COMUNE DI COGOLETO

ASSOCIAZIONE BAGNI MARINI
DI COGOLETO

PROGETTO DI FATTIBILITA' TECNICA ED ECONOMICA PER IL POTENZIONAMENTO ED IL MIGLIORAMENTO DELLE SPIAGGE COMUNALI

PARTE SECONDA: PROGETTO

PROGETTO:

SPIAGGE DI LEVANTE:

- SALPAMENTO PENNELLO "SABINA"
- PROLUNGAMENTO PENNELLI "PASSO DEL DIAVOLO" E PENNELLO "LO SCOGLIO
- ISOLE "THELMA", "LE VELE", PIPPY ISLAND" E"SAVINA"

TAVOLA N.
17

data
Gennaio 2017

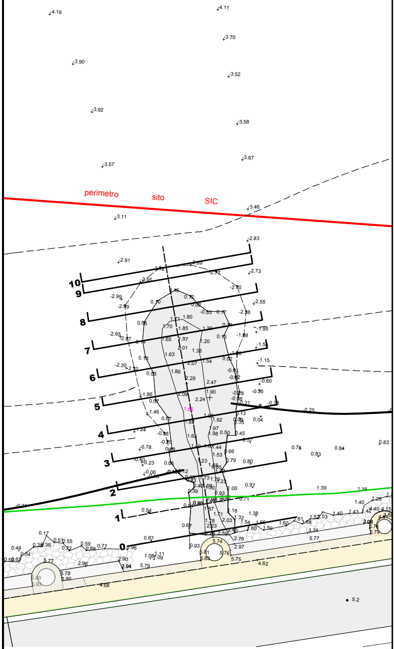
scala
1: 500

A	PRIMA STESURA	Gennaio 2017
B		
C		
D		
E		

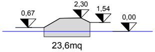
STUDIO SIRITO
Savona

ing. Giorgio Sirito
ing. Roberto Sirito
geom. Vittorio Sirito

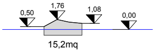
PENNELLO "SAVINA": SALPAMENTO MOLO ESISTENTE


-4.19
-4.11
-3.70
-3.90
-3.52
-3.92
-3.58
-3.57
-3.67
perimetro
sito
SIC
-3.46
-3.11
-2.83
-2.91
-2.73
10
9
8
7
6
5
4
3
2
1
0
-0.25
0.76
0.83
0.84
0.83
1.39
5.2

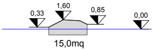
Sez. 0


0,67
2,30
1,54
0,00
23,6mq

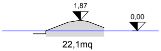
Sez. 1


0,50
1,76
1,08
0,00
15,2mq

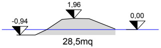
Sez. 2


0,33
1,60
0,85
0,00
15,0mq

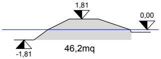
Sez. 3


1,87
0,00
22,1mq

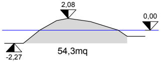
Sez. 4


1,96
-0,94
0,00
28,5mq

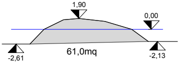
Sez. 5


1,81
0,00
-1,81
46,2mq

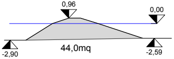
Sez. 6


2,08
0,00
-2,27
54,3mq

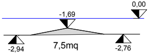
Sez. 7


1,90
0,00
-2,61
61,0mq
-2,13

Sez. 8


0,96
0,00
-2,90
44,0mq
-2,59

Sez. 9

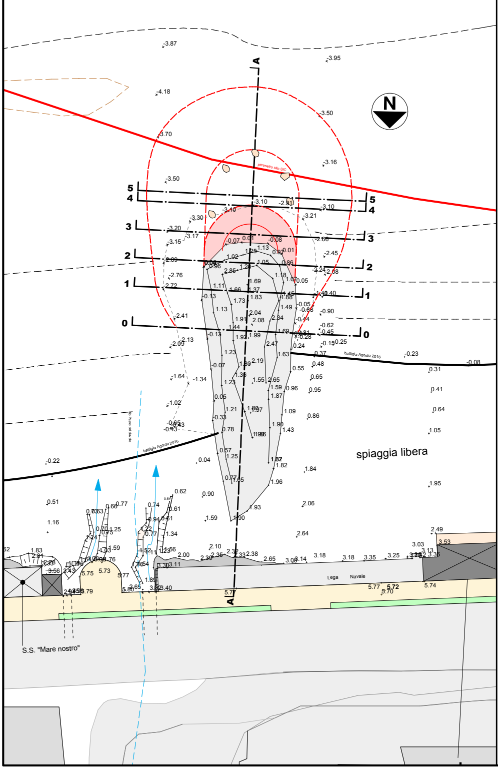

-1,69
0,00
-2,94
7,5mq
-2,76

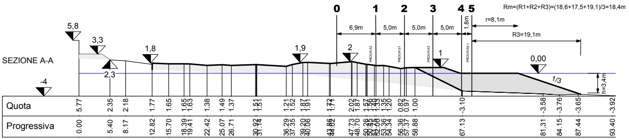
CONTEGGIO VOLUMI GEOMETRICI DI SALPAMENTO

	Aree sez A	Aree sez B	Distanza tra sezioni	Volumi ripascimento
	mq	mq	ml	mc
	A	B	C	D = (A+B) /2 X C
dalla sez 0 a sez 1	23,6	15,2	2,0	38,8
dalla sez 1 alla sez 2	15,2	15,0	5,0	75,5
dalla sez 2 alla sez 3	15,0	22,1	5,0	92,8
dalla sez 3 alla sez 4	22,1	28,5	5,0	126,5
dalla sez 4 alla sez 5	28,5	46,2	5,0	186,8
dalla sez 5 alla sez 6	46,2	54,3	5,0	251,3
dalla sez 6 alla sez 7	54,3	61,0	5,0	288,3
dalla sez 7 alla sez 8	61,0	44,0	5,0	262,5
dalla sez 8 alla sez 9	44,0	7,5	5,0	128,8
dalla sez 9 alla sez 10	7,5	0,0	5,0	18,8

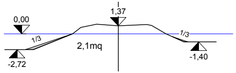
			TOTALE	1.469,8

PENNELLO "PASSO DEL DIAVOLO": PROLUNGAMENTO MOLO ESISTENTE

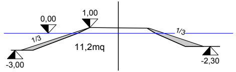

N
A
A
5
4
3
2
1
0
5
4
3
2
1
0
perimetro sito SIC
battigia Agosto 2016
battigia Agosto 2016
spiaggia libera
Lega Navale
S.S. "Mare nostro"
-3.87
-3.95
-4.18
-3.50
-3.70
-3.16
-3.50
-3.10
-2.91
-3.10
-3.21
-2.60
-2.45
0.31
0.41
0.64
1.05
1.84
1.95
2.06
2.64
2.49
3.53
5.77
5.72
5.74
5.70


SEZIONE A-A
Rm=(R1+R2+R3)=(18,6+17,5+19,1)/3=18,4m
0
1
2
3
4
5
6,9m
5,0m
5,0m
5,0m
1,8m
r=8,1m
R3=19,1m
5,8
3,3
2,3
-4
1,8
1,9
2
1
0,00
1/3
h=3,4m
Quota
5.77 2.35 2.18 1.77 1.65 1.65 1.63 1.38 1.49 1.37 1.51 1.51 1.21 1.52 1.87 1.91 1.72 1.74 2.02 1.87 0.82 0.97 1.00 -3.10 -3.58 -3.76 -3.65 -3.92
Progressiva
0.00 5.40 8.17 12.82 15.70 18.39 19.41 22.42 25.07 26.71 30.92 31.14 36.29 37.35 39.20 40.06 43.86 44.02 47.73 48.70 56.36 57.37 58.88 67.13 81.31 84.15 87.44 93.40

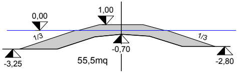
sez 1


0,00
1,37
1/3
1/3
2,1mq
-2,72
-1,40

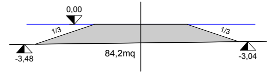
sez 2


0,00
1,00
1/3
1/3
11,2mq
-3,00
-2,30

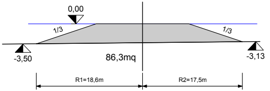
sez 3


0,00
1,00
1/3
1/3
-0,70
55,5mq
-3,25
-2,80

sez 4


0,00
1/3
1/3
84,2mq
-3,48
-3,04

sez 5


0,00
1/3
1/3
86,3mq
-3,50
-3,13
R1=18,6m
R2=17,5m

CONTEGGIO VOLUMI MASSI PER PROLUNGAMETO MOLO

NUCLEO

	Aree sez A	Aree sez B	Distanza tra sezioni	Volumi ripascimento
	mq	mq	ml	mc
	A	B	C	D = (A+B) /2 X C
dalla sez 0 a sez 1	0,0	2,1	6,9	7,2
dalla sez 1 alla sez 2	2,1	11,2	5,0	33,3
dalla sez 2 alla sez 3	11,2	55,5	5,0	166,8
dalla sez 3 alla sez 4	55,5	84,2	5,0	349,3
dalla sez 4 alla sez 5	84,2	86,3	1,8	153,5
TOTALE				**709,9**

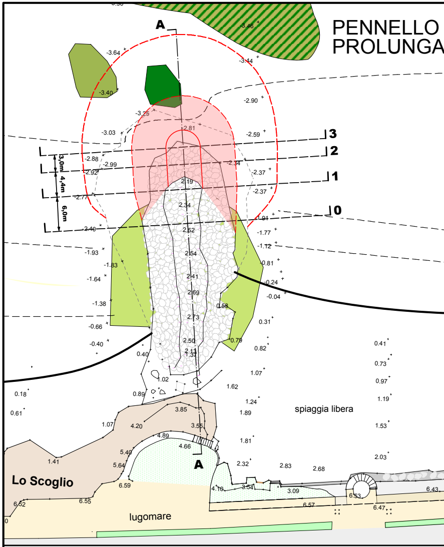
TESTATA

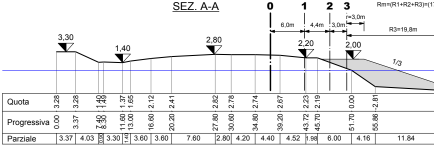
				mc
V=1/6*3.14(r*r+r*Rm+Rm*Rm)*h				
V=1/6*3.14*(8.1*8.1+8.1*18.4+18.4*18.4)*3.40=				**984,3**

TOTALE

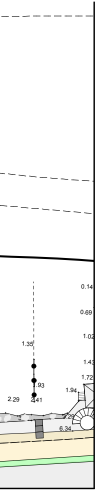
Nucleo + Testata: 709,9 + 984,3 =	**1694,2**

PENNELLO
PROLUNGA

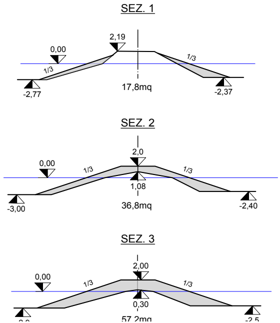

A
A
3
2
1
0
3,0m
4,4m
6,0m
-3.46
-3.64
-3.44
-3.40
-2.90
-3.25
2.81
-3.03
-2.59
-2.88
-2.99
-2.92
-2.34
-2.37
-2.37
2.19
-2.77
2.34
-1.91
-2.40
2.52
-1.77
-1.12
-1.93
2.54
-0.81
-1.83
-1.64
2.41
-0.24
-0.04
2.69
0.58
-1.38
2.73
0.31
-0.66
-0.40
2.50
0.79
0.82
0.40
2.13
1.37
0.41
0.73
1.07
1.02
0.97
0.18
0.89
1.62
1.24
1.19
0.61
3.85
1.89
spiaggia libera
1.07
4.20
3.55
1.53
4.89
1.81
5.40
4.66
1.41
5.64
2.32
2.83
2.68
2.03
Lo Scoglio
6.59
4.10
3.54
3.09
6.53
6.43
6.52
6.55
6.57
6.47
lugomare


SEZ. A-A
0
1
2
3
Rm=(R1+R2+R3)=(1
6,0m
4,4m
3,0m
r=3,0m
R3=19,8m
3,30
1,40
2,80
2,20
2,00
1/3
Quota
3.28 3.28 1.40 1.49 1.37 1.65 2.12 2.41 2.82 2.78 2.74 2.67 2.23 2.19 0.00 -2.81
Progressiva
0.00 3.37 7.40 8.30 11.60 13.00 16.60 20.20 27.80 30.60 34.80 39.20 43.72 45.70 51.70 55.86
Parziale
3.37 4.03 0.90 3.30 1.40 3.60 3.60 7.60 2.80 4.20 4.40 4.52 1.98 6.00 4.16 11.84

"LO SCOGLIO": MENTO MOLO ESISTENTE

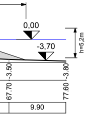


0.14
0.69
1.02
1.35
1.43
1.72
1.94
.93
2.29
2.41
3.29
6.34



SEZ. 1
2,19
0,00
1/3
1/3
-2,77
17,8mq
-2,37
SEZ. 2
2,0
0,00
1/3
1/3
1,08
-3,00
36,8mq
-2,40
SEZ. 3
2,00
0,00
1/3
1/3
0,30
57,2mq

7,6+16,6+19,8)/3=18,0m



0,00
-3,70
h=5,2m
-3.50
-3.80
67.70
77.60
9.90

CONTEGGIO VOLUMI MASSI PER PROLUNGAMETO MOLO

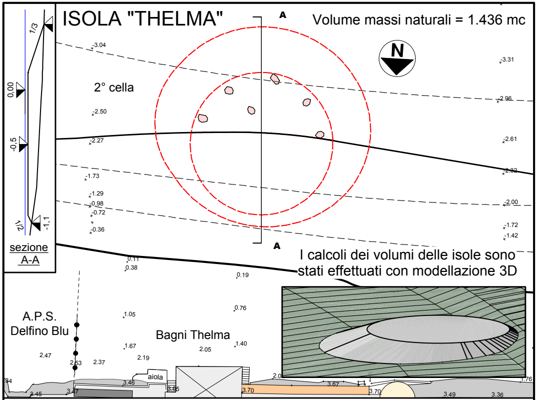
NUCLEO				
	Aree sez A	Aree sez B	Distanza tra sezioni	Volumi ripascimento
	mq	mq	ml	mc
	A	B	C	D = (A+B) /2 X C
dalla sez 0 a sez 1	0,0	17,8	6,0	53,4
dalla sez 1 alla sez 2	17,8	36,8	4,4	120,1
dalla sez 2 alla sez 3	36,8	57,2	3,0	141,0

			TOTALE	314,5
TESTATA				
V=1/6*3.14(r*r+r*Rm+Rm*Rm)*h				
V=1/6*3.14*(3*3+3*18+18*18)*5,2=				1.053,2
TOTALE				
			TOTALE: 314,5+1.053,2 =	1.367,7

ISOLA "THELMA"

Volume massi naturali = 1.436 mc

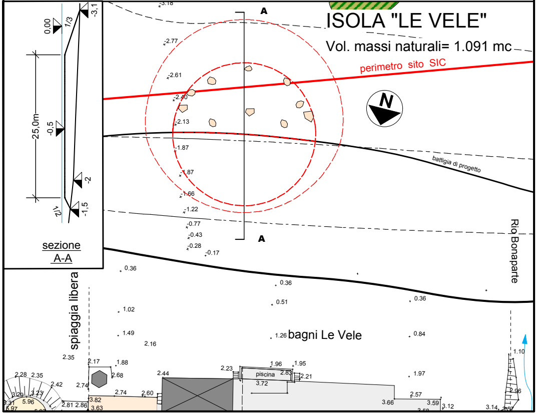
I calcoli dei volumi delle isole sono stati effettuati con modellazione 3D



1/3
0,00
-0,5
1/2
-1,1
sezione A-A
A
A
N
2° cella
-3.04
-2.50
-2.27
-1.73
-1.29
-0.98
-0.72
-0.36
-3.31
-2.96
-2.61
-2.32
-2.00
-1.72
-1.42
0.11
0.38
0.19
0.76
1.05
1.67
1.40
2.05
2.19
2.37
2.47
2.63
A.P.S. Delfino Blu
Bagni Thelma
aiola
3.46
3.47
3.45
3.65
3.70
3.67
2.0
3.49
3.36
1.76

ISOLA "LE VELE"

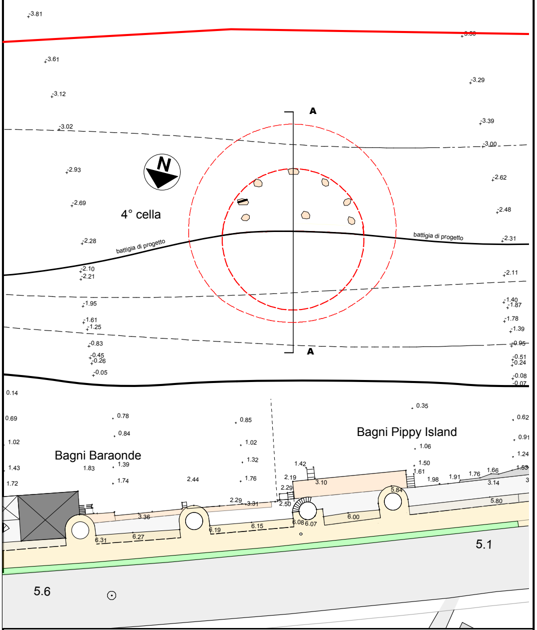
Vol. massi naturali= 1.091 mc



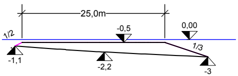
0,00
1/3
-3,1
25,0m
-0,5
-2
1/2
-1,5
sezione A-A
A
A
N
perimetro sito SIC
battigia di progetto
-3.18
-2.77
-2.61
-2.40
-2.13
-1.87
-1.87
-1.66
-1.22
-0.77
-0.43
-0.28
-0.17
0.36
0.36
0.51
0.36
1.02
1.49
2.16
1.26
0.84
spiaggia libera
bagni Le Vele
Rio Bonaparte
2.35
2.17
1.88
2.68
2.44
2.23
1.96
1.95
piscina
2.83
2.21
3.72
1.97
1.10
2.28
2.35
2.42
2.74
2.74
2.60
3.82
3.63
2.81
2.86
5.96
5.97
3.31
3.29
3.23
2.57
3.66
3.59
3.12
3.14
2.96

ISOLA "PIPPY ISLAND"

Volume massi naturali= 1.379 mc

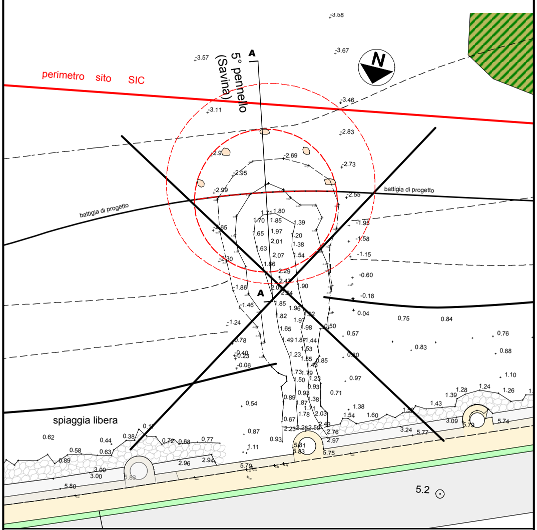

N
A
A
4° cella
battigia di progetto
battigia di progetto
Bagni Baraonde
Bagni Pippy Island
5.1
5.6
3.81
3.61
3.12
3.02
2.93
2.69
2.28
2.10
2.21
1.95
1.61
1.25
0.83
0.45
0.26
0.05
3.29
3.39
3.00
2.62
2.48
2.31
2.11
1.40
1.87
1.78
1.39
0.95
0.51
0.24
0.08
0.07
0.14
0.69
1.02
1.43
1.72
0.78
0.84
1.83
1.39
1.74
2.44
0.85
1.02
1.32
1.76
0.35
0.62
0.91
1.24
1.06
1.50
1.61
1.42
2.19
2.29
2.50
2.29
3.31
3.10
1.98
1.91
1.76
1.66
1.53
3.14
5.84
5.80
3.36
6.31
6.27
6.19
6.15
6.08
6.07
6.00

sezione A-A


25,0m
1/2
-0,5
0,00
1/3
-1,1
-2,2
-3

ISOLA "SAVINA"

Volume massi naturali= 1.469 mc


perimetro sito SIC
5° pennello (Savina)
A
A
N
battigia di progetto
battigia di progetto
spiaggia libera
5.2
3.58
3.67
3.57
3.46
3.11
2.83
2.73
2.69
2.95
2.99
2.55
1.80
1.85
1.39
1.97
1.20
2.01
1.38
2.07
1.54
1.86
2.29
2.47
2.04
1.90
1.85
1.96
1.82
1.97
1.65
1.98
1.87
1.44
1.53
1.23
1.55
0.85
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0.93
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1.87
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5.75
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0.75
0.84
0.57
0.50
0.80
0.83
0.76
0.88
1.10
0.97
0.71
1.28
1.24
1.26
1.39
1.43
1.38
1.54
1.60
3.09
3.24
5.77
5.79
5.74
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-1.46
-1.24
0.78
0.40
0.23
0.06
0.54
0.87
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0.44
0.38
0.58
0.63
0.89
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3.00
3.00
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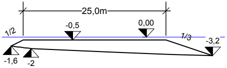
5.80

sezione A-A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