 6A" STA: 32+86.59	OFF: 1.0 LT
FRAME EL=	31.92'
P-36 IE=	28.62'
SUMP=	16"

CB-3 TYPE-IV CATCH BASIN	
"SEG. 6A" STA: 34+86.00	OFF: 1.0 LT
FRAME EL=	33.41'
P-38 IE=	30.06'
SUMP=	16"

SD-1 STORM DRAIN MANHOLE	
"SEG. 6A" STA: 34+07.27	OFF: 1.0 LT
FRAME EL=	32.81'
P-37 IE=	28.86'
P-38 IE=	28.96'
P-(E4) IE=	28.96'
SUMP=	16"

CULVERT PIPE SUMMARY										
PIPE ID	DIA.	TYPE	LENGTH	SLOPE	INLET STA. OFFSET			OUTLET ELEV.		
					STA.	OFFSET	INVERT	STA.	OFFSET	INVERT
P-36	18"	CPP	23.5'	2.00%	32+86.59	1.00' LT	28.62'	32+86.59	24.50' LT	28.15'
P-37	24"	CPP	18.0'	2.00%	34+07.27	1.00' LT	28.86'	34+07.97	19.00' LT	28.50'
P-38	18"	CPP	78.7'	2.00%	34+86.00	1.00' LT	30.53'	34+07.27	1.00' LT	28.96'
P-(E4)	24"	CPP	49.5'	2.95%	34+06.15	35.53' RT	29.94'	34+07.75	13.89' LT	28.48'



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

**proHNS LLC**  
 CERTIFICATE OF AUTHORIZATION #100662

219 MAIN ST #13  
 HAINES, AK 99827

1945 ALEX HOLDEN WAY #101  
 JUNEAU, AK 99801

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**PORTAGE COVE TRAILS**

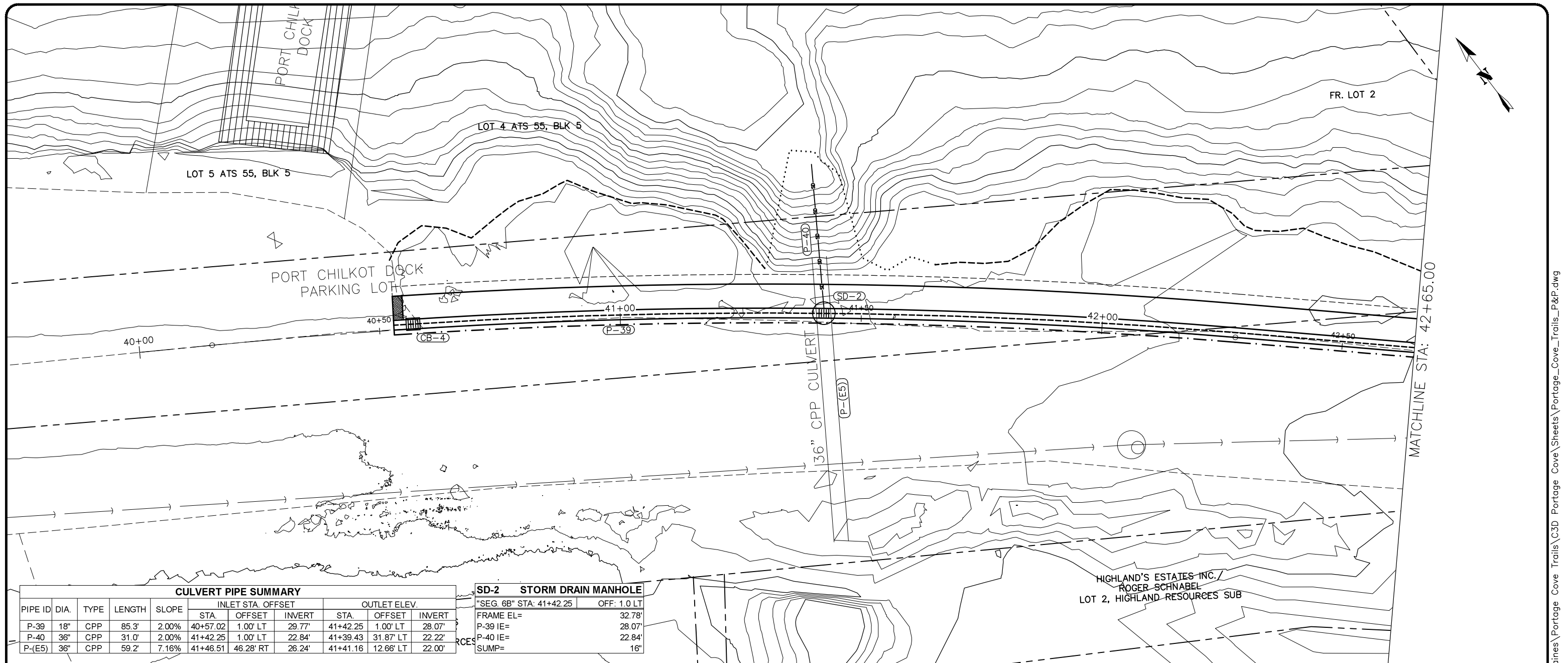
HAINES BOROUGH

**SEGMENT 6A (BEACH ROAD) STA 32+65 TO 35+00**

SHEET NUMBER	
20	OF
32	

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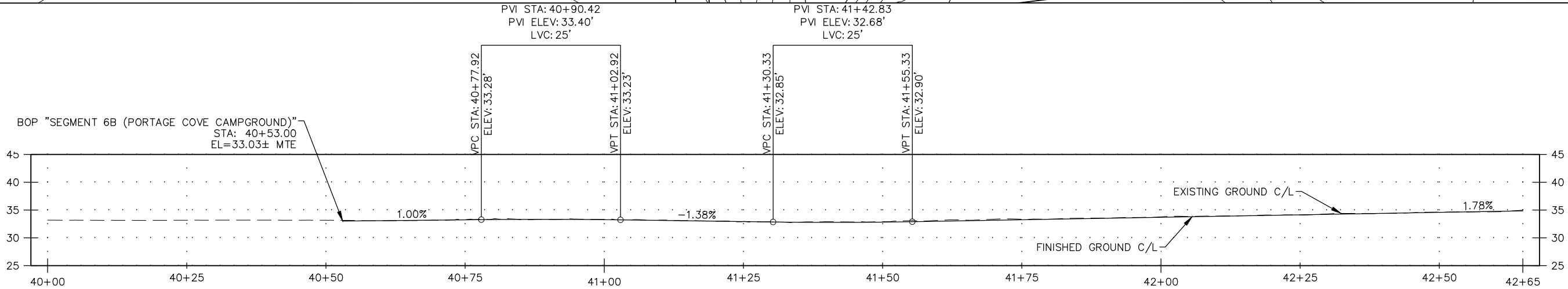


**CULVERT PIPE SUMMARY**

PIPE ID	DIA.	TYPE	LENGTH	SLOPE	INLET STA. OFFSET			OUTLET ELEV.		
					STA.	OFFSET	INVERT	STA.	OFFSET	INVERT
P-39	18"	CPP	85.3'	2.00%	40+57.02	1.00' LT	29.77'	41+42.25	1.00' LT	28.07'
P-40	36"	CPP	31.0'	2.00%	41+42.25	1.00' LT	22.84'	41+39.43	31.87' LT	22.22'
P-(E5)	36"	CPP	59.2'	7.16%	41+46.51	46.28' RT	26.24'	41+41.16	12.66' LT	22.00'

**SD-2 STORM DRAIN MANHOLE**

"SEG 6B" STA: 41+42.25	OFF: 1.0 LT
FRAME EL=	32.78'
P-39 IE=	28.07'
P-40 IE=	22.84'
SUMP=	16'



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



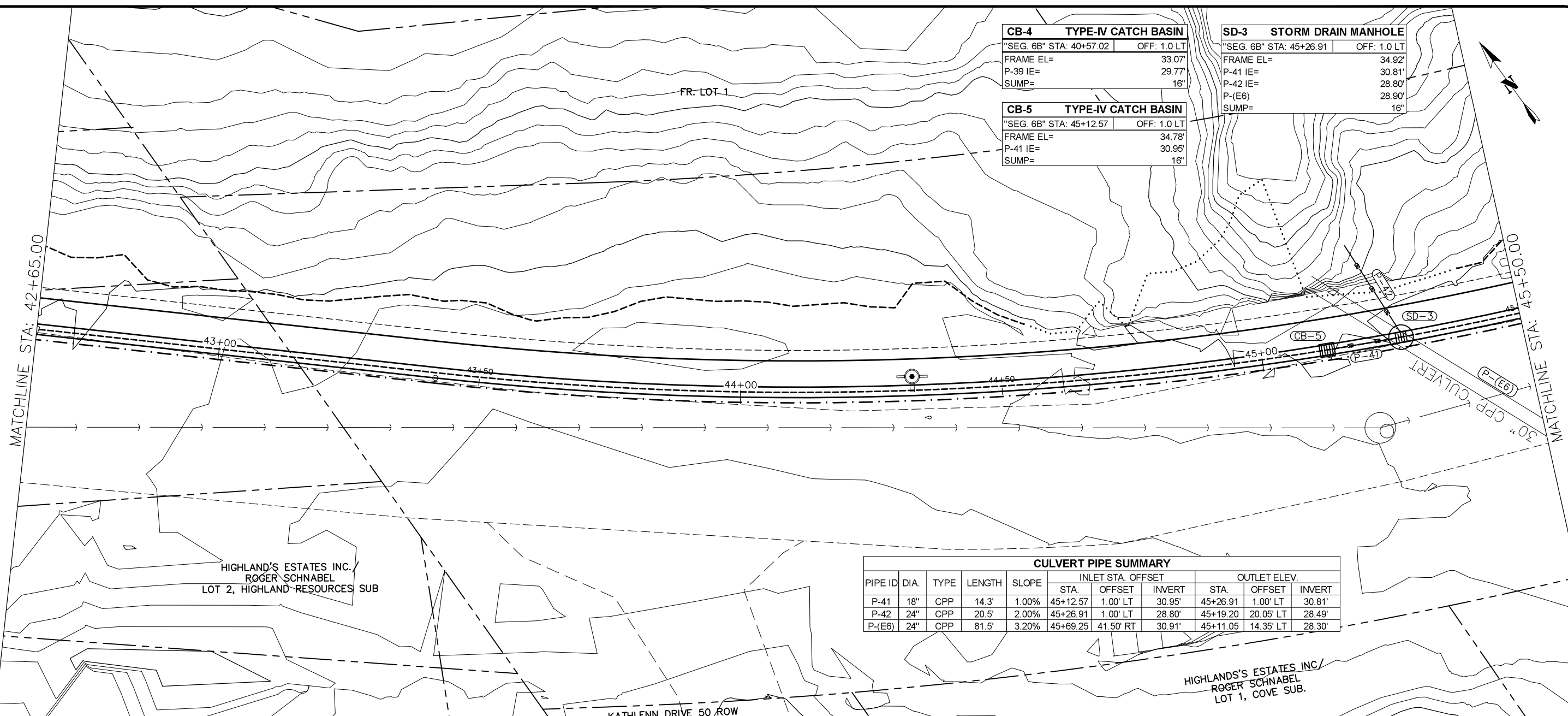
DRAWN BY: C. BYDLON  
 DESIGNED BY: L. CHAMBERS  
 CHECKED BY: L. CHAMBERS  
 219 MAIN ST #13  
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PORTAGE COVE TRAILS  
 HAINES BOROUGH

**SEGMENT 6B (PORTAGE COVE CAMPGROUND)**  
**STA 40+00 TO 42+65**

SHEET NUMBER	
21	OF
32	

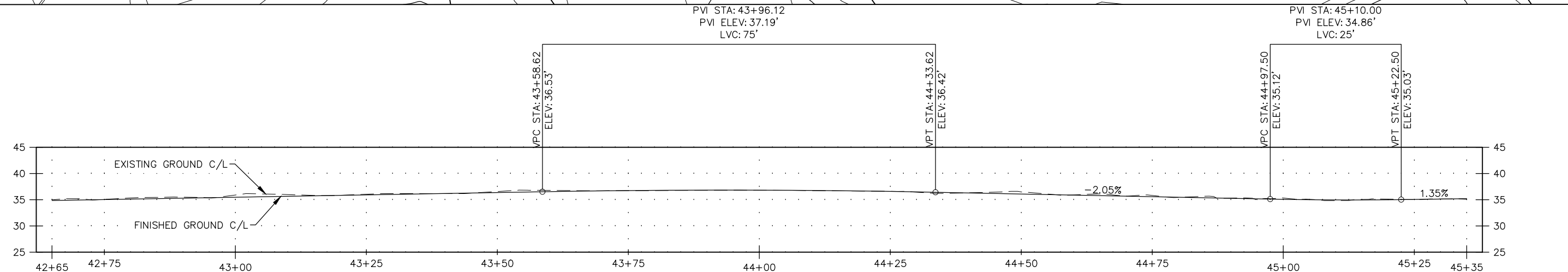


CB-4 TYPE-IV CATCH BASIN	
"SEG. 6B" STA: 40+57.02	OFF: 1.0 LT
FRAME EL=	33.07'
P-39 IE=	29.77'
SUMP=	16"


SD-3 STORM DRAIN MANHOLE	
"SEG. 6B" STA: 45+26.91	OFF: 1.0 LT
FRAME EL=	34.92'
P-41 IE=	30.81'
P-42 IE=	28.80'
P-(E6)	28.90'
SUMP=	16"

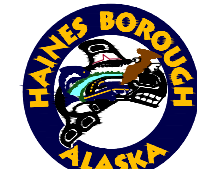
CB-5 TYPE-IV CATCH BASIN	
"SEG. 6B" STA: 45+12.57	OFF: 1.0 LT
FRAME EL=	34.78'
P-41 IE=	30.95'
SUMP=	16"

PIPE ID	DIA.	TYPE	LENGTH	SLOPE	INLET STA. OFFSET			OUTLET ELEV.		
					STA.	OFFSET	INVERT	STA.	OFFSET	INVERT
P-41	18"	CPP	14.3'	1.00%	45+12.57	1.00' LT	30.95'	45+26.91	1.00' LT	30.81'
P-42	24"	CPP	20.5'	2.00%	45+26.91	1.00' LT	28.80'	45+19.20	20.05' LT	28.49'
P-(E6)	24"	CPP	81.5'	3.20%	45+69.25	41.50' RT	30.91'	45+11.05	14.35' LT	28.30'



RECORD OF REVISIONS			
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DRAWN BY: C. BYDLON  
 DESIGNED BY: L. CHAMBERS  
 CHECKED BY: L. CHAMBERS  


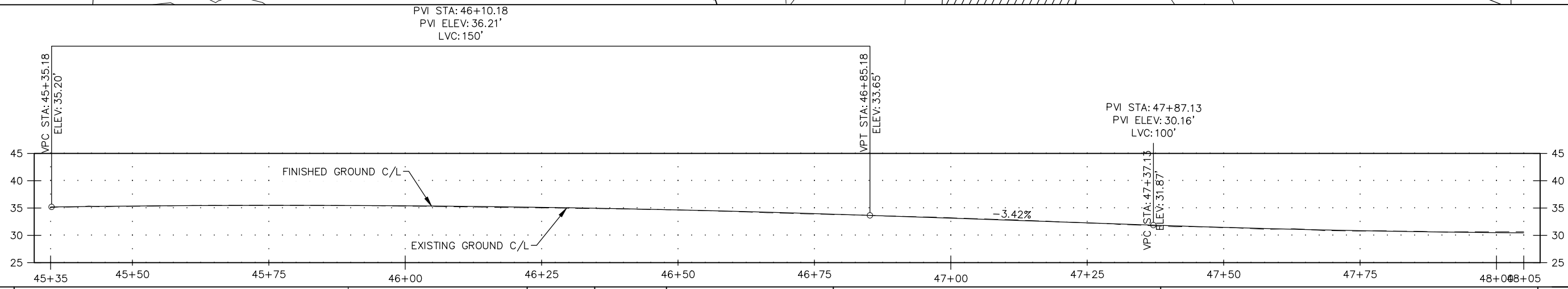
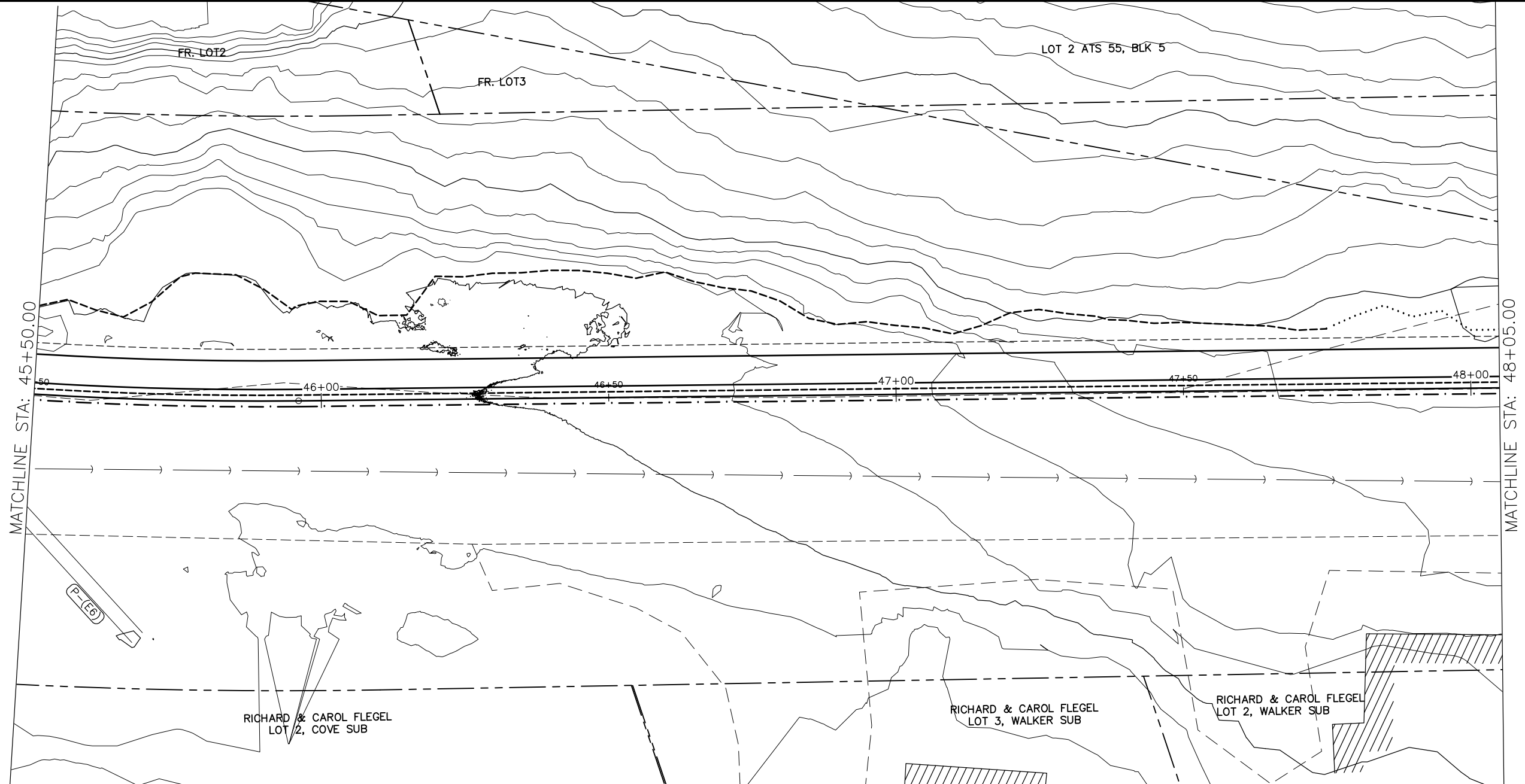
**PORTAGE COVE TRAILS**  
 HAINES BOROUGH

**SEGMENT 6B (PORTAGE COVE CAMPGROUND)**  
**STA 42+65 TO 45+35**

SHEET NUMBER	22
OF	32

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 January 13, 2020





RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

**proHNS LLC**  
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 #100662

DRAWN BY: C. BYDLON  
 DESIGNED BY: L. CHAMBERS  
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**PORTAGE COVE TRAILS**

HAINES BOROUGH

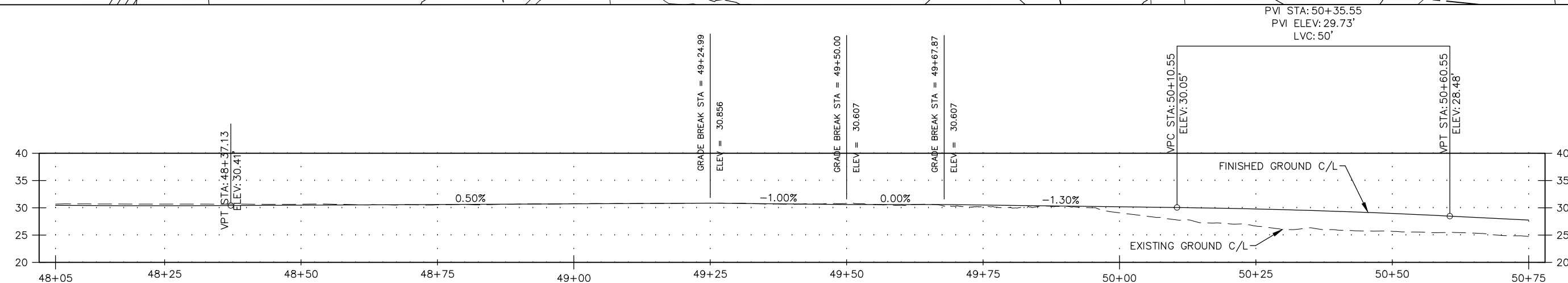
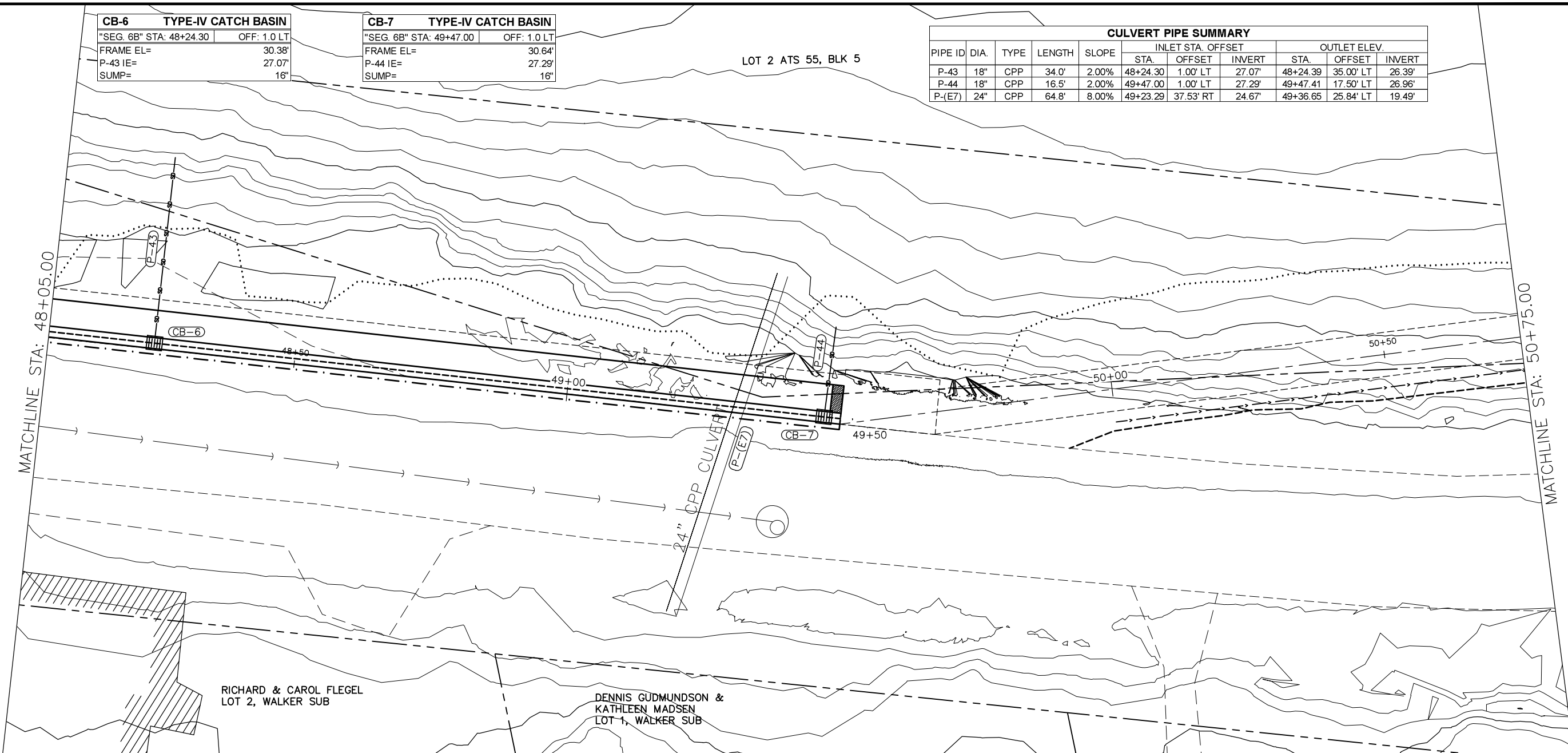
**SEGMENT 6B (PORTAGE COVE CAMPGROUND)  
 STA 45+35 TO 48+05**

SHEET NUMBER	
23	OF
32	

CB-6 TYPE-IV CATCH BASIN	
"SEG. 6B" STA: 48+24.30	OFF: 1.0 LT
FRAME EL=	30.38'
P-43 IE=	27.07'
SUMP=	16'

CB-7 TYPE-IV CATCH BASIN	
"SEG. 6B" STA: 49+47.00	OFF: 1.0 LT
FRAME EL=	30.64'
P-44 IE=	27.29'
SUMP=	16'

CULVERT PIPE SUMMARY										
PIPE ID	DIA.	TYPE	LENGTH	SLOPE	INLET STA. OFFSET			OUTLET ELEV.		
					STA.	OFFSET	INVERT	STA.	OFFSET	INVERT
P-43	18"	CPP	34.0'	2.00%	48+24.30	1.00' LT	27.07'	48+24.39	35.00' LT	26.39'
P-44	18"	CPP	16.5'	2.00%	49+47.00	1.00' LT	27.29'	49+47.41	17.50' LT	26.96'
P-(E7)	24"	CPP	64.8'	8.00%	49+23.29	37.53' RT	24.67'	49+36.65	25.84' LT	19.49'



RECORD OF REVISIONS			
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**PORTAGE COVE TRAILS**

HAINES BOROUGH

**SEGMENT 6B (PORTAGE COVE CAMPGROUND)**  
**STA 48+05 TO 50+75**

SHEET NUMBER	
24	OF
32	



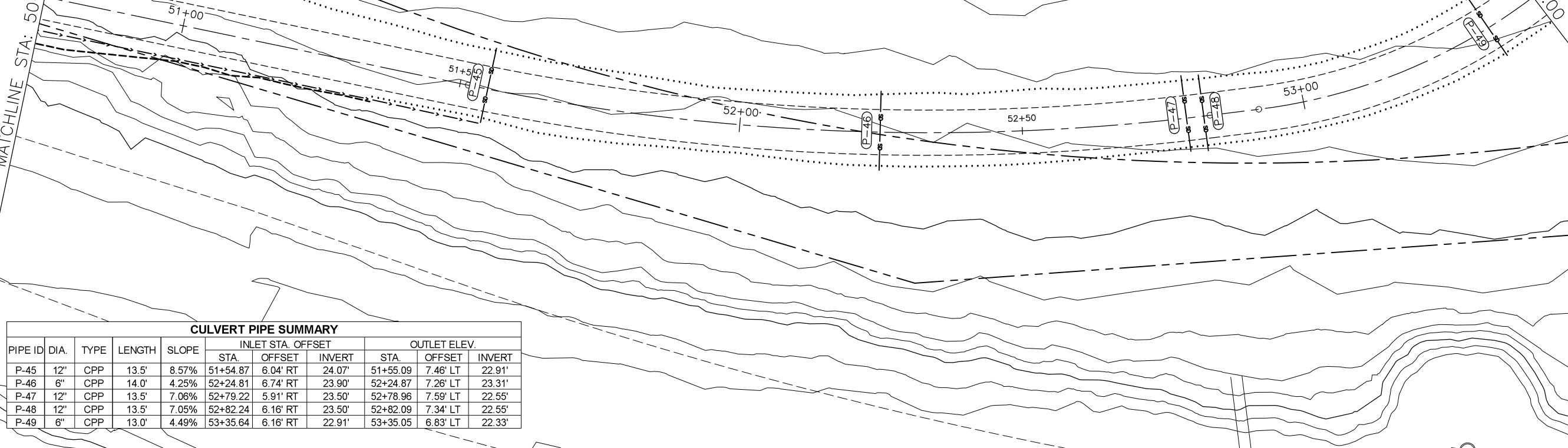


LOT 1 ATS 55, BLK 5

UNOCCUPIED TIDELANDS

MATCHLINE STA: 50+75.00

MATCHLINE STA: 53+45.00

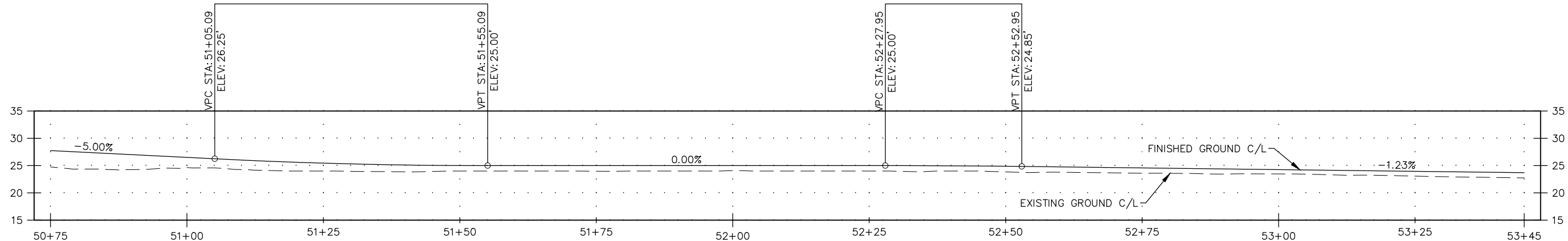


**CULVERT PIPE SUMMARY**

PIPE ID	DIA.	TYPE	LENGTH	SLOPE	INLET STA. OFFSET			OUTLET ELEV.		
					STA.	OFFSET	INVERT	STA.	OFFSET	INVERT
P-45	12"	CPP	13.5'	8.57%	51+54.87	6.04' RT	24.07'	51+55.09	7.46' LT	22.91'
P-46	6"	CPP	14.0'	4.25%	52+24.81	6.74' RT	23.90'	52+24.87	7.26' LT	23.31'
P-47	12"	CPP	13.5'	7.06%	52+79.22	5.91' RT	23.50'	52+78.96	7.59' LT	22.55'
P-48	12"	CPP	13.5'	7.05%	52+82.24	6.16' RT	23.50'	52+82.09	7.34' LT	22.55'
P-49	6"	CPP	13.0'	4.49%	53+35.64	6.16' RT	22.91'	53+35.05	6.83' LT	22.33'

PVI STA: 51+30.09  
PVI ELEV: 25.00'  
LVC: 50'

PVI STA: 52+40.45  
PVI ELEV: 25.00'  
LVC: 25'



RECORD OF REVISIONS			
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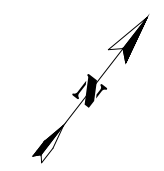


PORTAGE COVE TRAILS

HAINE, BOROUGH

**SEGMENT 6B (PORTAGE COVE CAMPGROUND)**  
**STA 50+75 TO 53+45**

SHEET NUMBER	
25	OF
32	



MATCHLINE STA: 53+45.00

MATCHLINE STA: 56+15.00

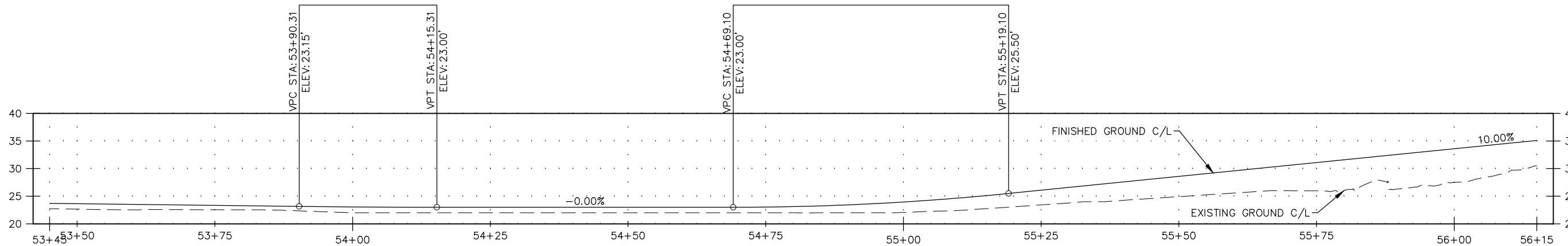
UNOCCUPIED TIDELANDS

OWNER UNKNOWN  
LOT 1  
SEC 35

CULVERT PIPE SUMMARY										
PIPE ID	DIA	TYPE	LENGTH	SLOPE	INLET STA. OFFSET			OUTLET ELEV.		
					STA.	OFFSET	INVERT	STA.	OFFSET	INVERT
P-50	6"	CPP	13.0'	0.00%	54+15.41	6.75' RT	21.75'	54+14.56	6.23' LT	21.75'
P-51	6"	CPP	13.5'	0.61%	54+69.78	6.73' RT	21.75'	54+69.78	6.77' LT	21.67'
P-52	12"	CPP	22.0'	6.38%	55+05.28	8.00' RT	22.60'	54+90.30	8.94' LT	21.19'

PVI STA: 54+02.81  
PVI ELEV: 23.00'  
LVC: 25'

PVI STA: 54+94.10  
PVI ELEV: 23.00'  
LVC: 50'



RECORD OF REVISIONS			
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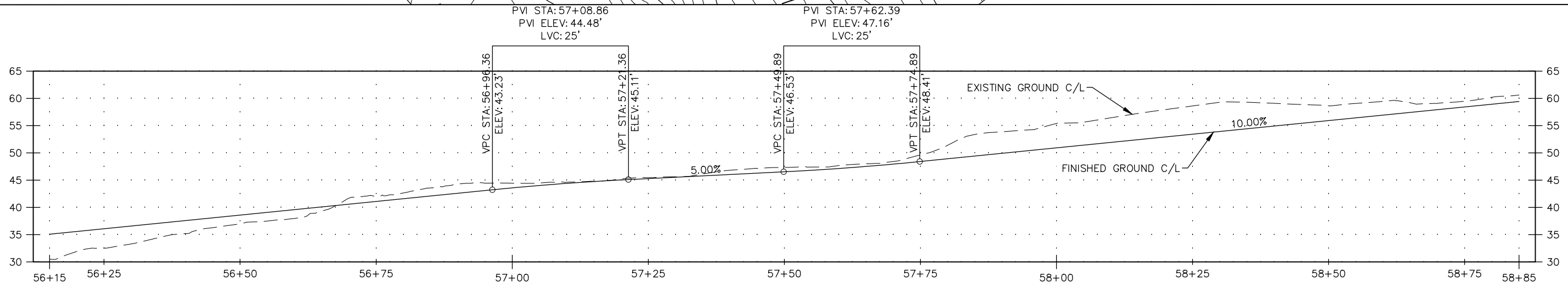
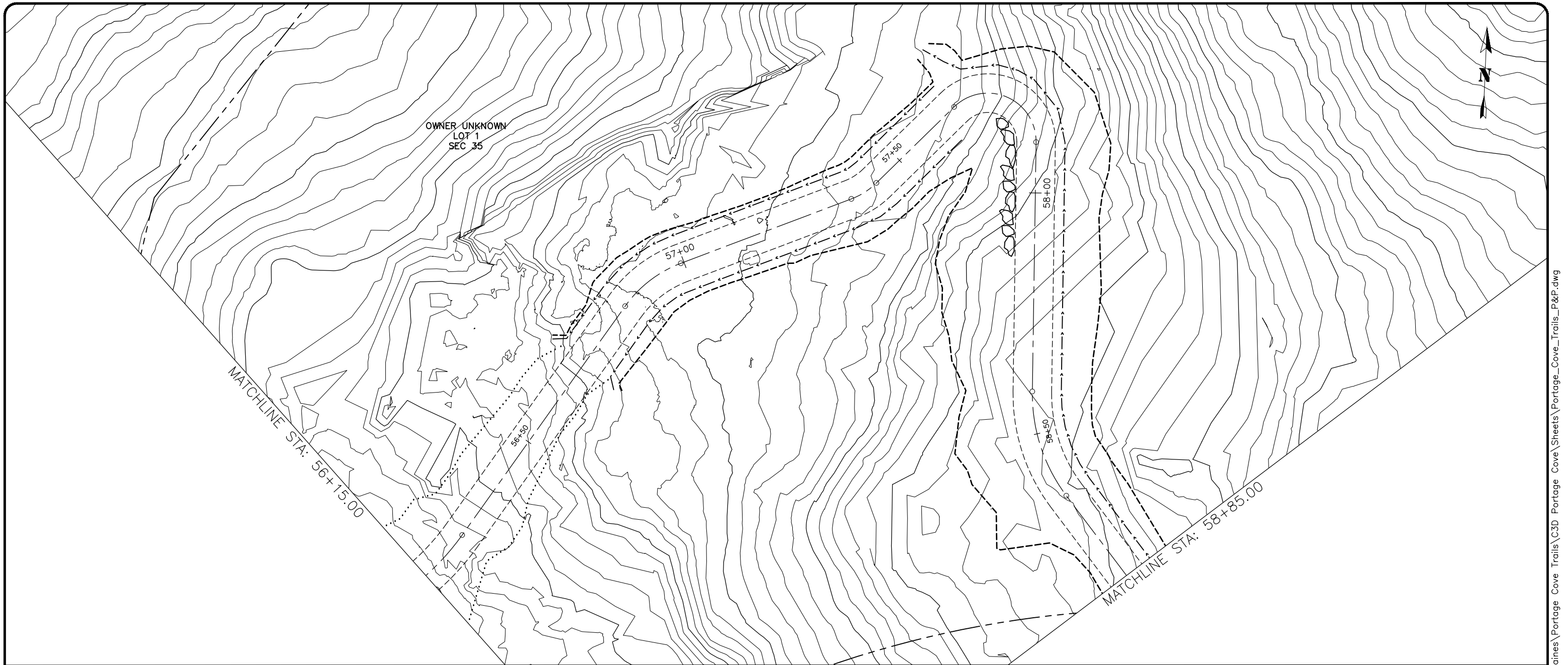


PORTAGE COVE TRAILS

HAINES BOROUGH

**SEGMENT 6B (PORTAGE  
COVE CAMPGROUND)  
STA 53+45 TO 56+15**

SHEET NUMBER	
26	OF
32	



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



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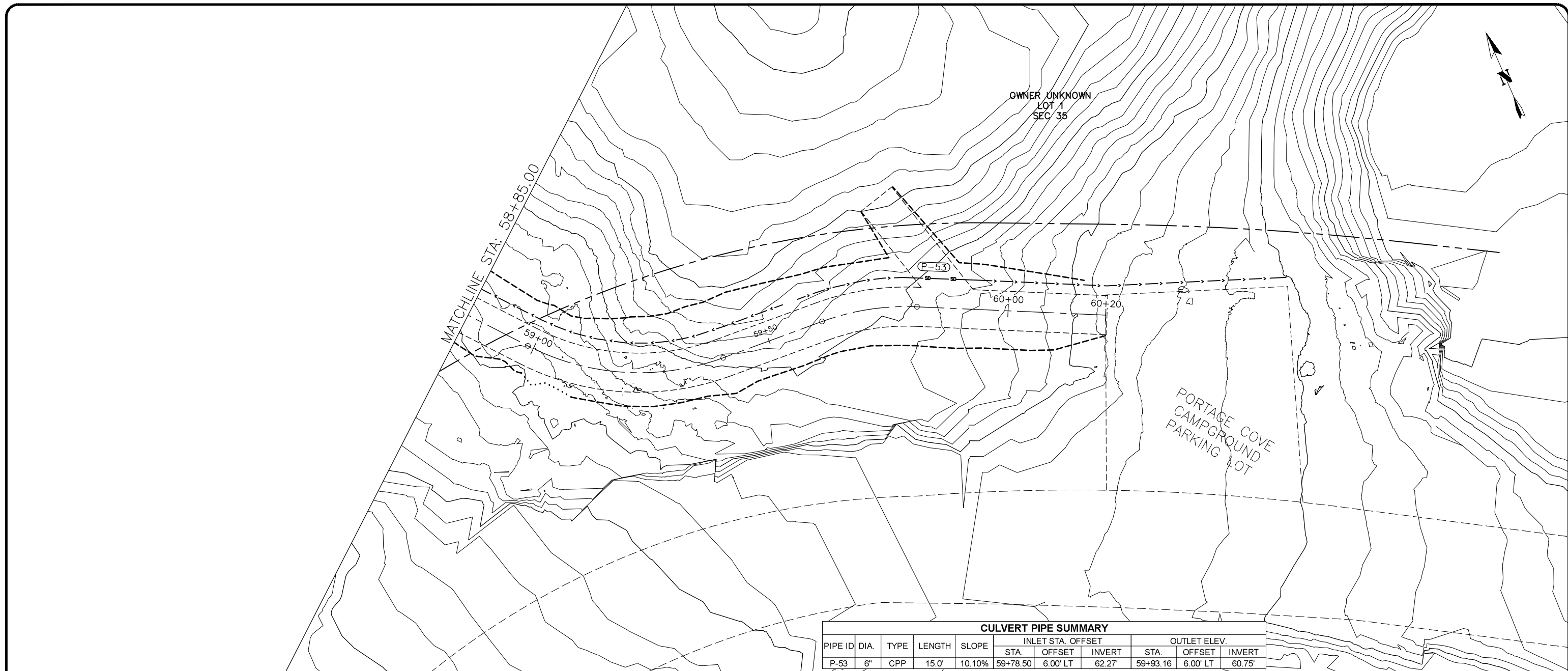
PORTAGE COVE TRAILS

HAINES BOROUGH

**SEGMENT 6B (PORTAGE  
 COVE CAMPGROUND)**  
**STA 56+15 TO 58+85**

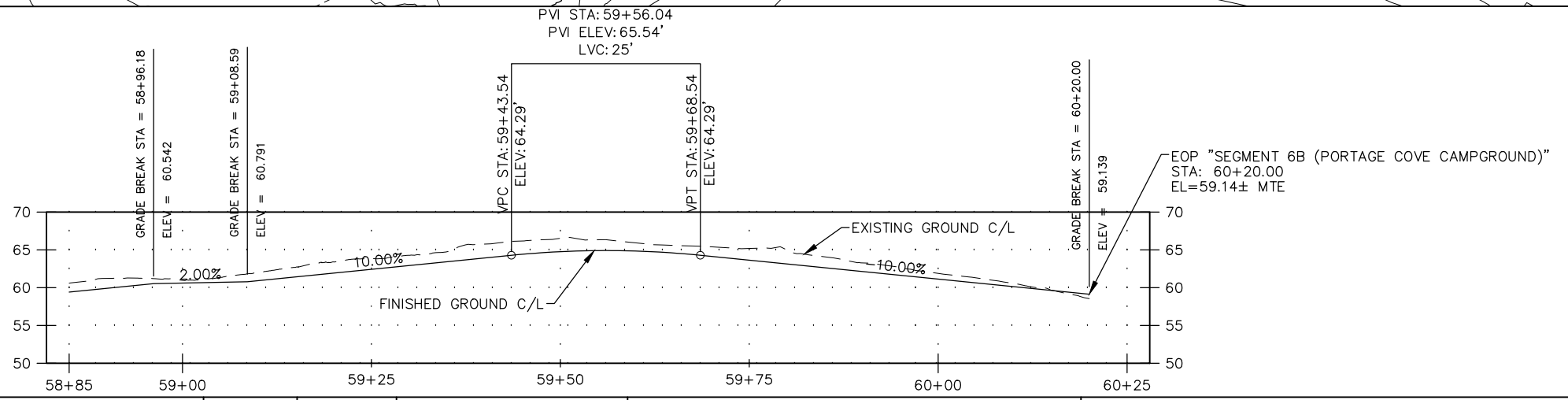
SHEET NUMBER	
27	OF
32	






**CULVERT PIPE SUMMARY**

PIPE ID	DIA.	TYPE	LENGTH	SLOPE	INLET STA. OFFSET			OUTLET ELEV.		
					STA.	OFFSET	INVERT	STA.	OFFSET	INVERT
P-53	6"	CPP	15.0'	10.10%	59+78.50	6.00' LT	62.27'	59+93.16	6.00' LT	60.75'



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



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**PORTAGE COVE TRAILS**

HAINES BOROUGH

**SEGMENT 6B (PORTAGE COVE CAMPGROUND)  
 STA 58+85 TO 60+20**

SHEET NUMBER
28
OF
32