

BASELINE OF CONSTRUCTION CONTROL COORDINATES				
STATION		NORTHING	EASTING	
1	POB	STA. 0+00.00	515,970.3799	557,673.8897
	PI	STA. 0+21.49	515,948.9532	557,672.1903
3	PT	STA. 0+35.06	515,944.9107	557,693.3008
4	PC	STA. 0+64.65	515,939.3452	557,722.3646
	PI	STA. 0+82.36	515,936.0140	557,739.7605
6	PCC	STA. 0+95.17	515,951.6547	557,748.0719
	PI	STA. 2+80.77	516,115.5549	557,835.1683
8	PCC	STA. 4+66.11	516,286.8162	557,906.7128
	PI	STA. 5+03.18	516,321.0221	557,921.0024
10	PT	STA. 5+23.10	516,333.3242	557,886.0325
11	PC	STA. 5+76.59	516,351.0767	557,835.5691
	PI	STA. 6+05.45	516,360.6527	557,808.3481
13	PCC	STA. 6+24.86	516,335.7569	557,793.7578
	PI	STA. 7+61.76	516,217.6417	557,724.5356
15	PCC	STA. 8+96.87	516,084.9821	557,690.7076
	PI	STA. 9+32.21	516,050.7371	557,681.9752
17	PCC	STA. 9+67.43	516,015.6043	557,678.1465
	PI	STA. 9+90.15	515,993.0234	557,675.6857
19	POE	STA. 10+12.86	515,970.3799	557,673.8897

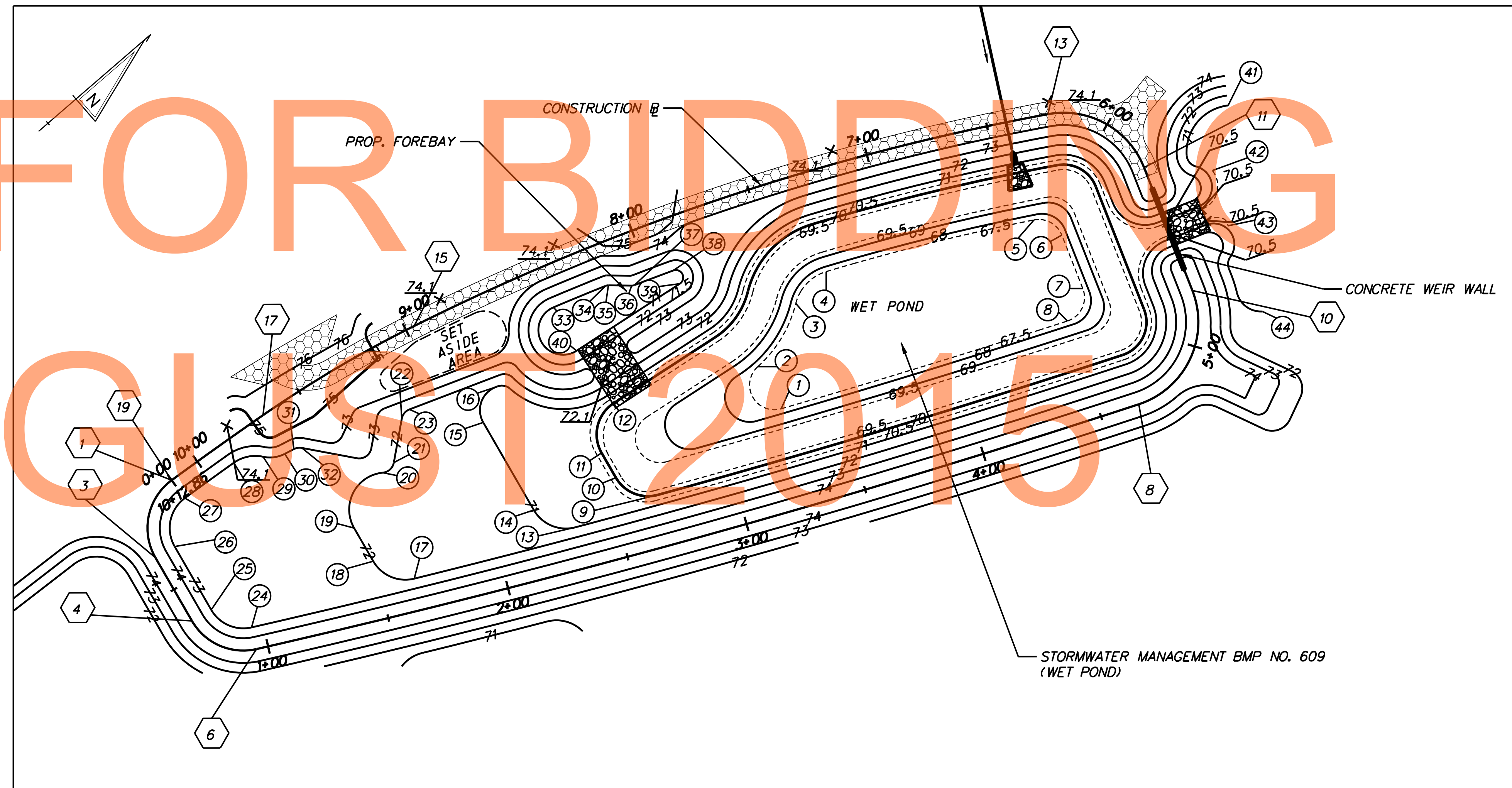
NOTES:

1. THE POND, BETWEEN ELEVATIONS 69.5 AND 74.0, INCLUDING THE BENCH AT ELEVATION 69.5 SHALL RECEIVE TOPSOILING, 6" DEPTH (ITEM 908010).
2. THE POND, BETWEEN ELEVATIONS 67.5 AND 71.5, NOT INCLUDING THE POND BOTTOM, SHALL RECEIVE PERMANENT GRASS SEEDING - WET GROUND (ITEM 908015).
3. THE REMAINDER OF THE EMBANKMENT AREA ABOVE ELEVATION 71.5 SHALL RECEIVE PERMANENT GRASS SEEDING - DRY GROUND (ITEM 908014).
4. WET GROUND SEEDING AREA = 2,105 SY,
DRY GROUND SEEDING AREA = 1,966 SY.

LEGEND	
POND CONTOUR	—65—
POND MAINTENANCE ACCESS	
BASELINE OF CONSTRUCTION CONTROL COORDINATES	⑧
GRADING CONTROL POINTS	①
BOTTOM OF POND	BOP
BOTTOM OF FOREBAY	BOF
BOTTOM OF TOE	BOT

GRADING CONTROL POINTS				
	NORTHING	EASTING	ELEVATION	NOTE
1	516,176.0366	557,813.3861	67.50	BOP
2	516,180.0165	557,794.3010	67.50	BOP
3	516,208.4098	557,784.9939	67.50	BOP
4	516,226.1605	557,783.2878	67.50	BOP
5	516,303.4893	557,822.4800	67.50	BOP
6	516,307.9906	557,834.4976	67.50	BOP
7	516,300.2835	557,856.4059	67.50	BOP
8	516,286.9559	557,862.2979	67.50	BOP
9	516,115.4252	557,807.0913	70.00	BOP
10	516,107.1515	557,790.7318	70.00	BOP
11	516,109.3272	557,779.3704	70.00	BOP
12	516,126.1010	557,767.3311	70.00	BOP
13	516,081.5936	557,795.2065	71.00	BOP
14	516,073.4409	557,778.9055	71.00	BOP
15	516,081.1427	557,738.6855	71.00	BOP
16	516,094.3751	557,731.1660	71.00	BOP
17	516,018.6219	557,768.2681	72.00	BOP
18	516,010.6994	557,752.0818	72.00	BOP
19	516,013.6131	557,736.8662	72.00	BOP
20	516,037.0689	557,727.4849	72.00	BOP
21	516,043.1156	557,727.3095	72.00	BOP
22	516,057.1686	557,715.9762	72.00	BOP
23	516,062.0129	557,715.1681	72.00	BOP
24	515,955.8780	557,740.1244	73.00	BOP
25	515,948.1845	557,724.0573	73.00	BOP
26	515,953.7501	557,694.9935	73.00	BOP
27	515,969.6684	557,682.8616	73.00	BOP
28	515,994.0423	557,684.9902	73.00	BOP
29	516,004.6102	557,690.9117	73.00	BOP
30	516,012.0114	557,695.7535	73.00	BOP
31	516,016.0606	557,696.7111	73.00	BOP
32	516,018.8209	557,698.4617	73.00	BOP
33	516,133.1099	557,722.0146	71.00	BOF
34	516,154.7735	557,729.2378	71.00	BOF
35	516,155.7807	557,729.8261	71.00	BOF
36	516,162.8624	557,736.0913	71.00	BOF
37	516,163.8390	557,736.6689	71.00	BOF
38	516,179.5873	557,742.4541	71.00	BOF
39	516,178.1214	557,748.2335	71.00	BOF
40	516,128.6920	557,741.4428	71.00	BOF
41	516,393.2868	557,838.8119	71.00	BOT
42	516,371.2003	557,854.5738	70.50	BOT
43	516,361.3879	557,875.6391	70.50	BOT
44	516,349.2538	557,911.0120	71.00	BOT

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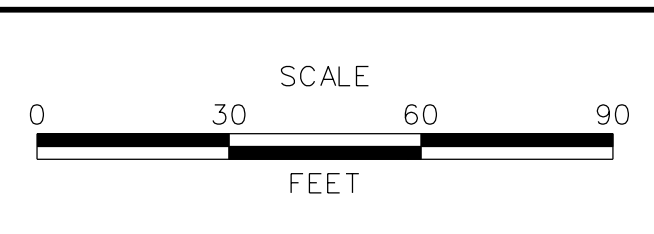


PLAN - STORMWATER MANAGEMENT POND - BMP NO. 609 - (STA. 147+00 N)

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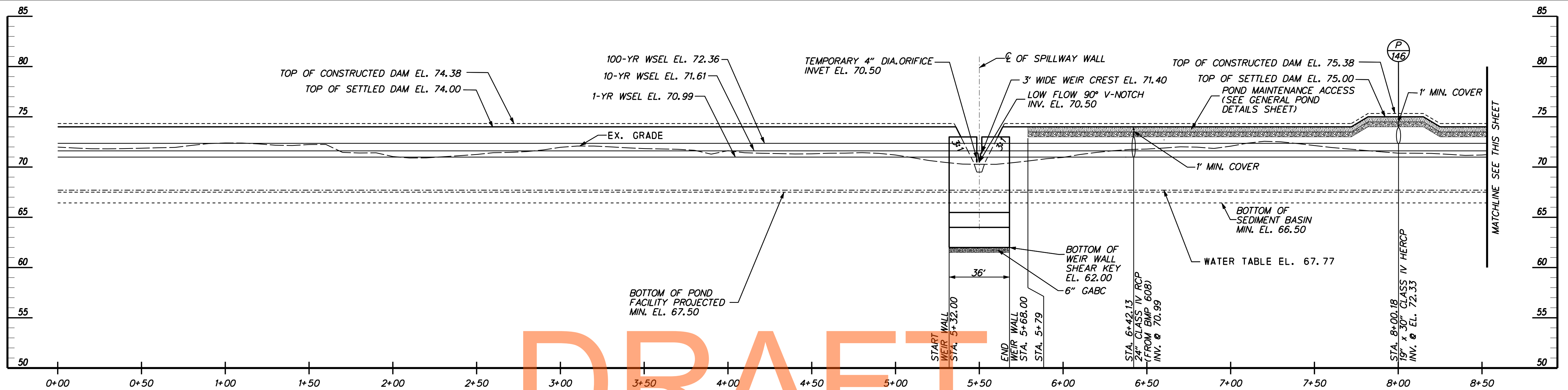
ADDENDUMS / REVISIONS



US 301
MARYLAND STATE LINE
TO LEVELS ROAD

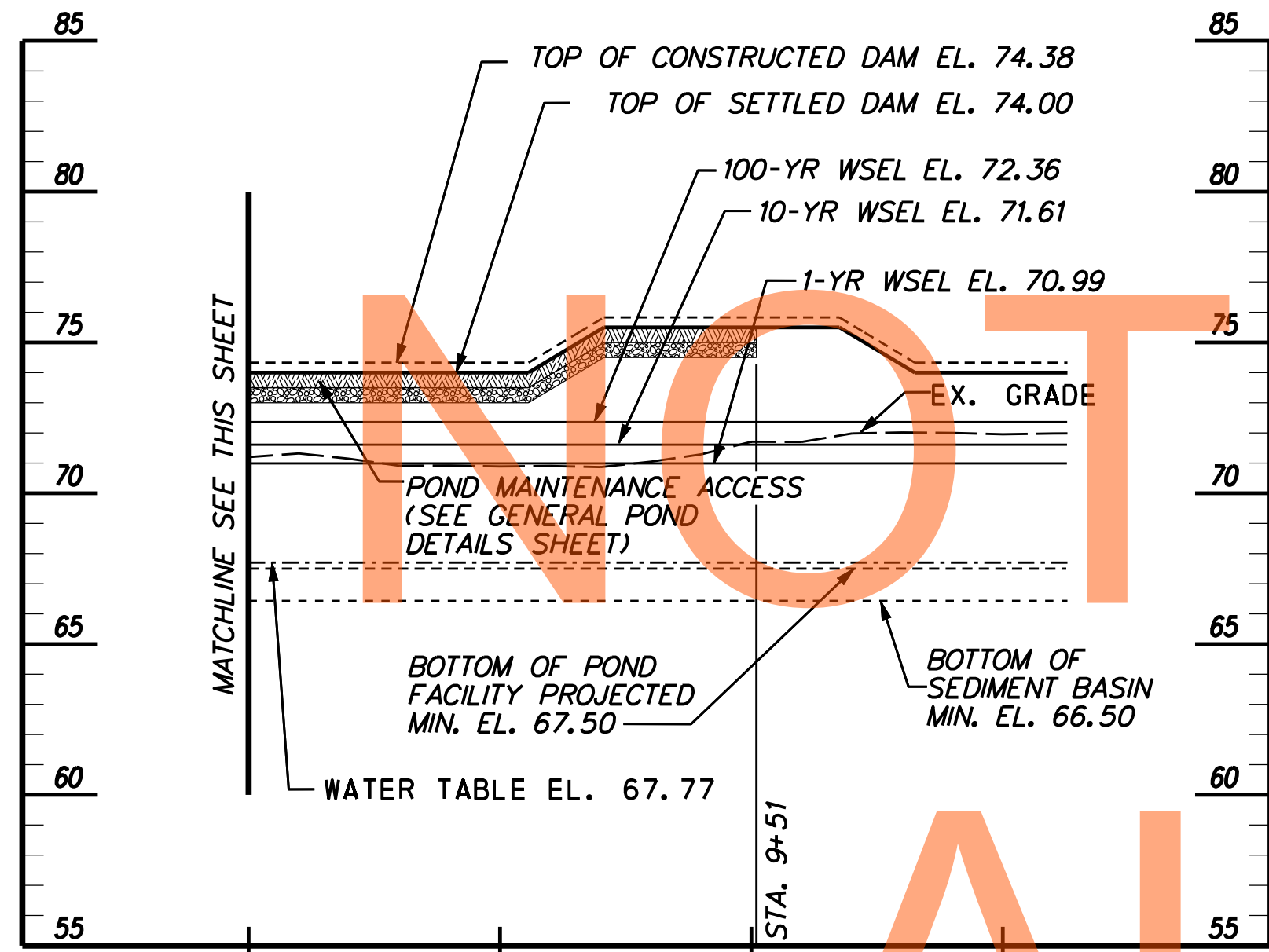
CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY:	DSM/ACF
COUNTY	CHECKED BY:	JZS
NEW CASTLE		

DETAILS FOR SWM POND BMP NO. 609	SHEET NO.	389
	TOTAL SHTS.	850
	SW-52	



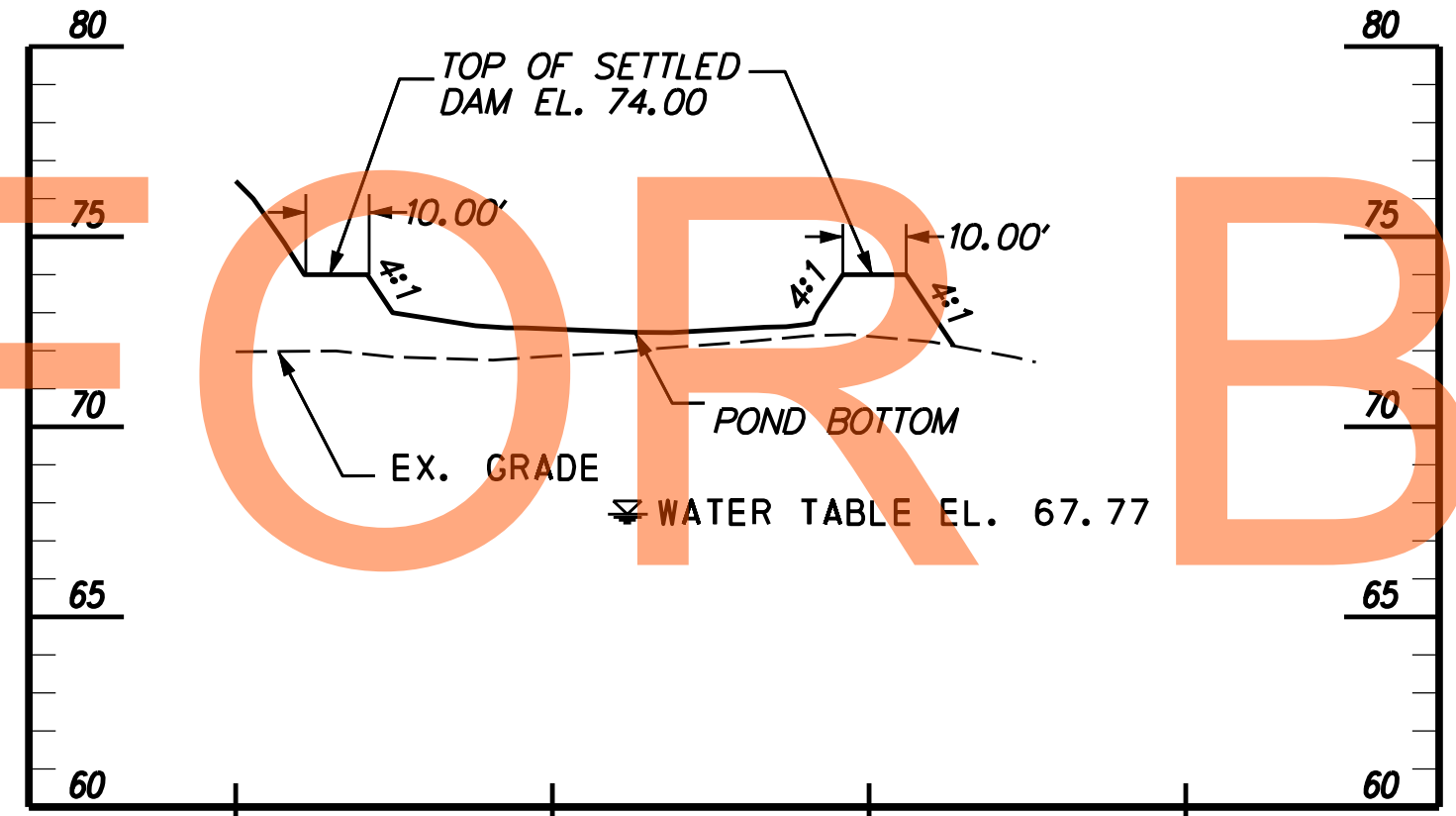
PROFILE ALONG \bar{C} OF EMBANKMENT

SCALE: HORIZ. 1"=30'
VERT. 1"=5'



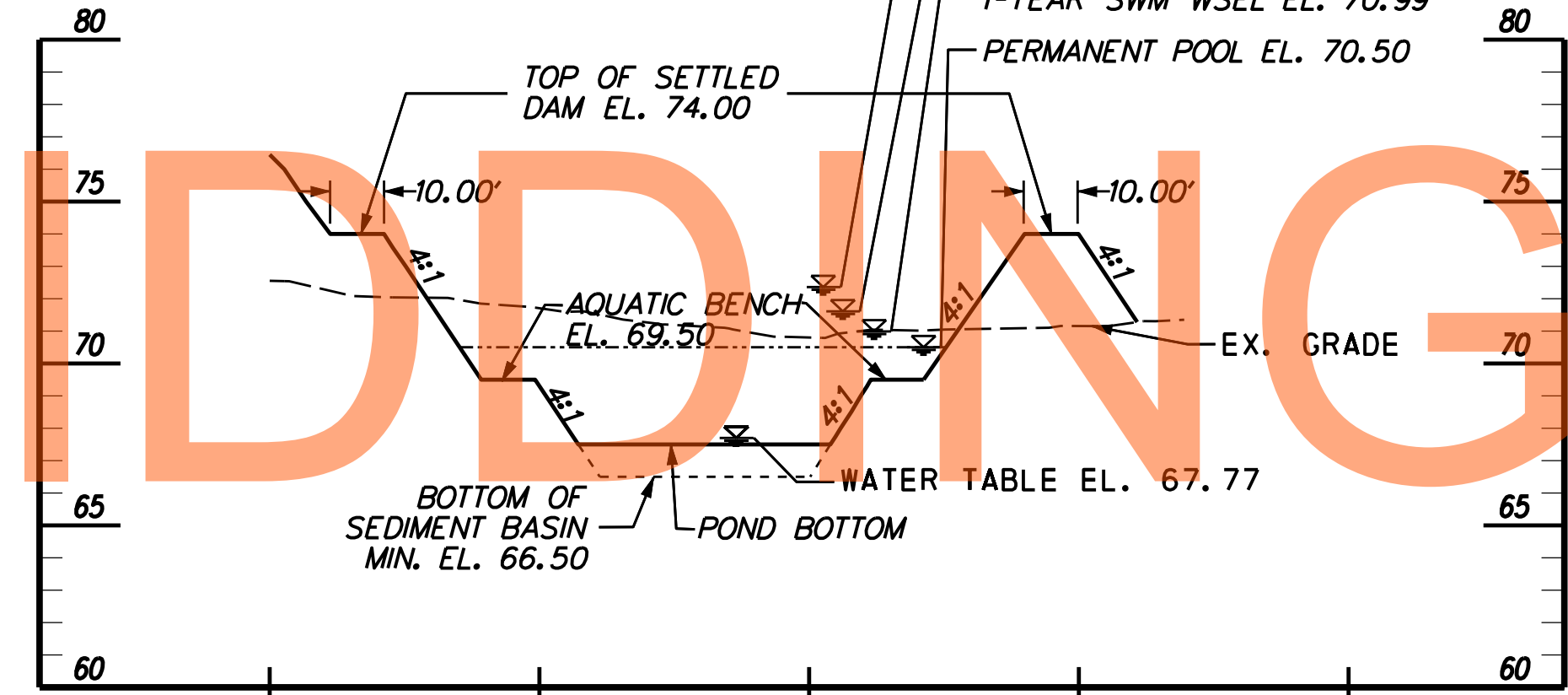
PROFILE ALONG \bar{C} OF EMBANKMENT

SCALE: HORIZ. 1"=30'
VERT. 1"=5'



CROSS SECTION A-A

SCALE: HORIZ. 1"=30'
VERT. 1"=5'



CROSS SECTION B-B

SCALE: HORIZ. 1"=30'
VERT. 1"=5'

POND MAINTENANCE ACCESS	
6" TOPSOIL, PERM. SEEDING	
6" DELAWARE NO. 3 STONE	

DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 609 - (STA. 147+00 N)

SW-53



ADDENDUMS / REVISIONS

SCALE: AS SHOWN

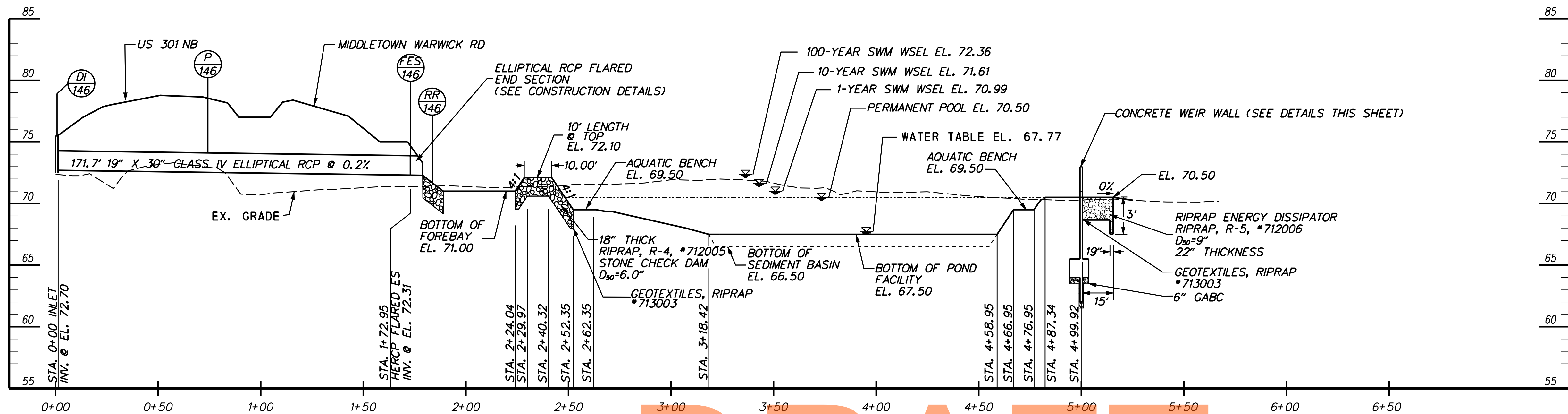
US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT T200811301	BRIDGE NO.	
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF	CHECKED BY: JZS

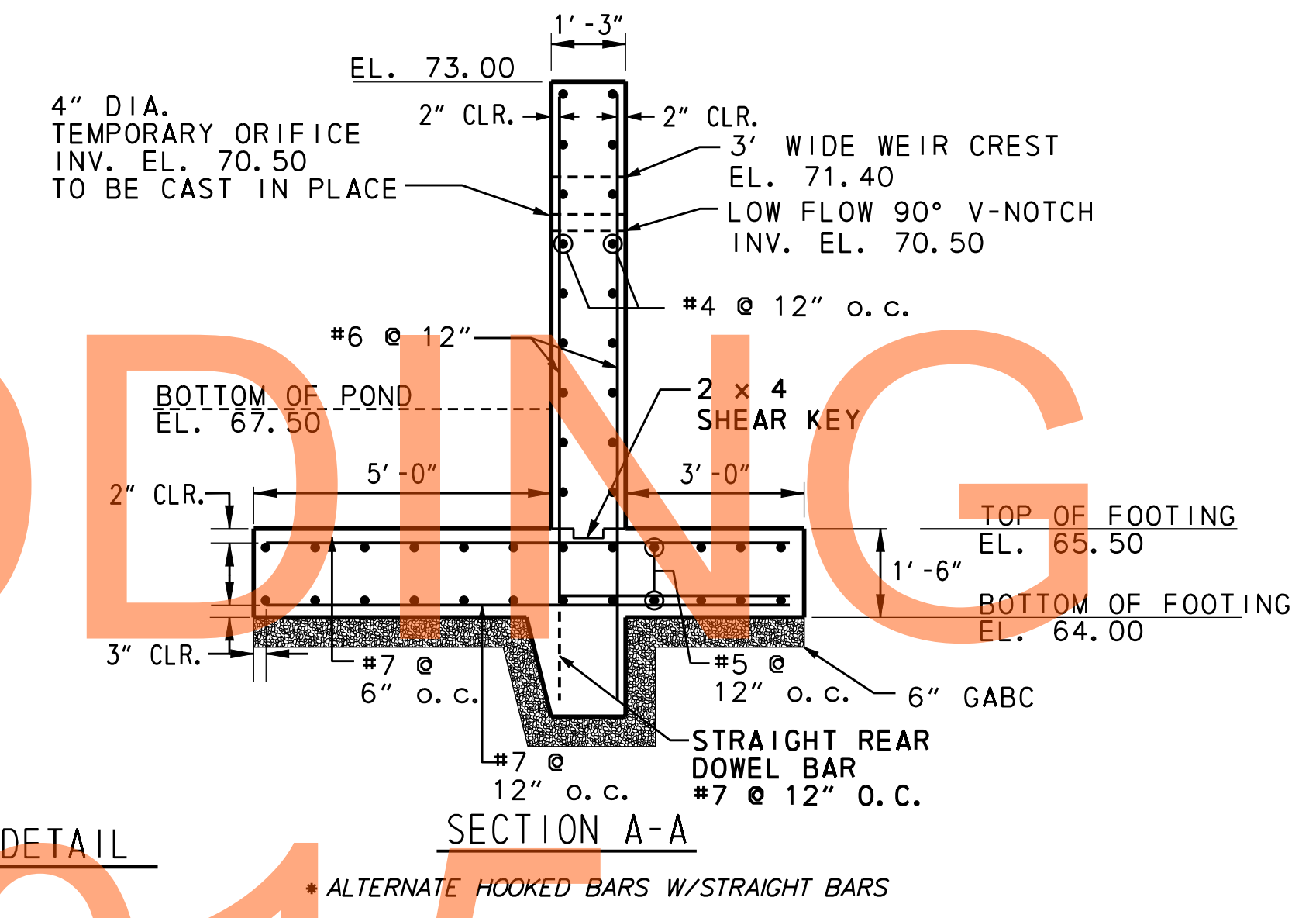
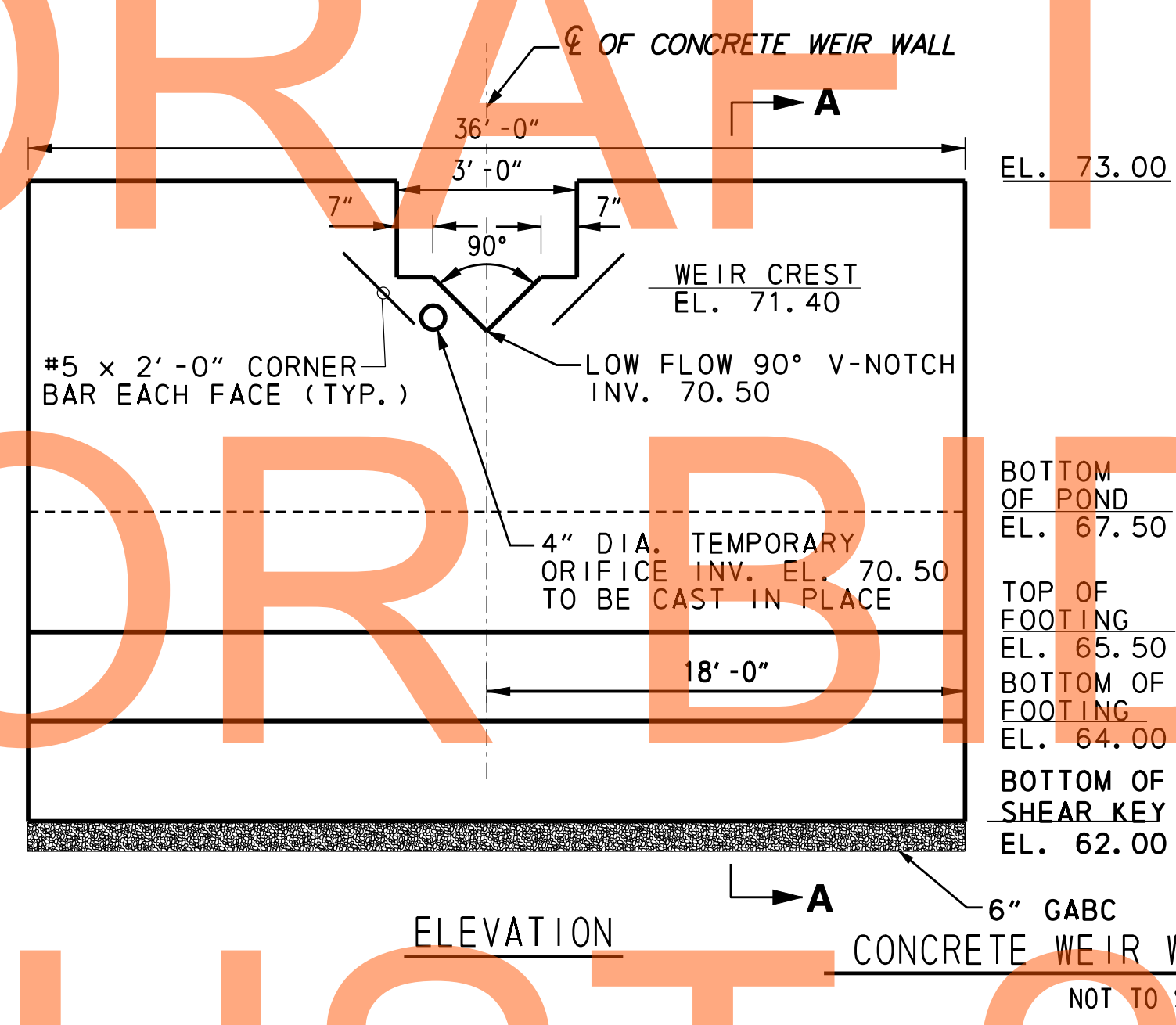
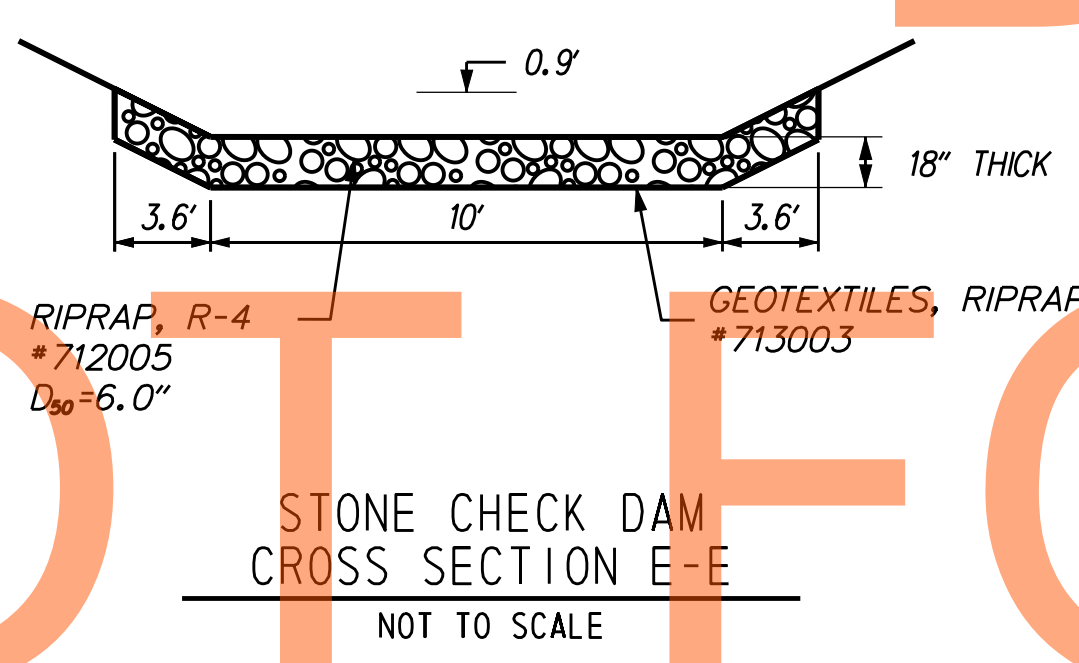
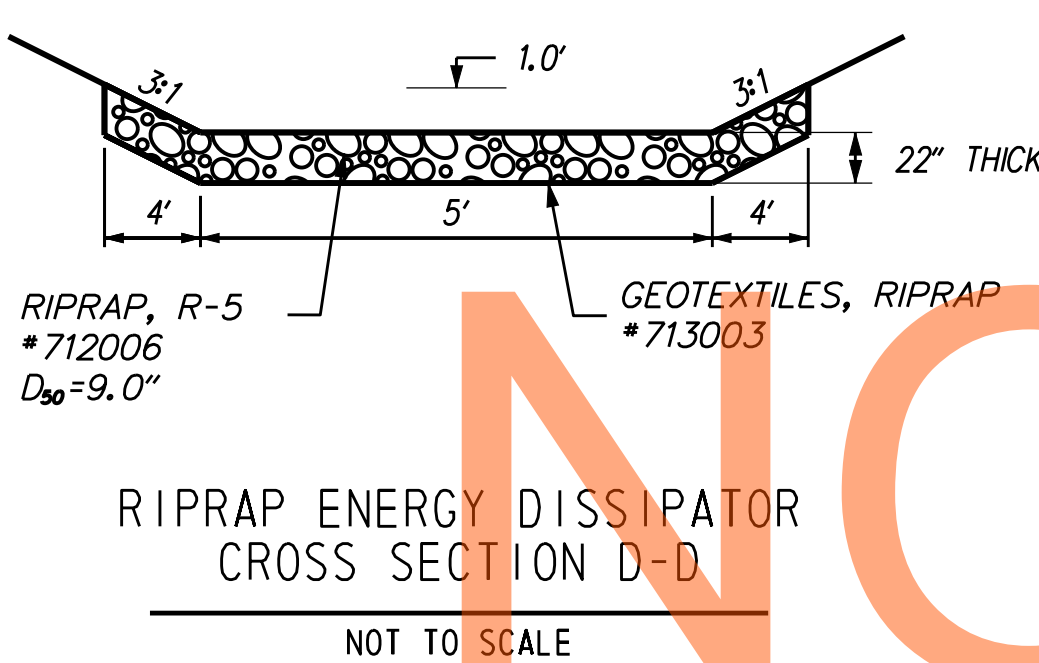
DETAILS FOR SWM
POND
BMP NO. 609

SHEET NO. 390
TOTAL SHTS. 850

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CROSS SECTION C-C
 SCALE: HORIZ. 1"=30'
 VERT. 1"=5'



DRAFT
 NOT FOR BIDDING
 AUGUST 2015

DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 609 - (STA. 147+00 N)



ADDENDUMS / REVISIONS	

SCALE: AS SHOWN

**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

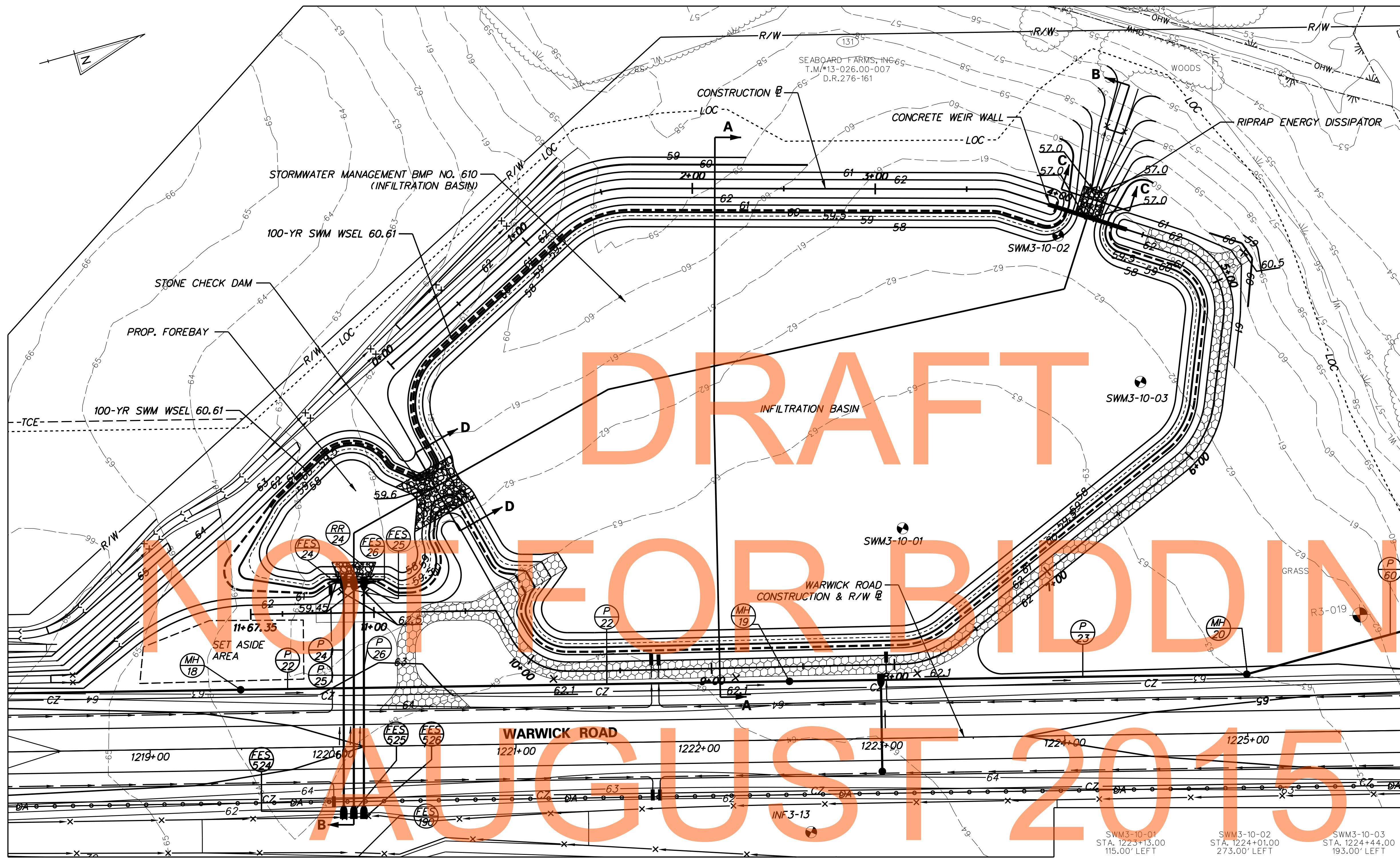
CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

DETAILS FOR SWM POND BMP NO. 609	
SHEET NO. 391	TOTAL SHTS. 850

SW-54

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LEGEND	
EXISTING CONTOUR	--- 68 ---
PROPOSED CONTOUR	— 65 —
POND MAINTENANCE ACCESS	



**PLAN - STORMWATER MANAGEMENT POND - BMP NO. 610 - (STA. 197+00 S)
(WARWICK ROAD STA. 1218+96 TO STA. 1225+90), TYPE: INFILTRATION BASIN**

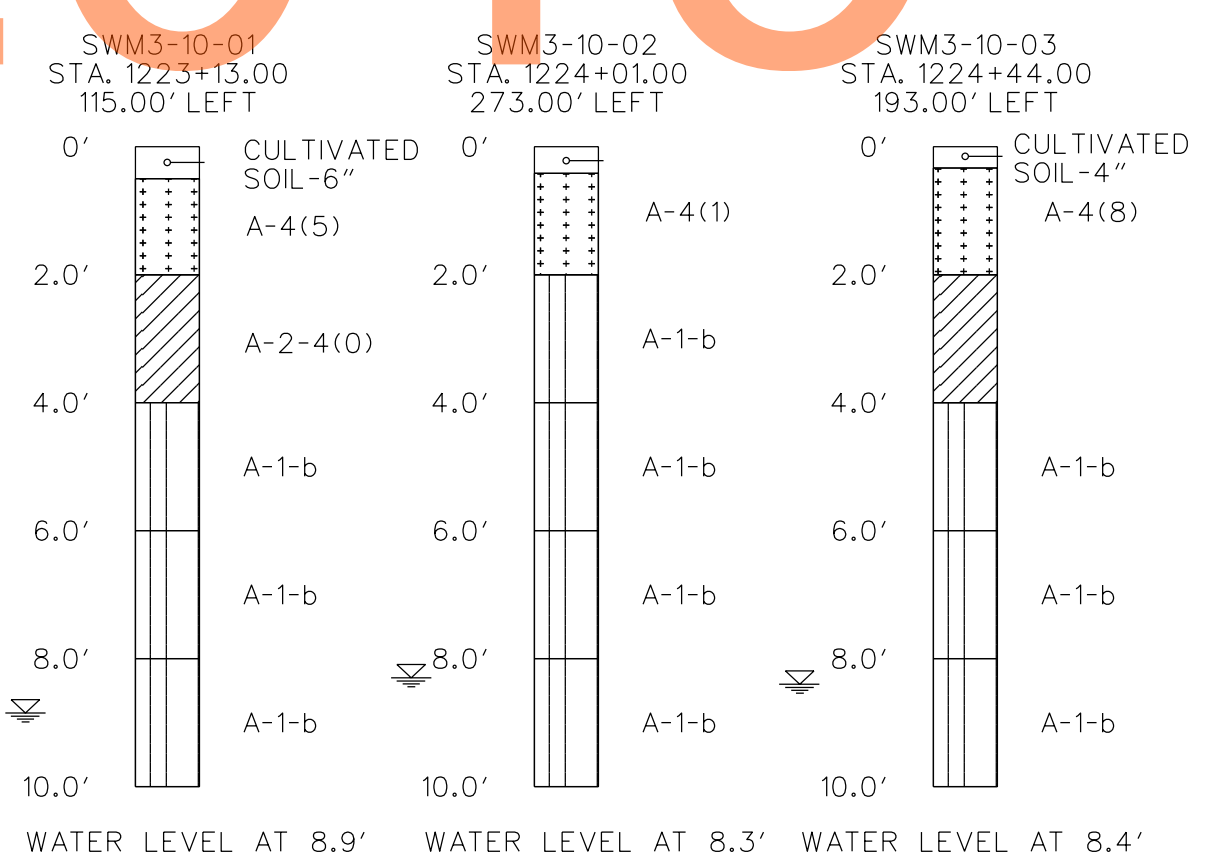
NOTE: SEE SHEETS SW-56 TO SW-59 FOR STORMWATER MANAGEMENT POND BMP NO. 610 DETAILS.

FACILITY DESIGN SUMMARY FOR STORMWATER MANAGEMENT BMP NO. 610				
DESIGN STORM	FACILITY INFLOW (CES)	FACILITY DISCHARGE (CES)	WATER SURFACE ELEVATION (FT.)	STORAGE VOLUME (AC. FT.)
1-YEAR	4.98	0.00	58.07	0.115
10-YEAR	19.21	4.56	59.50	2.752
100-YEAR	46.47	17.38	60.61	4.976

HAZARD CLASSIFICATION: CLASS 'A' AS PER POND CODE 378

DRAINAGE AREA TO FACILITY: 29.099 ACRES

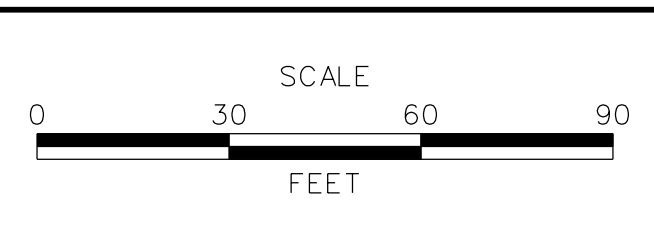
MANAGEMENT PROVIDED BY FACILITY: WATER QUALITY BY INFILTRATION FOR 1-YEAR STORM, WATER QUANTITY FOR 10-YEAR AND 100-YEAR STORMS



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ADDENDUMS / REVISIONS	



**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

**STORMWATER
MANAGEMENT PLAN**

SW- 55
SHEET NO. 392
TOTAL SHTS. 850

POND CONSTRUCTION SEQUENCE AND NOTES

THE STORMWATER MANAGEMENT POND SHALL FUNCTION AS A SEDIMENT BASIN DURING ROADWAY CONSTRUCTION AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE STANDARD SPECIFICATIONS:

- SECTION 910 STORMWATER MANAGEMENT FACILITIES**
- STORMWATER MANAGEMENT POND
 - POND OUTLET STRUCTURE, CONCRETE
 - CLAY BORROW

POND CONSTRUCTION SEQUENCE AND NOTES

1. PRIOR TO DISTURBANCE OF THE SITE UPSTREAM OF THE BASIN, INSTALL FENCE AROUND THE BASIN AREA TO PREVENT CONSTRUCTION EQUIPMENT AND STOCKPILED MATERIALS FROM ENTERING THE BASIN AREA AND COMPACTING THE SUBGRADE SOILS.
2. CONSTRUCT BASIN AFTER ALL AREAS DRAINING TO THE BASIN HAVE BEEN PERMANENTLY STABILIZED AND THE ENGINEER HAS APPROVED THE CONSTRUCTION. EXCAVATION SHOULD BE CARRIED TO WITHIN 2' OF THE FINAL ELEVATION OF BASIN FLOOR DURING CONSTRUCTION FOR USE AS A SEDIMENT BASIN.
3. CONSTRUCT THE BASIN WITHOUT COMPACTING THE BASIN'S SUBGRADE SOILS. EXCAVATION SHALL BE PERFORMED BY CONSTRUCTION EQUIPMENT PLACED OUTSIDE THE BASIN, WHERE POSSIBLE. ALL EXCAVATION SHALL BE PERFORMED WITH THE LIGHTEST PRACTICAL EXCAVATION EQUIPMENT.
4. CONSTRUCT POND OUTLET STRUCTURE, RIPRAP ENERGY DISSIPATER AT THE END OF PRINCIPAL SPILLWAY AND PARTIAL EMBANKMENT AS NEEDED TO INSTALL POND OUTLET STRUCTURE. DE-WATER FOUNDATION AS NEEDED IN ACCORDANCE WITH SECTION 111 AND USE SUMP PIT FOR PUMPING.
5. EXCAVATE THE POND TO ELEVATION 60.00 AND COMPLETE THE EMBANKMENT, GRADES AND DETAILS SHOWN IN THE CONSTRUCTION PLANS. THE FINAL PHASE EXCAVATION SHOULD REMOVE ALL ACCUMULATED SEDIMENT TO ELEVATION 60.00. LIGHT TRACKED EQUIPMENT IS RECOMMENDED FOR THIS OPERATION. AFTER FINAL GRADING IS COMPLETED, THE BASIN FLOOR SHOULD RETAIN A HIGHLY POROUS SURFACE TEXTURE.
 - A. DURING EXCAVATION, THE CONTRACTOR SHALL SALVAGE AND STOCKPILE SOILS CLASSIFIED AS CH, CL, CH AND GM PER THE UNIFIED SOIL CLASSIFICATION SYSTEM TO BE USED TO CONSTRUCT EMBANKMENT. THE ABOVE CLASSIFIED SOILS MAY BE OBTAINED FROM ELSEWHERE WITHIN THE PROJECT LIMITS, IF NECESSARY.
 - B. DURING EXCAVATION, THE CONTRACTOR SHALL SALVAGE AND STOCKPILE SOILS CLASSIFIED AS SW AND SP PER THE UNIFIED SOIL CLASSIFICATION SYSTEM TO BE USED TO FILL THE BASIN BOTTOM WHERE OVEREXCAVATED FOR REMOVAL OF UNSUITABLE SOIL. THE ABOVE CLASSIFIED SOILS MAY BE OBTAINED FROM ELSEWHERE WITHIN THE PROJECT LIMITS, IF NECESSARY.
6. STABILIZE BASIN EMBANKMENT AND BOTTOM WITH PERMANENT SEEDING.
7. REMOVE EROSION AND SEDIMENT CONTROLS, WATER DIVERSION PRACTICES AND FENCE UPON FINAL STABILIZATION AND APPROVAL FROM INSPECTOR. SEE CONSTRUCTION SEQUENCE PLANS FOR LOCATION OF EROSION AND SEDIMENT CONTROL MEASURES.

CONVERSION TO PERMANENT STORMWATER MANAGEMENT POND

1. CONVERT THE BASIN INTO THE PERMANENT STORMWATER MANAGEMENT POND AND GROUT TEMPORARY 4" DIA. ORIFICE AT EL. 60.00 AFTER ALL AREAS DRAINING TO THE POND HAVE BEEN PERMANENTLY STABILIZED AND THE ENGINEER HAS APPROVED THE CONVERSION.
2. REMOVE ACCUMULATED SEDIMENT TO ELEVATION 58.00 AND DISPOSE SEDIMENT AT A LOCATION APPROVED BY THE ENGINEER.
3. COMPLETE STABILIZATION OF ALL BARE AREAS. REMOVE EROSION AND SEDIMENT CONTROL MEASURES AND DEACTIVATE SKIMMER DEWATER DEVICE.

AS-BUILT DRAWINGS OF STORMWATER MANAGEMENT FACILITIES

THE CONTRACTOR SHALL PROVIDE 'AS-BUILT' DRAWINGS OF ALL STORMWATER MANAGEMENT FACILITIES, SUCH AS PONDS, INFILTRATION BASINS, BIOFILTRATION SWALES, ETC. 'AS-BUILT' DRAWINGS SHALL SHOW THE ACTUAL FINISH GROUND CONTOURS, OUTLET STRUCTURES DIMENSIONS AND ELEVATIONS, ETC. AS THEY EXIST AT THE COMPLETION OF THE PROJECT. THESE DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER OR LAND SURVEYOR.

ITEM 712005, RIPRAP, R-4		
STATION/OFFSET		AREA
STA. 1220+47, 135.2' LT. TO STA. 1220+70, 147.8' LT.		91 SY

ITEM 712006, RIPRAP, R-5		
STATION/OFFSET		AREA
STA. 1224+17, 283.9' LT. TO STA. 1224+22, 298.1' LT.		24 SY

ITEM 302011, DELAWARE NO. 3 STONE		
STATION/OFFSET		WEIGHT
STA. 1220+26, 20.0' LT. TO STA. 1225+05, 258.2' LT.		200 TON

ITEM 713003, GEOTEXTILES, RIPRAP		
STATION/OFFSET		AREA
STA. 1220+47, 135.2' LT. TO STA. 1220+70, 147.8' LT.		106 SY
STA. 1224+17, 283.9' LT. TO STA. 1224+22, 298.1' LT.		31 SY

ITEM 713002, GEOTEXTILES, SEPARATION		
STATION/OFFSET		AREA
STA. 1220+26, 20.0' LT. TO STA. 1225+05, 258.2' LT.		1,038 SY

ITEM 272501, POND OUTLET STRUCTURE, SPECIAL		
ITEM		QUANTITY
CONCRETE WEIR WALL		1 EA

TEMPORARY SEDIMENT BASIN DETAILS			
SKIMMER ORIFICE SIZE (IN)	SKIMMER INVERT	CLEANOUT ELEVATION	*EMERGENCY SPILLWAY ELEVATION
4	60.00	60.50	61.00

* BLOCK OUTLET STRUCTURE TO THIS ELEVATION IN TEMPORARY CONDITIONS

DRAFT
NOT FOR BIDDING
AUGUST 2015

MAINTENANCE OF POND AS A SEDIMENT BASIN

1. CONTRACTOR SHALL INSPECT THE BASIN IMMEDIATELY AFTER EVERY RAIN AND MAKE REPAIRS AS NEEDED.
2. CONTRACTOR SHALL CLEARLY MARK THE CLEANOUT ELEVATION ON A STAKE DRIVEN INTO THE GROUND AT A LOCATION CLEARLY VISIBLE FROM THE EMBANKMENT. SEDIMENT SHALL BE REMOVED WHEN CLEANOUT ELEVATION IS REACHED AND DISPOSED OF AT A LOCATION APPROVED BY THE ENGINEER.

NOTES - STORMWATER MANAGEMENT POND - BMP NO. 610 - (STA. 197+00 S)

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 DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT	BRIDGE NO.	STORMWATER MANAGEMENT PLAN	SHEET NO.
			T200811301	DESIGNED BY: DSM/ACF		393
			COUNTY	CHECKED BY: JZS	TOTAL SHTS.	850
			NEW CASTLE			

SW- 56

BASELINE OF CONSTRUCTION CONTROL COORDINATES				
STATION		NORTHING	EASTING	
1	POB	STA. 0+00.00	520, 583. 7387	558, 433. 4354
2	PT	STA 0+17. 05	520, 599. 1550	558, 426. 1442
3	PC	STA 1+17. 76	520, 688. 9068	558, 380. 4631
	PI	STA 1+43. 24	520, 711. 6189	558, 368. 9033
5	PT	STA. 1+66. 33	520, 736. 1355	558, 375. 8605
6	PC	STA. 3+64. 85	520, 927. 1083	558, 430. 0540
	PI	STA. 3+68. 72	520, 930. 8307	558, 431. 1103
8	PT	STA. 3+72. 52	520, 934. 0596	558, 433. 2425
9	PC	STA 4+70. 42	521, 015. 7508	558, 487. 1875
	PI	STA 4+99. 96	521, 040. 4009	558, 503. 4653
11	PT	STA. 5+19. 90	521, 029. 2493	558, 530. 8191
12	PC	STA. 5+67. 29	521, 011. 3570	558, 574. 7072
	PI	STA. 5+88. 24	521, 003. 4499	558, 594. 1024
14	PT	STA. 6+07. 04	520, 984. 1936	558, 602. 3420
15	PC	STA 7+63. 00	520, 840. 8160	558, 663. 6919
	PI	STA 7+80. 34	520, 824. 8716	558, 670. 5144
17	PT	STA. 7+96. 43	520, 808. 0734	558, 666. 2026
18	PI	STA. 9+63. 75	520, 646. 0042	558, 624. 6024
19	PC	STA. 9+78. 91	520, 631. 4071	558, 620. 5098
	PI	STA. 9+99. 38	520, 611. 6949	558, 614. 9831
21	PT	STA. 10+15. 96	520, 606. 8500	558, 595. 0924
22	PI	STA. 10+33. 42	520, 602. 7175	558, 578. 1268
23	POE	STA. 11+67. 35	520, 473. 2314	558, 543. 9201

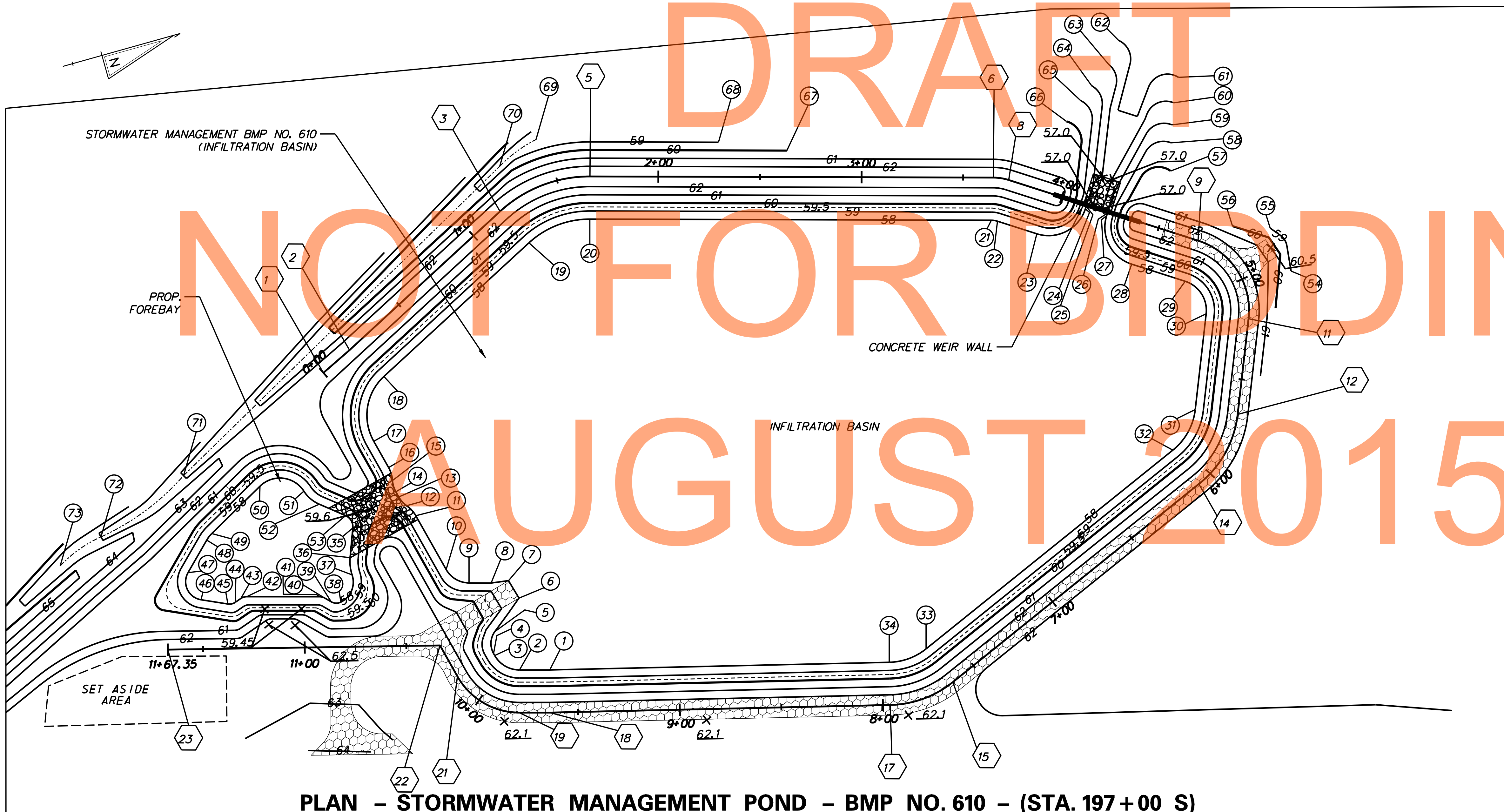
GRADING CONTROL POINTS				
	NORTHING	EASTING	ELEVATION	NOTE
1	520, 651. 4500	558, 604. 3195	58. 00	BOP
2	520, 637. 1006	558, 600. 2963	58. 00	BOP
3	520, 627. 2816	558, 590. 1448	58. 00	BOP
4	520, 627. 0176	558, 589. 0664	58. 00	BOP
5	520, 630. 5837	558, 578. 8012	58. 00	BOP
6	520, 646. 4185	558, 566. 1780	58. 00	BOP
7	520, 643. 7695	558, 556. 5353	58. 00	BOP
8	520, 635. 2273	558, 555. 3447	58. 00	BOP
9	520, 624. 7859	558, 552. 3618	58. 00	BOP
10	520, 615. 7296	558, 542. 9529	58. 00	BOP
11	520, 608. 4949	558, 513. 3973	58. 00	BOP
12	520, 605. 5050	558, 507. 4294	58. 00	BOP
13	520, 602. 9138	558, 502. 2573	58. 00	BOP
14	520, 602. 2173	558, 499. 4121	58. 00	BOP
15	520, 602. 1240	558, 493. 6401	58. 00	BOP
16	520, 602. 0151	558, 486. 9738	58. 00	BOP
17	520, 598. 4814	558, 472. 5650	58. 00	BOP
18	520, 611. 9396	558, 443. 2009	58. 00	BOP
19	520, 698. 4324	558, 399. 1784	58. 00	BOP
20	520, 730. 4026	558, 396. 0628	58. 00	BOP

NOTES:

1. THE POND BETWEEN ELEVATIONS 58.0 AND 62.0, NOT INCLUDING THE POND BOTTOM SHALL RECEIVE TOPSOILING, 6" DEPTH (ITEM 908010).
2. THE POND BETWEEN ELEVATIONS 58.0 AND 59.0, INCLUDING THE POND BOTTOM SHALL RECEIVE PERMANENT GRASS SEEDING - WET GROUND (ITEM 908015).
3. THE REMAINDER OF THE EMBANKMENT AREA SHALL RECEIVE PERMANENT GRASS SEEDING - DRY GROUND (ITEM 908014).
4. WET GROUND SEEDING AREA = 9,019 SY,
DRY GROUND SEEDING AREA = 3,915 SY.

LEGEND	
PROPOSED CONTOUR	—65—
POND MAINTENANCE ACCESS	
BASELINE OF CONSTRUCTION CONTROL COORDINATES	⑧
GRADING CONTROL POINTS	⑧
BOTTOM OF POND	BOP
BOTTOM OF FOREBAY	BOF
BOTTOM OF SWALE	BOS

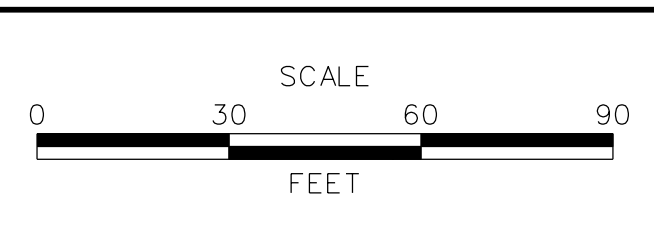
GRADING CONTROL POINTS				
	NORTHING	EASTING	ELEVATION	NOTE
21	520, 920. 4779	558, 450. 0016	58. 00	BOP
22	520, 923. 2572	558, 451. 2762	58. 00	BOP
23	520, 940. 2292	558, 462. 4064	58. 00	BOP
24	520, 966. 5434	558, 457. 0848	58. 00	BOP
25	520, 967. 2955	558, 455. 9454	58. 00	BOP
26	520, 976. 4756	558, 462. 0056	58. 00	BOP
27	520, 975. 7234	558, 463. 1450	58. 00	BOP
28	520, 981. 1123	558, 489. 4691	58. 00	BOP
29	521, 004. 1819	558, 504. 6985	58. 00	BOP
30	521, 009. 8080	558, 522. 8795	58. 00	BOP
31	520, 991. 9109	558, 566. 7795	58. 00	BOP
32	520, 975. 9324	558, 583. 0352	58. 00	BOP
33	520, 832. 5548	558, 644. 3851	58. 00	BOP
34	520, 813. 2945	558, 645. 8620	58. 00	BOP
35	520, 577. 0540	558, 510. 8296	58. 00	BOF
36	520, 571. 8104	558, 524. 5282	58. 00	BOF
37	520, 570. 4479	558, 533. 0634	58. 00	BOF
38	520, 561. 5153	558, 544. 4083	58. 00	BOF
39	520, 557. 0125	558, 542. 9979	58. 00	BOF
40	520, 554. 4215	558, 540. 3570	58. 00	BOF
41	520, 552. 2057	558, 539. 0453	58. 00	BOF
42	520, 517. 5537	558, 529. 3022	58. 00	BOF
43	520, 514. 5785	558, 529. 3859	58. 00	BOF
44	520, 511. 4381	558, 530. 4627	58. 00	BOF
45	520, 507. 7280	558, 530. 2761	58. 00	BOF
46	520, 495. 5811	558, 524. 6927	58. 00	BOF
47	520, 493. 0406	558, 510. 0873	58. 00	BOF
48	520, 506. 2313	558, 497. 1604	58. 00	BOF
49	520, 509. 5015	558, 494. 7304	58. 00	BOF
50	520, 538. 5952	558, 478. 7289	58. 00	BOF
51	520, 558. 7299	558, 486. 9013	58. 00	BOF
52	520, 564. 2710	558, 495. 1269	58. 00	BOF
53	520, 575. 2324	558, 504. 0267	58. 00	BOF
54	521, 055. 7177	558, 513. 8814	59. 00	
55	521, 051. 5697	558, 490. 8596	59. 00	
56	521, 033. 9811	558, 484. 8805	59. 00	
57	521, 011. 9749	558, 450. 5049	60. 00	
58	521, 018. 6691	558, 428. 7799	59. 00	
59	521, 018. 6691	558, 428. 7799	58. 00	
60	521, 022. 4408	558, 418. 5630	57. 00	
61	521, 028. 0841	558, 407. 1145	56. 00	
62	521, 004. 7724	558, 381. 7881	56. 00	
63	520, 996. 9257	558, 391. 9616	57. 00	
64	520, 985. 9745	558, 399. 7033	58. 00	
65	520, 978. 8186	558, 405. 3020	59. 00	
66	520, 969. 2816	558, 413. 1878	60. 00	
67	520, 832. 8481	558, 389. 7919	60. 00	
68	520, 801. 5660	558, 376. 7569	59. 00	
69	520, 754. 0800	558, 377. 0501	58. 61	BOS
70	520, 733. 3411	558, 384. 8926	58. 84	BOS
71	520, 542. 4084	558, 489. 3957	62. 00	BOS
72	520, 495. 1248	558, 507. 4432	63. 00	BOS
73	520, 471. 9220	558, 515. 7884	63. 49	BOS



PLAN - STORMWATER MANAGEMENT POND - BMP NO. 610 - (STA. 197+00 S)

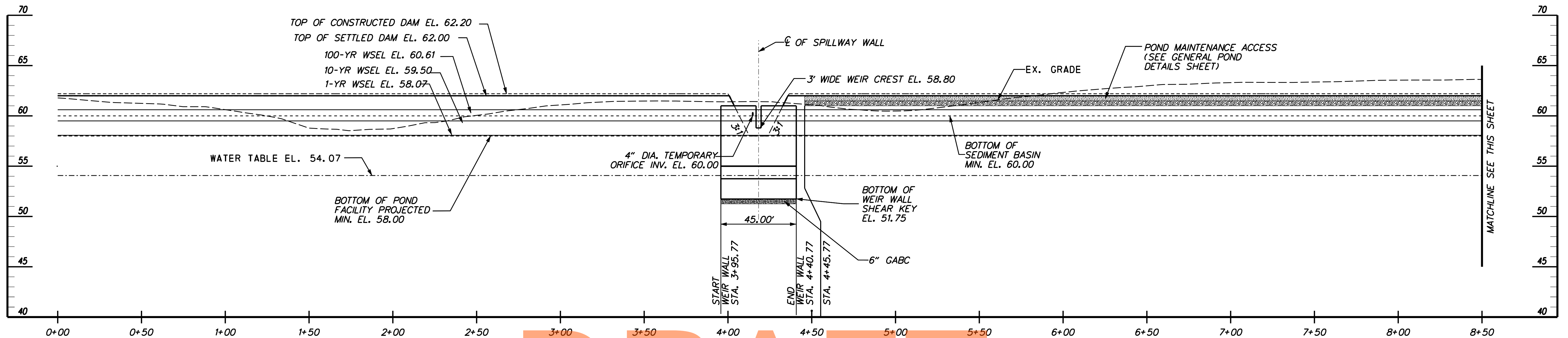
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ADDENDUMS / REVISIONS



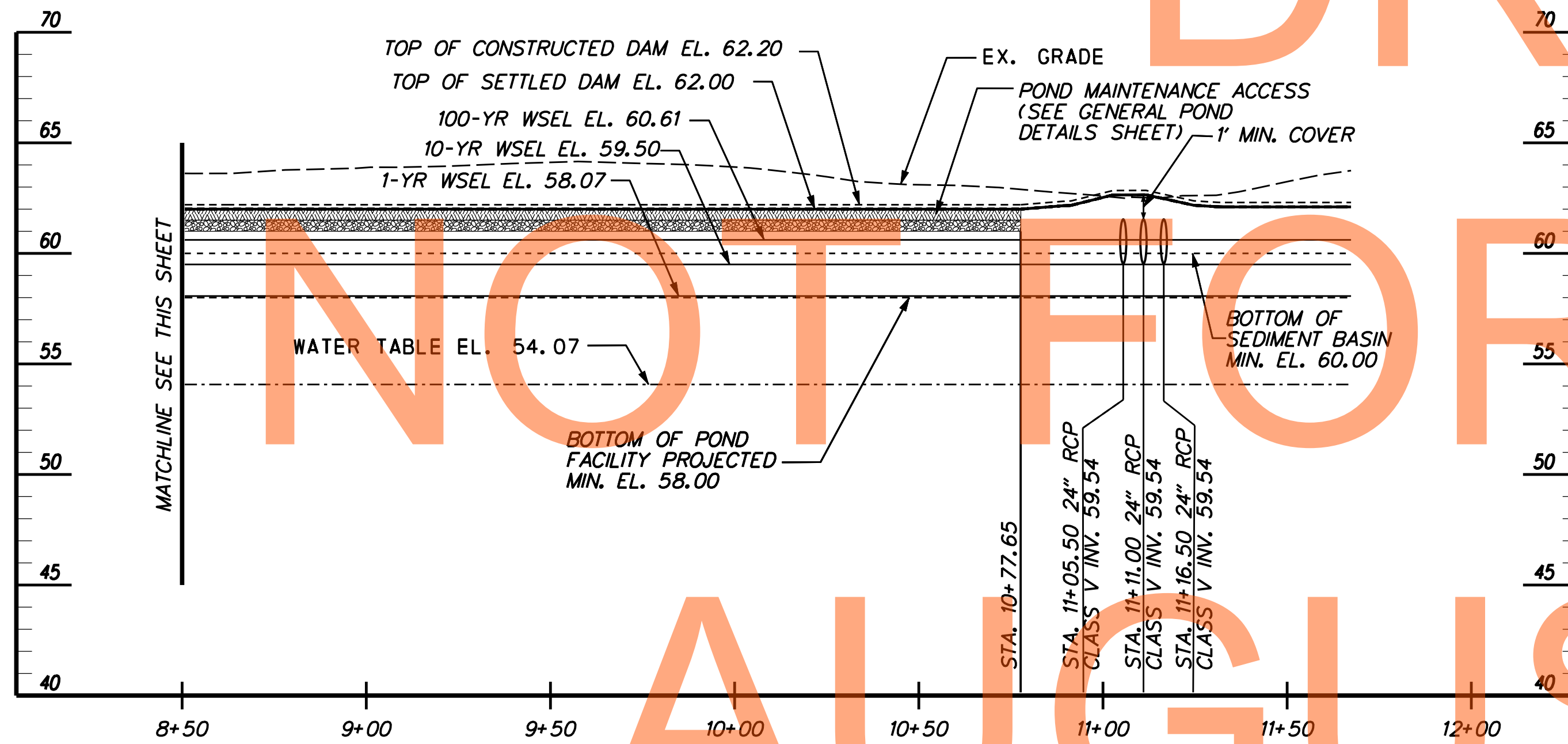
CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY:	DSM/ACF
COUNTY	CHECKED BY:	JZS
NEW CASTLE		

SW- 57



PROFILE ALONG \bar{C} OF EMBANKMENT

SCALE: HORIZ. 1"=30'
VERT. 1"=5'



PROFILE ALONG \bar{C} OF EMBANKMENT

SCALE: HORIZ. 1"=30'
VERT. 1"=5'

POND MAINTENANCE ACCESS	
6" TOPSOIL, PERM. SEEDING	
6" DELAWARE NO. 3 STONE	

DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 610 - (STA. 197+00 S)

SW-58



ADDENDUMS / REVISIONS

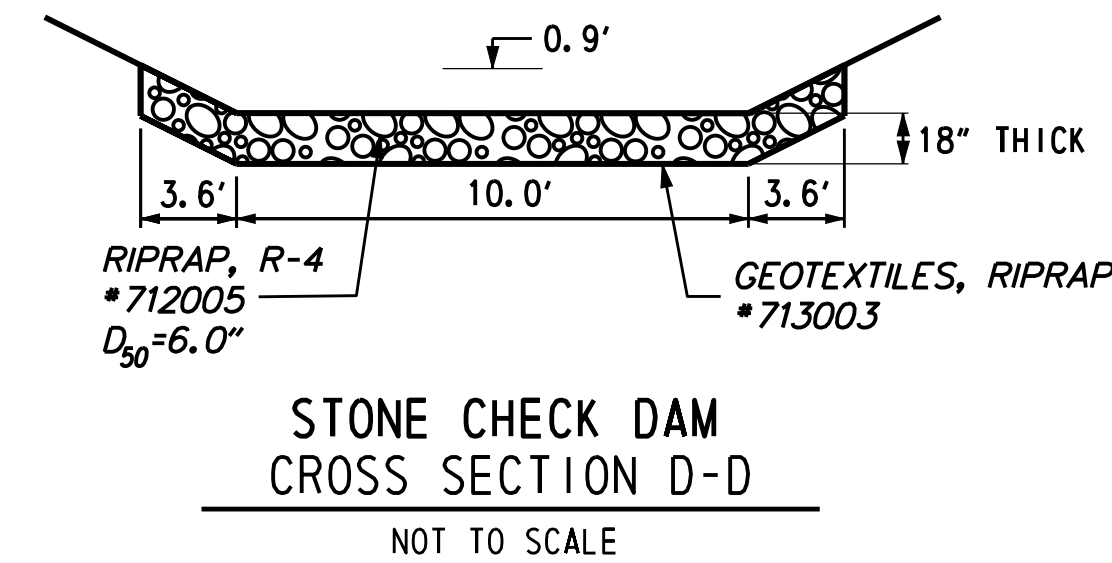
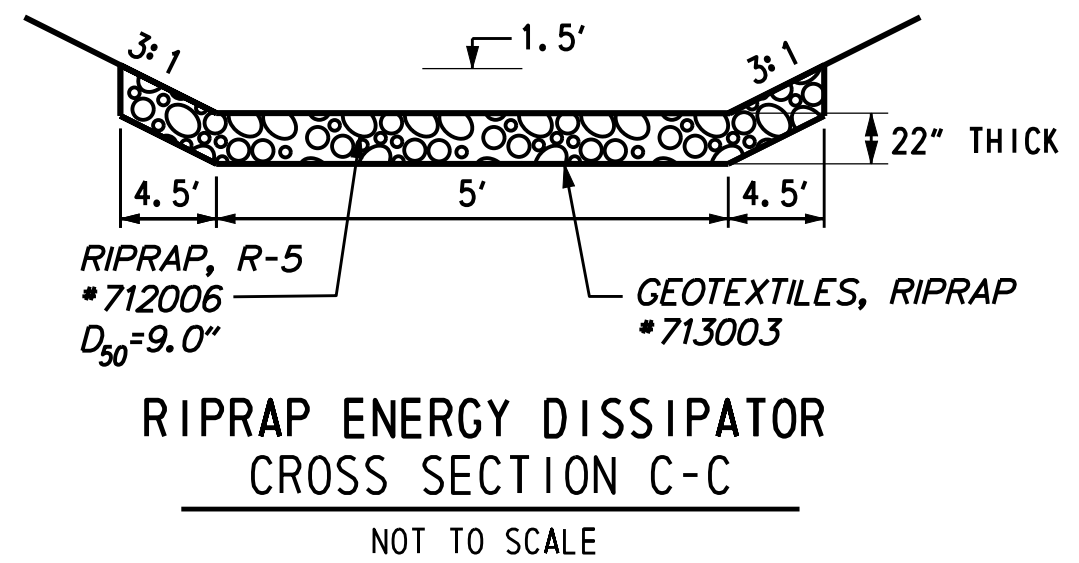
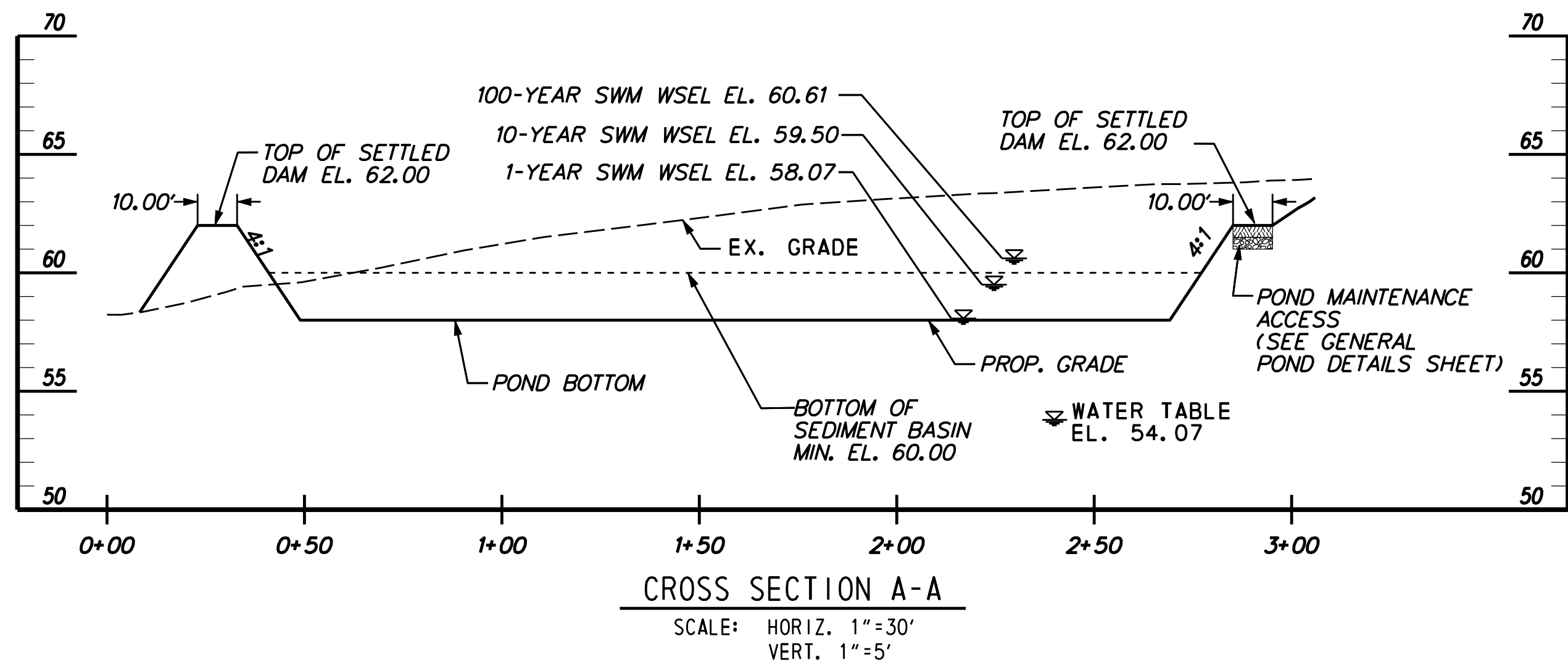
SCALE: AS SHOWN

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

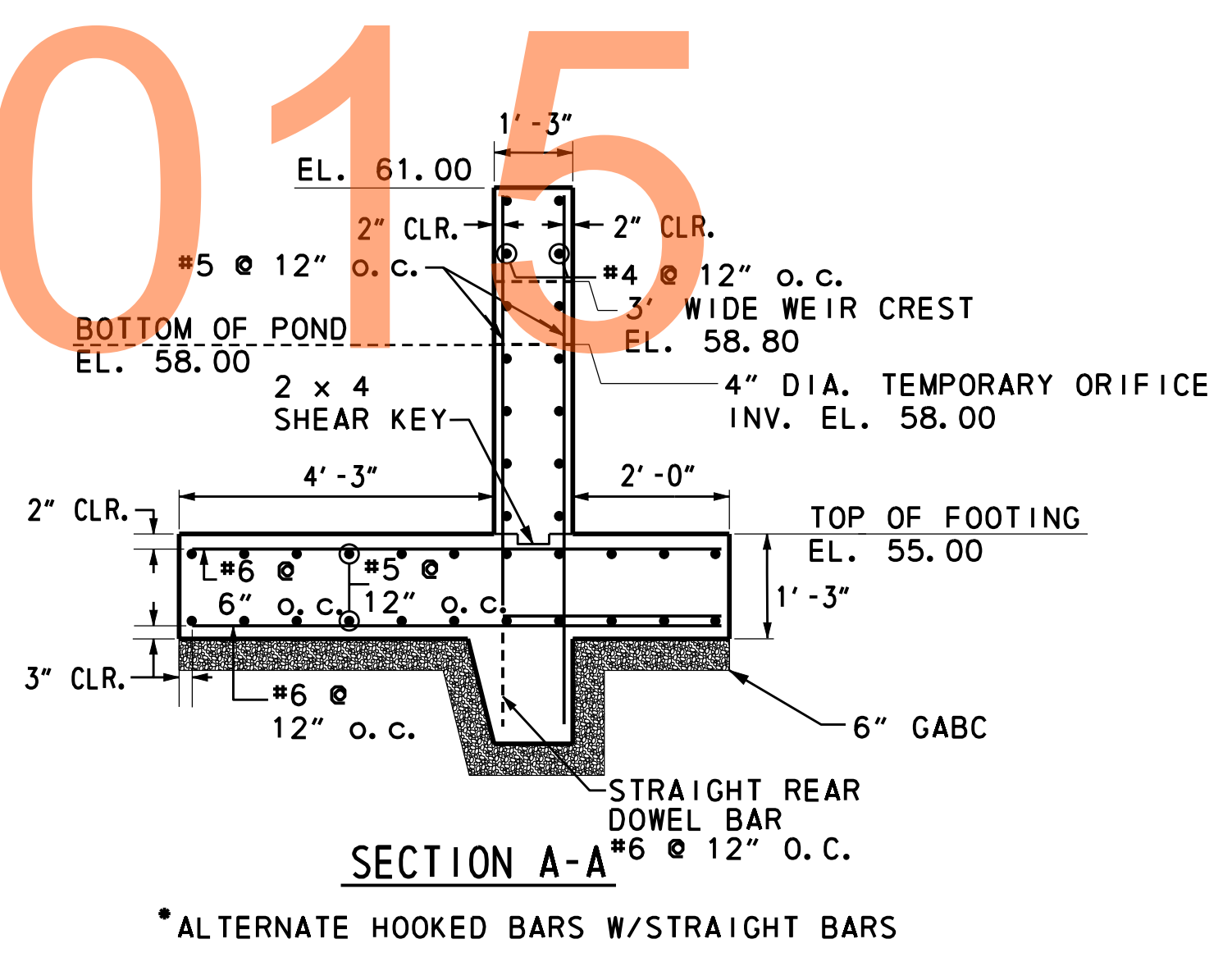
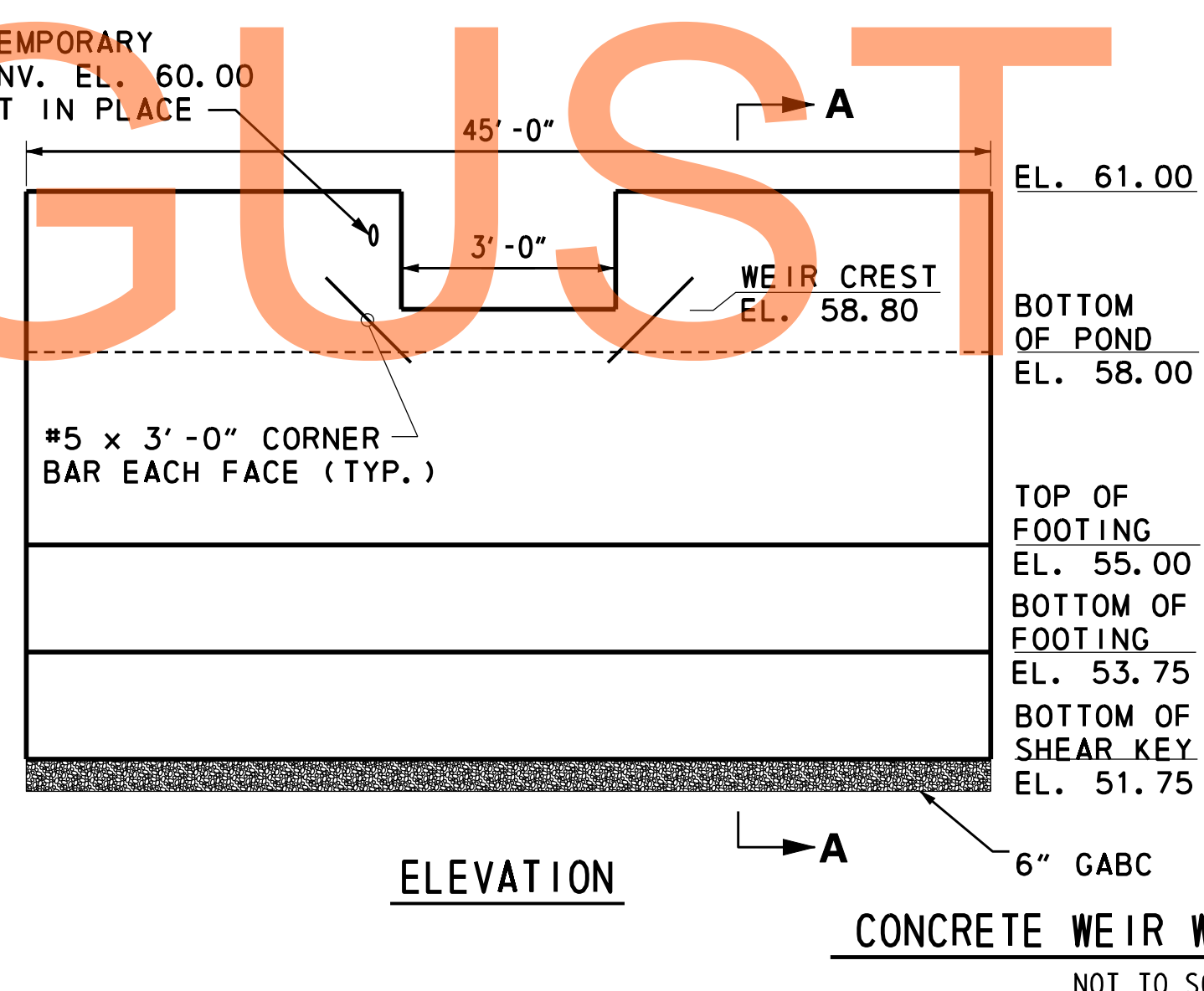
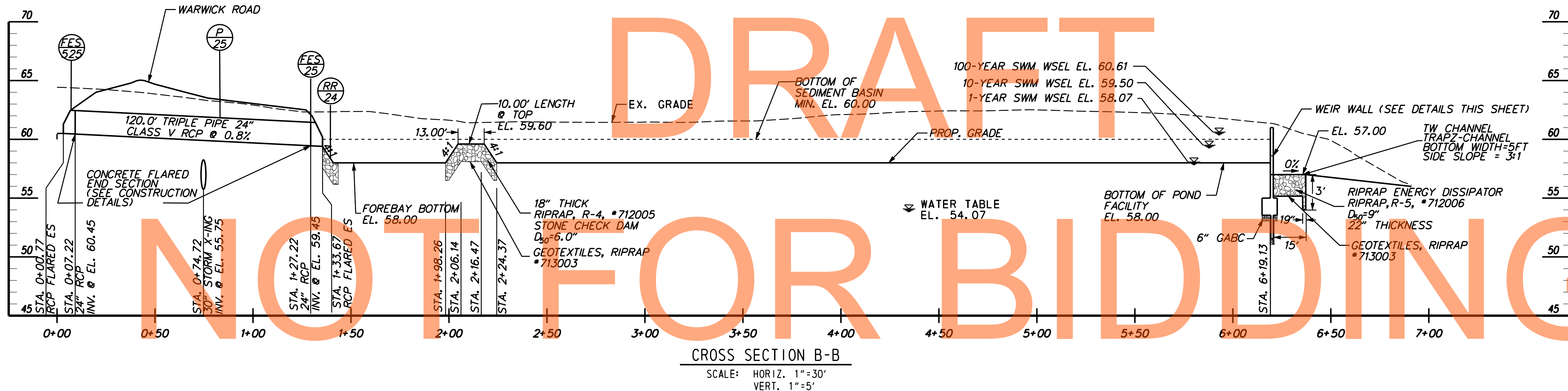
CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY:	DSM/ACF
COUNTY	CHECKED BY:	JZS
NEW CASTLE		

DETAILS FOR SWM
POND
BMP NO. 610

SHEET NO.	395
TOTAL SHTS.	850



POND MAINTENANCE ACCESS	
6" TOPSOIL, PERM. SEEDING	[Pattern]
6" DELAWARE NO. 3 STONE	[Pattern]



DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 610 - (STA. 197+00 S)

SW-59



ADDENDUMS / REVISIONS

SCALE: AS SHOWN

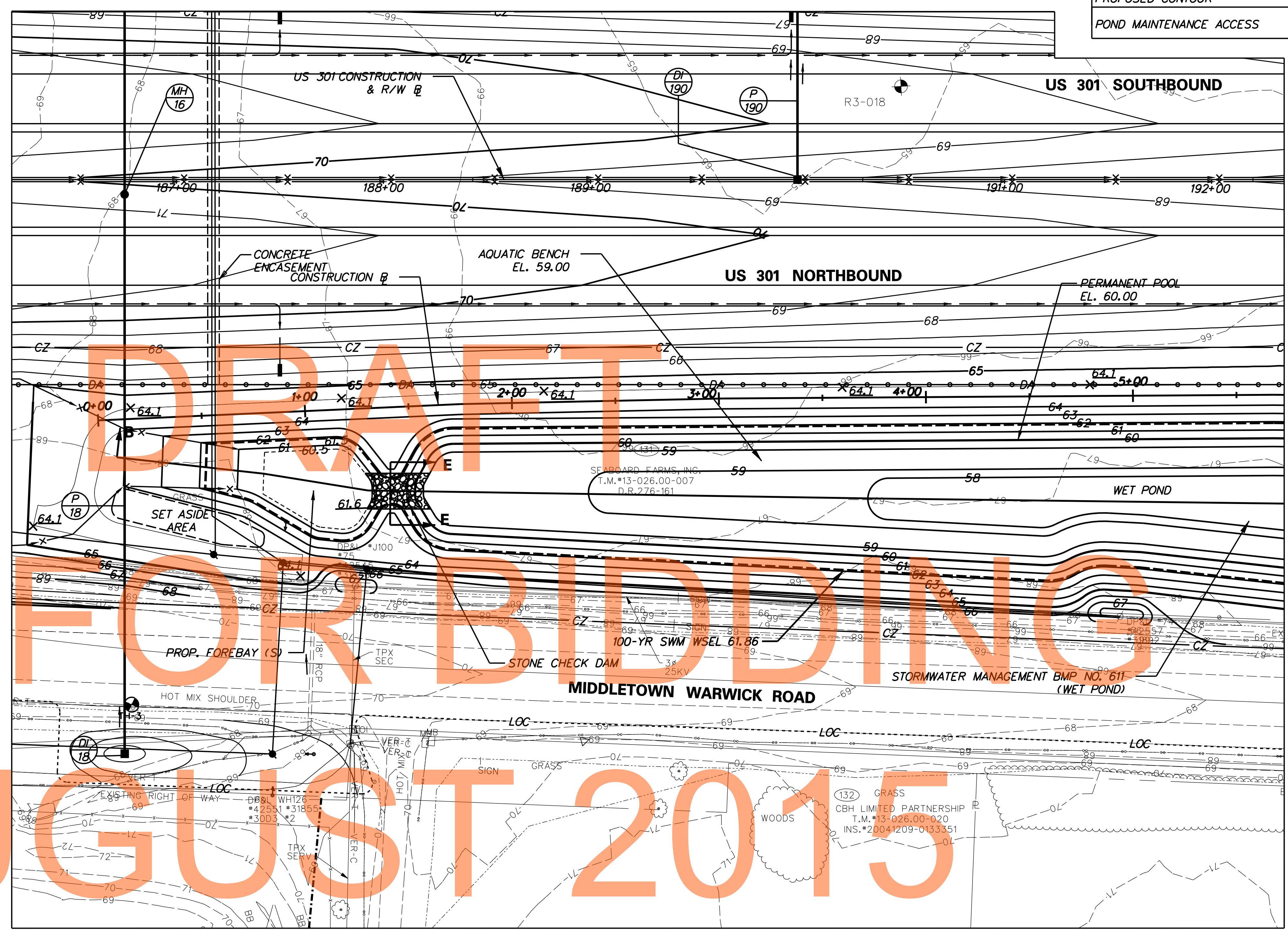
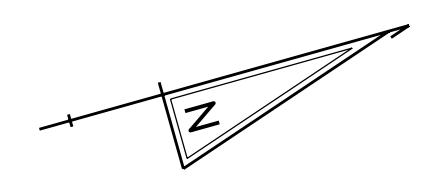
US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

DETAILS FOR SWM POND BMP NO. 610	SHEET NO. 396
	TOTAL SHTS. 850

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LEGEND	
EXISTING CONTOUR	--- 68 ---
PROPOSED CONTOUR	— 65 —
POND MAINTENANCE ACCESS	



NOT FOR BIDDING
AUGUST 2015

MATCHLINE SHEET SW-61

**PLAN - STORMWATER MANAGEMENT POND - BMP NO. 611 - (STA. 198+00 N)
(US 301 STA. 186+55 TO STA. 197+42), TYPE: WET POND**

NOTE: SEE SHEETS SW-62 TO SW-66 FOR STORMWATER MANAGEMENT POND BMP NO. 611 DETAILS.

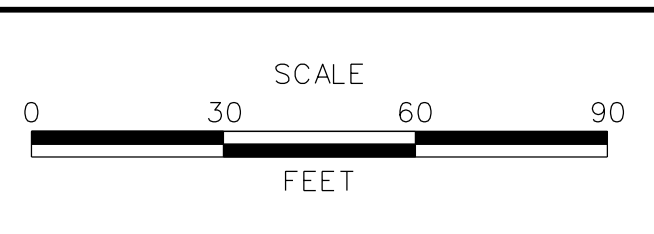
FACILITY DESIGN SUMMARY FOR STORMWATER MANAGEMENT BMP NO. 611				
DESIGN STORM	FACILITY INFLOW (CES)	FACILITY DISCHARGE (CES)	WATER SURFACE ELEVATION (E.L.)	STORAGE VOLUME (AC. FT.)
1-YEAR	6.90	0.88	60.40	0.519
10-YEAR	22.21	4.80	61.02	1.418
100-YEAR	49.10	16.20	61.86	2.759

HAZARD CLASSIFICATION: CLASS 'A' AS PER POND CODE 378
 PERMANENT POOL VOLUME: 2,004 AC.FT.
 DRAINAGE AREA TO FACILITY: 15.110 ACRES
 MANAGEMENT PROVIDED BY FACILITY: WATER QUALITY BY EXTENDED DETENTION FOR 1-YEAR STORM, AND WATER QUANTITY FOR 10-YEAR AND 100-YEAR STORMS.

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ADDENDUMS / REVISIONS



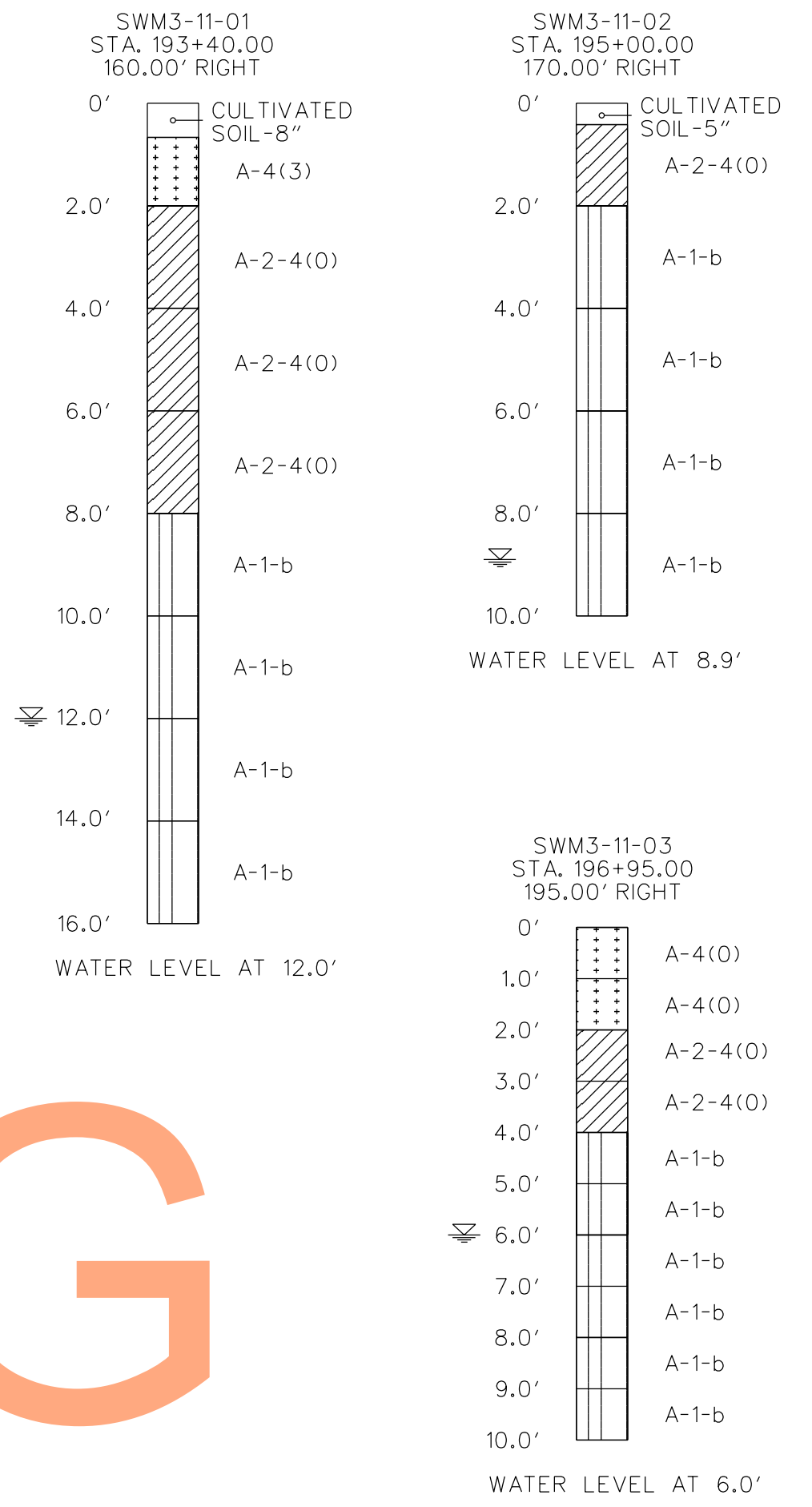
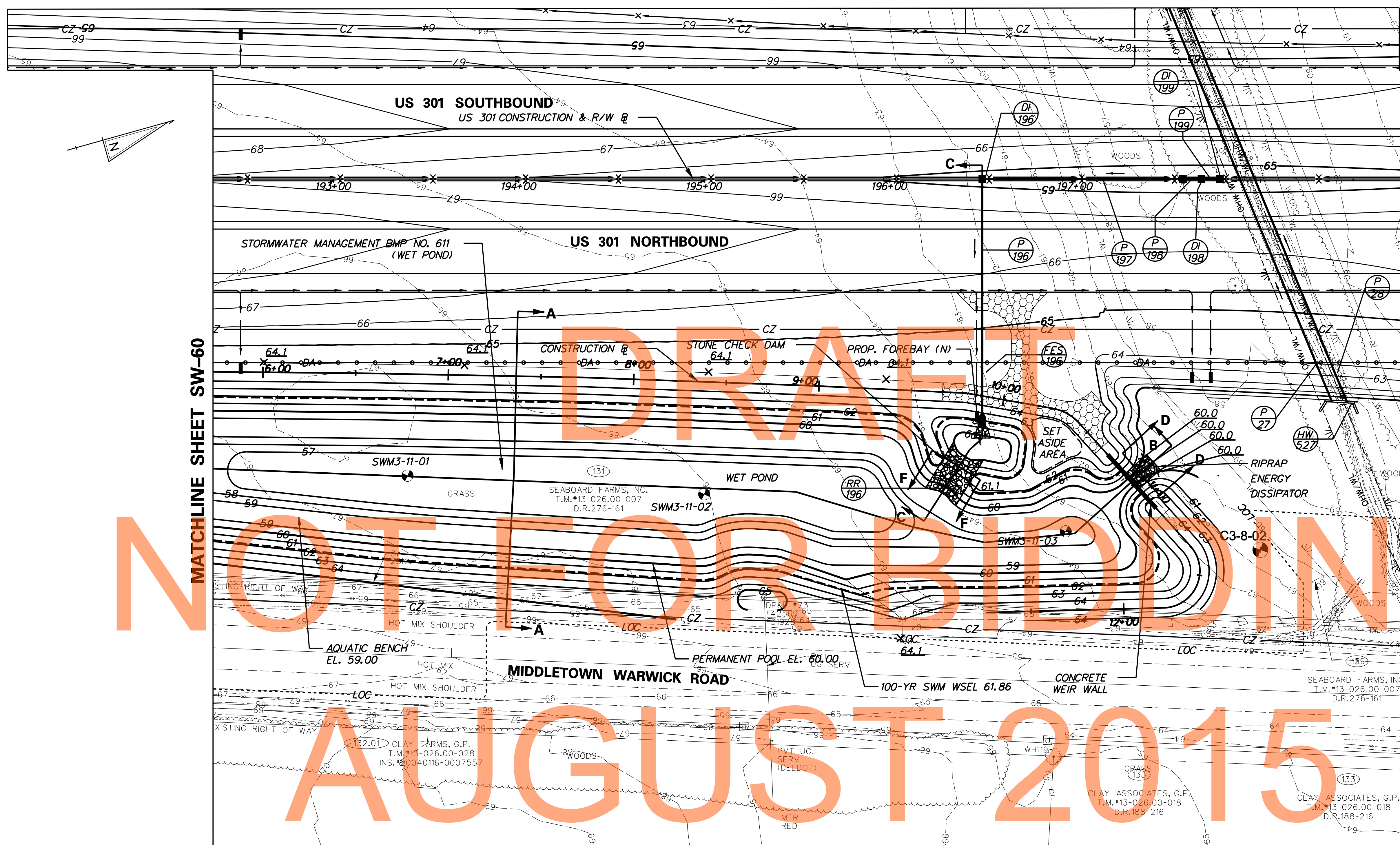
**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF CHECKED BY: JZS

**STORMWATER
MANAGEMENT PLAN**

SW-60
SHEET NO. 397
TOTAL SHTS. 850

LEGEND	
EXISTING CONTOUR	--- 68 ---
PROPOSED CONTOUR	--- 65 ---
POND MAINTENANCE ACCESS	



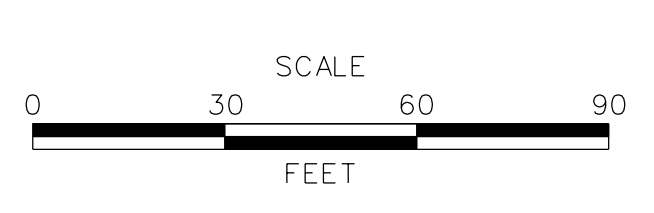
NOT FOR BIDDING

**PLAN - STORMWATER MANAGEMENT POND - BMP NO. 611 - (STA. 198+00 N)
(US 301 STA. 186+55 TO STA. 197+42), TYPE: WET POND**

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ADDENDUMS / REVISIONS



**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

**STORMWATER
MANAGEMENT PLAN**

SW-61
SHEET NO. 398
TOTAL SHTS. 850

POND CONSTRUCTION SEQUENCE AND NOTES

THE STORMWATER MANAGEMENT POND SHALL FUNCTION AS A SEDIMENT BASIN DURING ROADWAY DURING ROADWAY CONSTRUCTION AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE STANDARD SPECIFICATIONS:

- SECTION 910 STORMWATER MANAGEMENT FACILITIES
 - STORMWATER MANAGEMENT POND
 - POND OUTLET STRUCTURE, CONCRETE
 - CLAY BORROW

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. CLEAR AND GRUB FOR INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS.
3. INSTALL PERIMETER SEDIMENT CONTROLS AS SHOWN ON EROSION & SEDIMENT CONTROL SHEETS.
4. CLEAR AND GRUB REMAINING AREA FOR POND CONSTRUCTION.
5. CONSTRUCT POND OUTLET STRUCTURE, RIPRAP ENERGY DISSIPATOR AT END OF PRINCIPAL SPILLWAY AND PARTIAL EMBANKMENT AS NEEDED TO INSTALL POND OUTLET STRUCTURE. INSTALL POND OUTLET STRUCTURE. INSTALL SKIMMER DEWATERING DEVICE. DE-WATER FOUNDATION AS NEEDED IN ACCORDANCE WITH SECTION 111 AND USE SUMP PIT FOR PUMPING. (SEE EROSION & SEDIMENT CONTROL DETAILS FOR SKIMMER DEWATERING DEVICE INSTALLATION).
6. EXCAVATE THE POND AND COMPLETE THE EMBANKMENT TO LINES, GRADES AND DETAILS SHOWN IN THE CONSTRUCTION PLANS. DURING EXCAVATION, THE CONTRACTOR SHALL SALVAGE AND STOCKPILE SOILS TO BE USED TO CONSTRUCT EMBANKMENT. THE SOILS REQUIRED FOR THE EMBANKMENT MAY BE OBTAINED FROM ELSEWHERE WITHIN THE PROJECT LIMITS. EXCAVATE POND BOTTOM TO ELEVATION 56.00 AS SHOWN FOR SEDIMENT STORAGE DURING CONSTRUCTION.
7. STABILIZE ALL BARE AREAS.

NOTE: SEE CONSTRUCTION SEQUENCE PLANS FOR LOCATION OF EROSION AND SEDIMENT CONTROL MEASURES.

MAINTENANCE OF POND AS A SEDIMENT BASIN

1. CONTRACTOR SHALL INSPECT THE BASIN IMMEDIATELY AFTER EVERY RAIN AND MAKE REPAIRS AS NEEDED.
2. CONTRACTOR SHALL CLEARLY MARK THE CLEANOUT ELEVATION ON A STAKE DRIVEN INTO THE GROUND AT A LOCATION CLEARLY VISIBLE FROM THE EMBANKMENT. SEDIMENT SHALL BE REMOVED WHEN CLEANOUT ELEVATION IS REACHED AND DISPOSED OF AT A LOCATION APPROVED BY THE ENGINEER.

CONVERSION TO PERMANENT STORMWATER MANAGEMENT POND

1. CONVERT THE BASIN INTO THE PERMANENT STORMWATER MANAGEMENT POND AND GROUT TEMPORARY 6" DIA. ORIFICE AT EL. 60.00 AFTER ALL AREAS DRAINING TO THE POND HAVE BEEN PERMANENTLY STABILIZED AND THE ENGINEER HAS APPROVED THE CONVERSION.
2. REMOVE ACCUMULATED SEDIMENT TO ELEVATION 57.00 AND DISPOSE SEDIMENT AT A LOCATION APPROVED BY THE ENGINEER.
3. COMPLETE STABILIZATION OF ALL BARE AREAS. REMOVE EROSION AND SEDIMENT CONTROL MEASURES AND DEACTIVATE SKIMMER DEWATER DEVICE.

AS-BUILT DRAWINGS OF STORMWATER MANAGEMENT FACILITIES

THE CONTRACTOR SHALL PROVIDE 'AS-BUILT' DRAWINGS OF ALL STORMWATER MANAGEMENT FACILITIES, SUCH AS PONDS, INFILTRATION BASINS, BIOFILTRATION SWALES, ETC. 'AS-BUILT' DRAWINGS SHALL SHOW THE ACTUAL FINISH GROUND CONTOURS, OUTLET STRUCTURES DIMENSIONS AND ELEVATIONS, ETC. AS THEY EXIST AT THE COMPLETION OF THE PROJECT. THESE DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER OR LAND SURVEYOR.

ITEM 712005, RIPRAP, R-4	
STATION/OFFSET	AREA
STA 187+95, 150.3' RT. TO STA 188+20, 150.6' RT.	52 SY
STA 187+95, 150.3' RT. TO STA 196+51, 151.6' RT.	53 SY

ITEM 712006, RIPRAP, R-5	
STATION/OFFSET	AREA
STA 197+27, 157.8' RT. TO STA 196+47, 157.4' RT.	19 SY

ITEM 302011, DELAWARE NO. 3 STONE	
STATION/OFFSET	WEIGHT
STA 196+29, 114.9' RT. TO STA 196+21, 126.0' RT.	47 TON

ITEM 713003, GEOTEXTILES, RIPRAP	
STATION/OFFSET	AREA
STA 187+95, 150.3' RT. TO STA 188+20, 150.6' RT.	63 SY
STA 187+95, 150.3' RT. TO STA 196+51, 151.6' RT.	64 SY
STA 197+27, 157.8' RT. TO STA 196+47, 157.4' RT.	25 SY

ITEM 713002, GEOTEXTILES, SEPARATION	
STATION/OFFSET	AREA
STA 196+29, 114.9' RT. TO STA 196+21, 126.0' RT.	232 SY

272501, POND OUTLET STRUCTURE, SPECIAL	
ITEM	QUANTITY
CONCRETE WEIR WALL	1 EA

TEMPORARY SEDIMENT BASIN DETAILS			
SKIMMER ORIFICE SIZE (IN)	SKIMMER INVERT	CLEANOUT ELEVATION	*EMERGENCY SPILLWAY ELEVATION
6	60.00	61.00	62.00

* BLOCK OUTLET STRUCTURE TO THIS ELEVATION IN TEMPORARY CONDITIONS

DRAFT
NOT FOR BIDDING
AUGUST 2015

NOTES - STORMWATER MANAGEMENT POND - BMP NO. 611 - (STA. 198+00 N)

SW-62



ADDENDUMS / REVISIONS

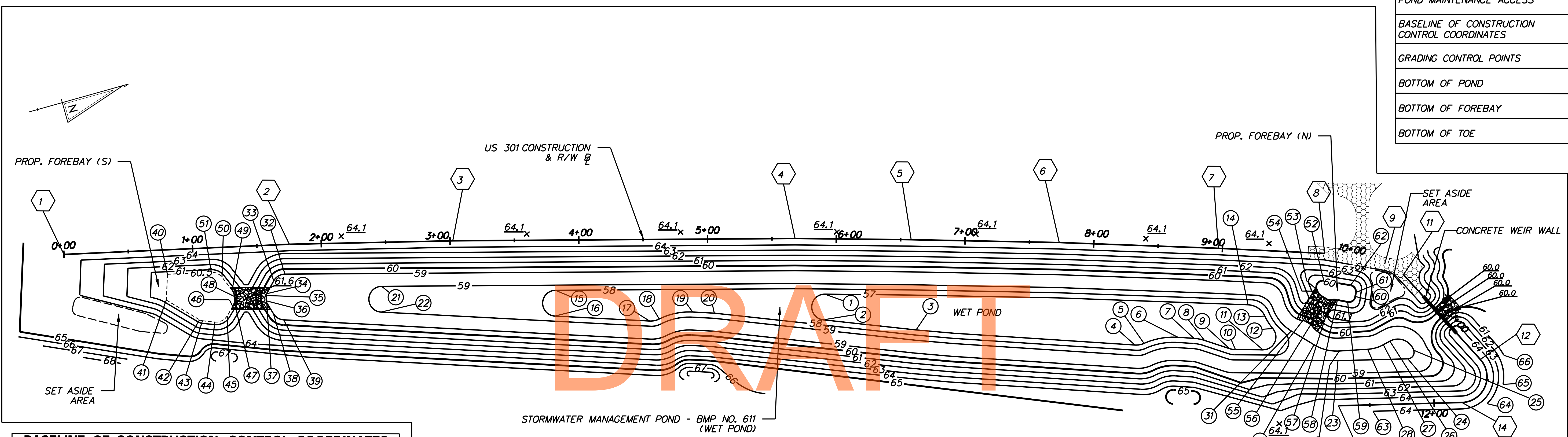
**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

**STORMWATER
MANAGEMENT PLAN**

SHEET NO. 399
TOTAL SHTS. 850

LEGEND	
PROPOSED CONTOUR	—65—
POND MAINTENANCE ACCESS	
BASELINE OF CONSTRUCTION CONTROL COORDINATES	⬡
GRADING CONTROL POINTS	⊙
BOTTOM OF POND	BOP
BOTTOM OF FOREBAY	BOF
BOTTOM OF TOE	BOT



BASELINE OF CONSTRUCTION CONTROL COORDINATES				
STATION		NORTHING	EASTING	
1	POB	STA. 0+00.00	520, 107. 9085	558, 804. 1073
2	PT	STA. 1+75. 22	520, 278. 5677	558, 843. 8240
3	PT	STA. 3+02. 14	520, 401. 4676	558, 875. 5261
4	PT	STA. 5+67. 99	520, 657. 9043	558, 945. 6500
5	PT	STA. 6+58. 16	520, 744. 4558	558, 970. 9236
6	PT	STA. 7+73. 17	520, 854. 5693	559, 004. 1262
7	PT	STA. 8+96. 79	520, 972. 2996	559, 041. 8370
8	PT	STA. 9+79. 46	521, 050. 7300	559, 067. 9734
9	PC	STA. 10+26. 85	521, 093. 4364	559, 088. 4960
	PI	STA. 10+35. 42	521, 101. 1645	559, 092. 2098
11	PT	STA. 10+43. 37	521, 104. 9867	559, 099. 8848
12	PC	STA. 11+32. 80	521, 144. 8567	559, 179. 9463
	PI	STA. 11+76. 33	521, 164. 2574	559, 218. 9040
14	PT	STA. 11+78. 41	521, 122. 0596	559, 208. 2537
15	POE	STA. 12+74. 36	521, 029. 0245	559, 184. 7727

PLAN - STORMWATER MANAGEMENT POND - BMP NO. 611 - (STA. 198+00 N)

NOTES:

- THE POND, BETWEEN ELEVATIONS 59.0 AND 64.0, INCLUDING THE BENCH AT ELEVATION 59.0 SHALL RECEIVE TOPSOILING, 6" DEPTH (ITEM 908010).
- THE POND, BETWEEN ELEVATIONS 57.0 AND 61.0, NOT INCLUDING THE POND BOTTOM AND FOREBAY BOTTOM, SHALL RECEIVE PERMANENT GRASS SEEDING - WET GROUND (ITEM 908015).
- THE REMAINDER OF THE EMBANKMENT AREA ABOVE ELEVATION 61.0 SHALL RECEIVE PERMANENT GRASS SEEDING - DRY GROUND (ITEM 908014).
- WET GROUND SEEDING AREA = 5,639 SY, DRY GROUND SEEDING AREA = 5,527 SY.

GRADING CONTROL POINTS				
	NORTHING	EASTING	ELEVATION	NOTE
1	520, 668. 4090	558, 993. 5132	57.00	BOP
2	520, 661. 8771	559, 012. 3911	57.00	BOP
3	520, 729. 1703	559, 039. 4346	57.00	BOP
4	520, 889. 6238	559, 096. 6519	57.00	BOP
5	520, 896. 7775	559, 097. 3462	57.00	BOP
6	520, 923. 4847	559, 099. 9381	57.00	BOP
7	520, 935. 1892	559, 104. 0611	57.00	BOP
8	520, 942. 6241	559, 107. 7916	57.00	BOP
9	520, 959. 6335	559, 119. 2154	57.00	BOP
10	520, 963. 8323	559, 121. 1735	57.00	BOP
11	520, 984. 3366	559, 127. 0990	57.00	BOP
12	520, 996. 1981	559, 113. 3137	57.00	BOP
13	520, 992. 8612	559, 102. 2594	57.00	BOP
14	520, 982. 6174	559, 090. 2940	57.00	BOP
15	520, 467. 8561	558, 934. 1126	58.00	BOP
16	520, 462. 0139	558, 953. 2311	58.00	BOP
17	520, 531. 8047	558, 976. 8405	58.00	BOP

GRADING CONTROL POINTS				
	NORTHING	EASTING	ELEVATION	NOTE
18	520, 539. 4501	558, 977. 3605	58.00	BOP
19	520, 565. 9542	558, 979. 1630	58.00	BOP
20	520, 581. 8396	558, 984. 5368	58.00	BOP
21	520, 338. 7662	558, 894. 6657	59.00	BOP
22	520, 332. 9241	558, 913. 7843	59.00	BOP
23	521, 038. 1681	559, 150. 9829	59.00	BOP
24	521, 090. 7647	559, 164. 2577	59.00	BOP
25	521, 096. 9776	559, 159. 0829	59.00	BOP
26	521, 081. 0662	559, 147. 2693	59.00	BOP
27	521, 075. 4097	559, 148. 5822	59.00	BOP
28	521, 062. 7270	559, 148. 6786	59.00	BOP
29	521, 041. 2387	559, 144. 0346	59.00	BOP
30	521, 023. 5900	559, 134. 0272	59.00	BOP
31	521, 009. 5249	559, 118. 9898	59.00	BOP
32	520, 269. 0127	558, 865. 2243	59.00	BOP
33	520, 259. 2205	558, 867. 8834	59.00	BOP
34	520, 251. 2616	558, 876. 0334	59.00	BOP

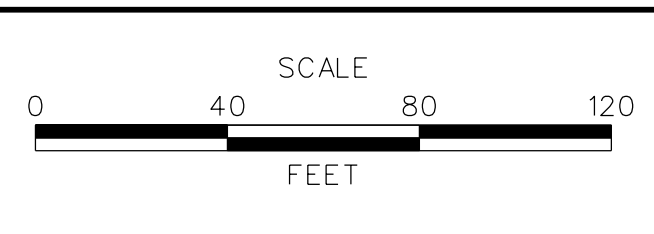
GRADING CONTROL POINTS				
	NORTHING	EASTING	ELEVATION	NOTE
35	520, 250. 5196	558, 877. 3186	59.00	BOP
36	520, 249. 4137	558, 881. 2582	59.00	BOP
37	520, 249. 4154	558, 882. 8858	59.00	BOP
38	520, 252. 1145	558, 892. 4250	59.00	BOP
39	520, 258. 5322	558, 899. 1751	59.00	BOP
40	520, 181. 0859	558, 840. 6452	60.50	BOF
41	520, 174. 9538	558, 859. 8096	60.50	BOF
42	520, 195. 5850	558, 881. 4403	60.50	BOF
43	520, 197. 7420	558, 882. 8873	60.50	BOF
44	520, 206. 5789	558, 886. 3423	60.50	BOF
45	520, 217. 0681	558, 884. 3162	60.50	BOF
46	520, 223. 2269	558, 878. 5288	60.50	BOF
47	520, 225. 4509	558, 874. 8611	60.50	BOF
48	520, 226. 4652	558, 871. 2478	60.50	BOF
49	520, 226. 1521	558, 866. 0196	60.50	BOF
50	520, 221. 2831	558, 854. 2853	60.50	BOF
51	520, 251. 2616	558, 876. 0334	59.00	BOP

GRADING CONTROL POINTS				
	NORTHING	EASTING	ELEVATION	NOTE
52	521, 044. 3400	559, 088. 2265	60.00	BOF
53	521, 037. 2381	559, 093. 3046	60.00	BOF
54	521, 037. 3942	559, 094. 7005	60.00	BOF
55	521, 039. 5020	559, 099. 2760	60.00	BOF
56	521, 042. 5398	559, 102. 5238	60.00	BOF
57	521, 045. 7549	559, 104. 0892	60.00	BOF
58	521, 050. 4728	559, 105. 4316	60.00	BOF
59	521, 057. 7505	559, 109. 1011	60.00	BOF
60	521, 064. 5849	559, 106. 6348	60.00	BOF
61	521, 065. 8488	559, 103. 7359	60.00	BOF
62	521, 063. 3984	559, 097. 2154	60.00	BOF
63	521, 053. 7389	559, 196. 1671	64.00	BOT
64	521, 140. 6619	559, 214. 4174	63.00	BOT
65	521, 156. 6021	559, 203. 3526	62.00	BOT
66	521, 163. 2594	559, 181. 7268	61.00	BOT

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ADDENDUMS / REVISIONS	

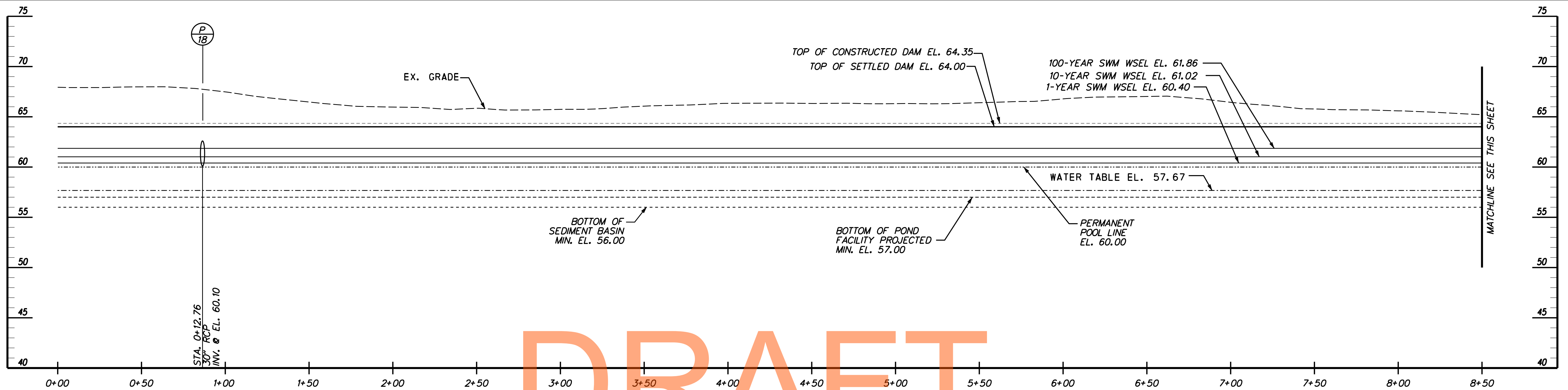


**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

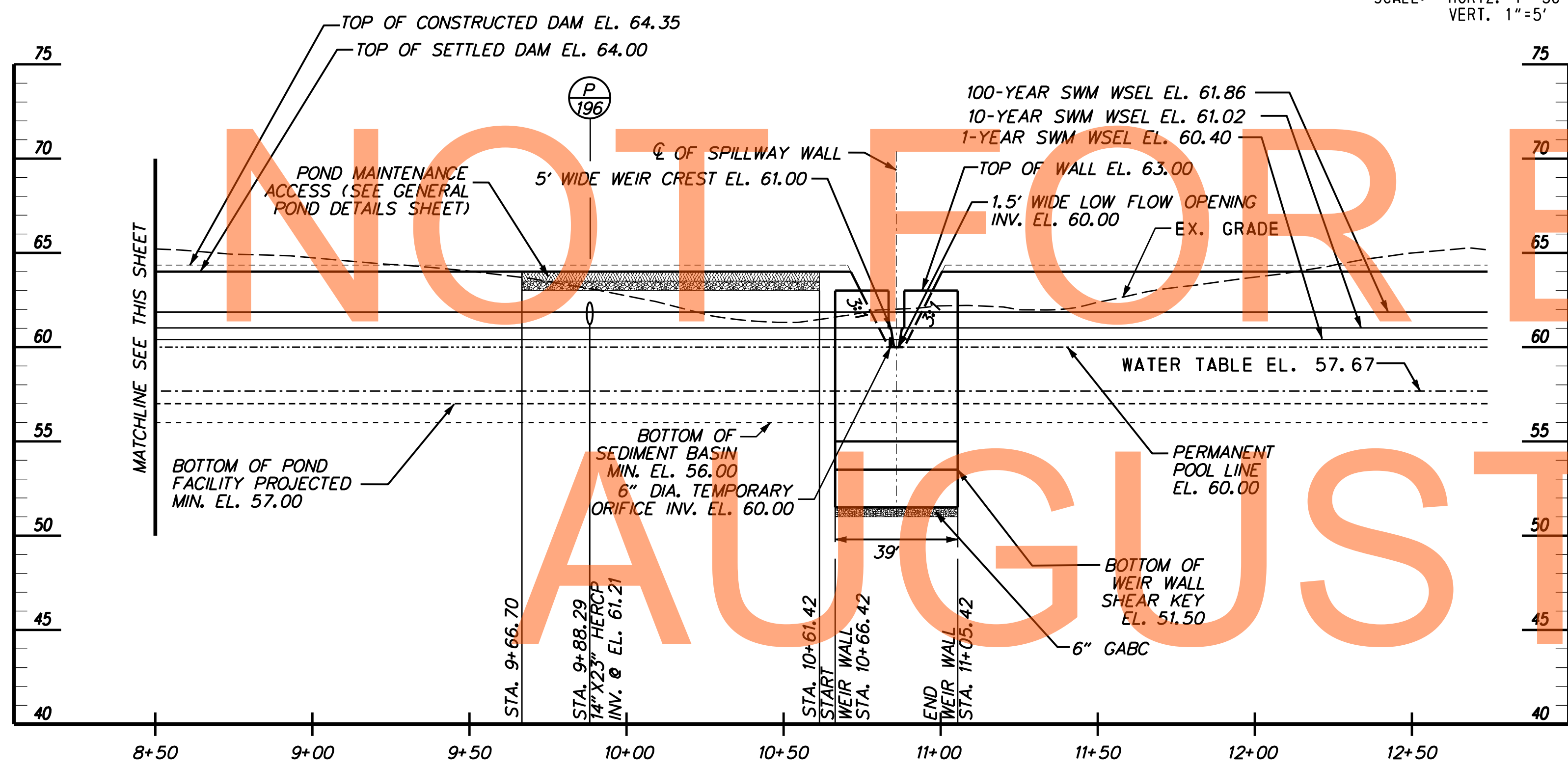
CONTRACT T200811301	BRIDGE NO.	
COUNTY NEW CASTLE	DESIGNED BY: CHECKED BY:	DSM/ACF JZS

DETAILS FOR SWM POND BMP NO. 611	
SHEET NO. 400	TOTAL SHTS. 850

SW-63



PROFILE ALONG \bar{C} OF EMBANKMENT
 SCALE: HORIZ. 1"=30'
 VERT. 1"=5'



PROFILE ALONG \bar{C} OF EMBANKMENT
 SCALE: HORIZ. 1"=30'
 VERT. 1"=5'

DRAFT
 NOT FOR BIDDING
 AUGUST 2015

POND MAINTENANCE ACCESS	
6" TOPSOIL, PERM. SEEDING	
6" DELAWARE NO. 3 STONE	

DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 611 - (198+00 N)

SW-64



ADDENDUMS / REVISIONS

SCALE: AS SHOWN

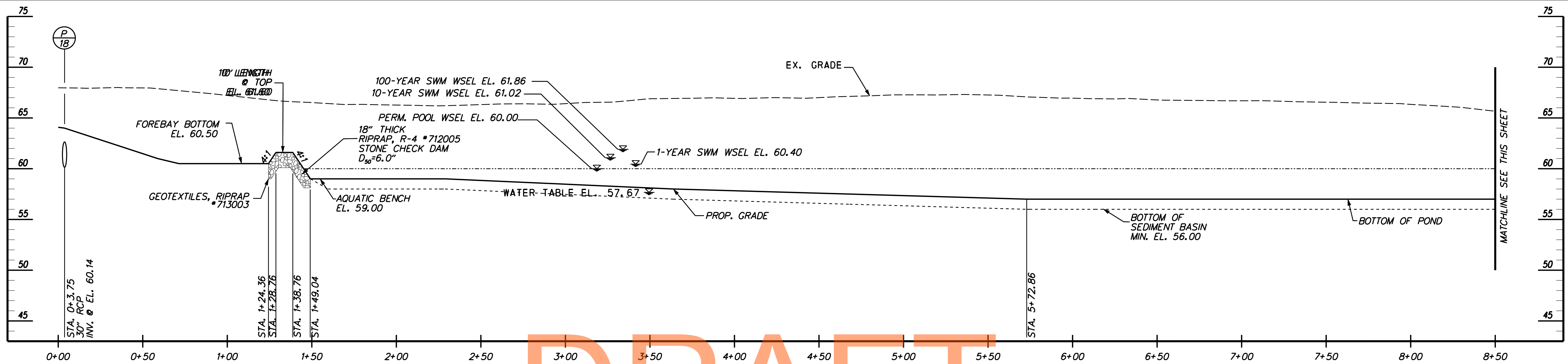
US 301
 MARYLAND STATE LINE
 TO LEVELS ROAD

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

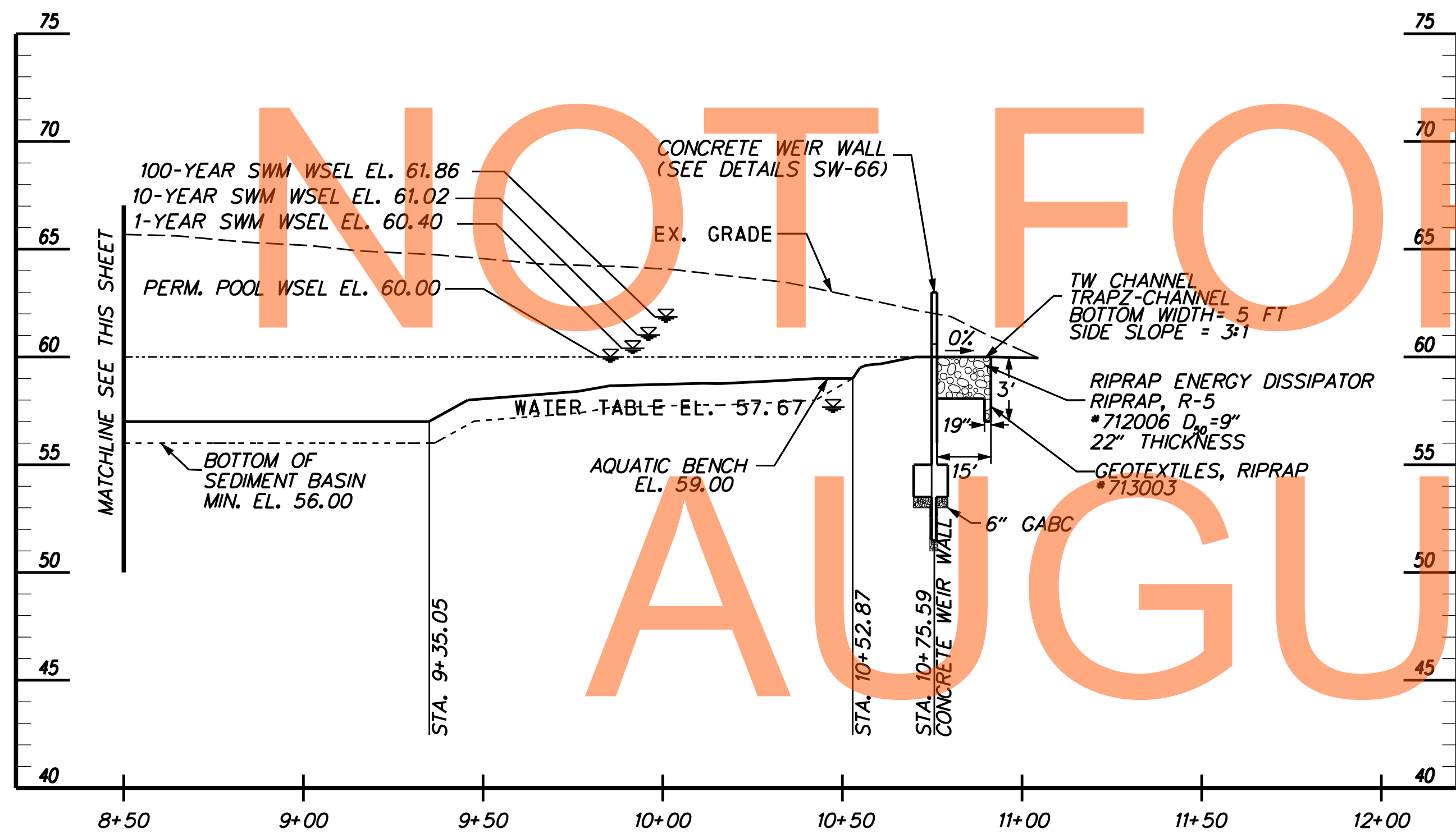
DETAILS FOR SWM
 POND
 BMP NO. 611

SHEET NO. 401
TOTAL SHTS. 850

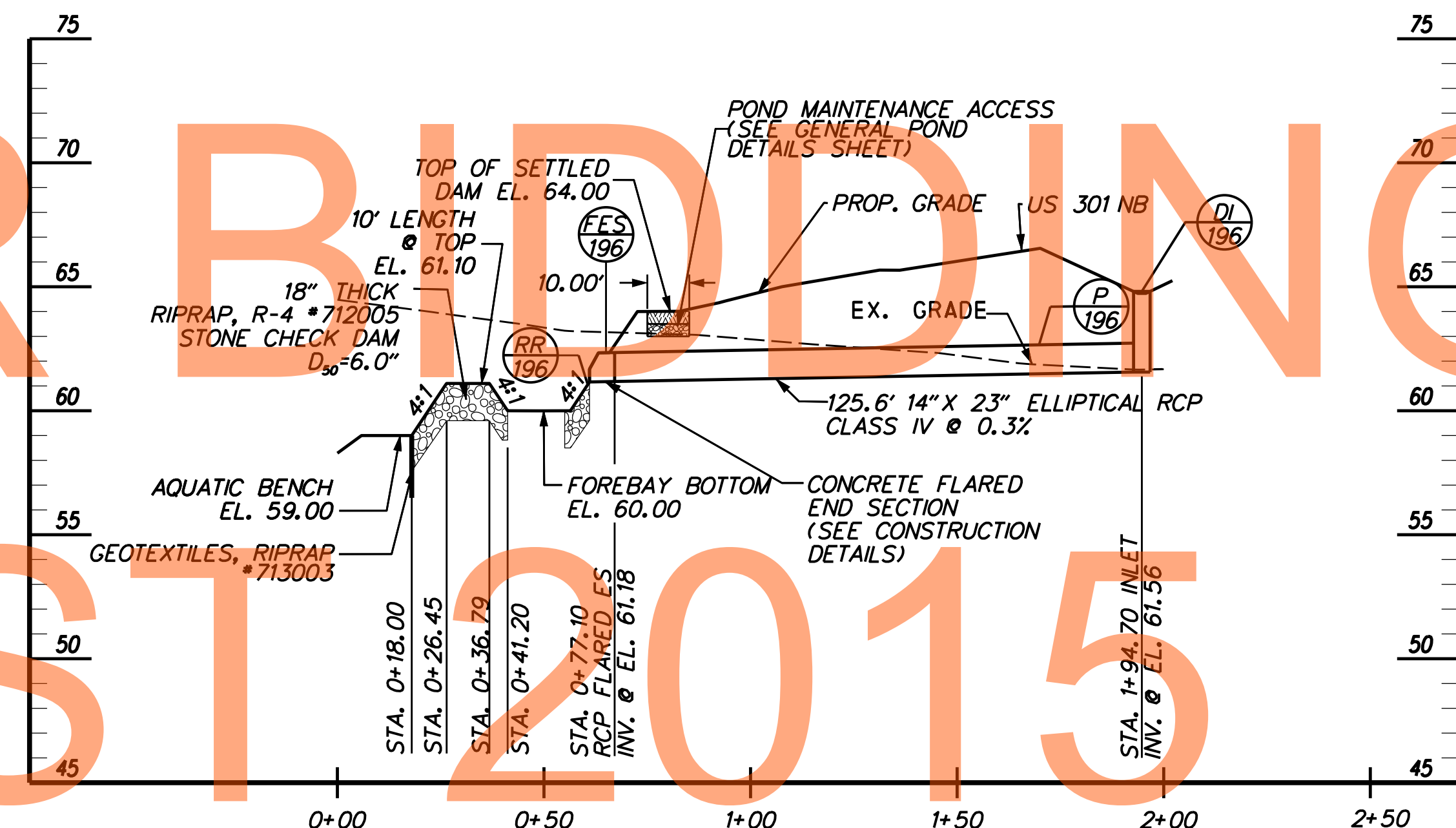
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CROSS SECTION B-B
SCALE: HORIZ. 1"=30'
VERT. 1"=5'



CROSS SECTION B-B
SCALE: HORIZ. 1"=30'
VERT. 1"=5'



CROSS SECTION C-C
SCALE: HORIZ. 1"=30'
VERT. 1"=5'

POND MAINTENANCE ACCESS	
6" TOPSOIL, PERM. SEEDING	[Pattern]
6" DELAWARE NO. 3 STONE	[Pattern]

DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 611 - (STA. 198+00 N)

SW-65



ADDENDUMS / REVISIONS

SCALE: AS SHOWN

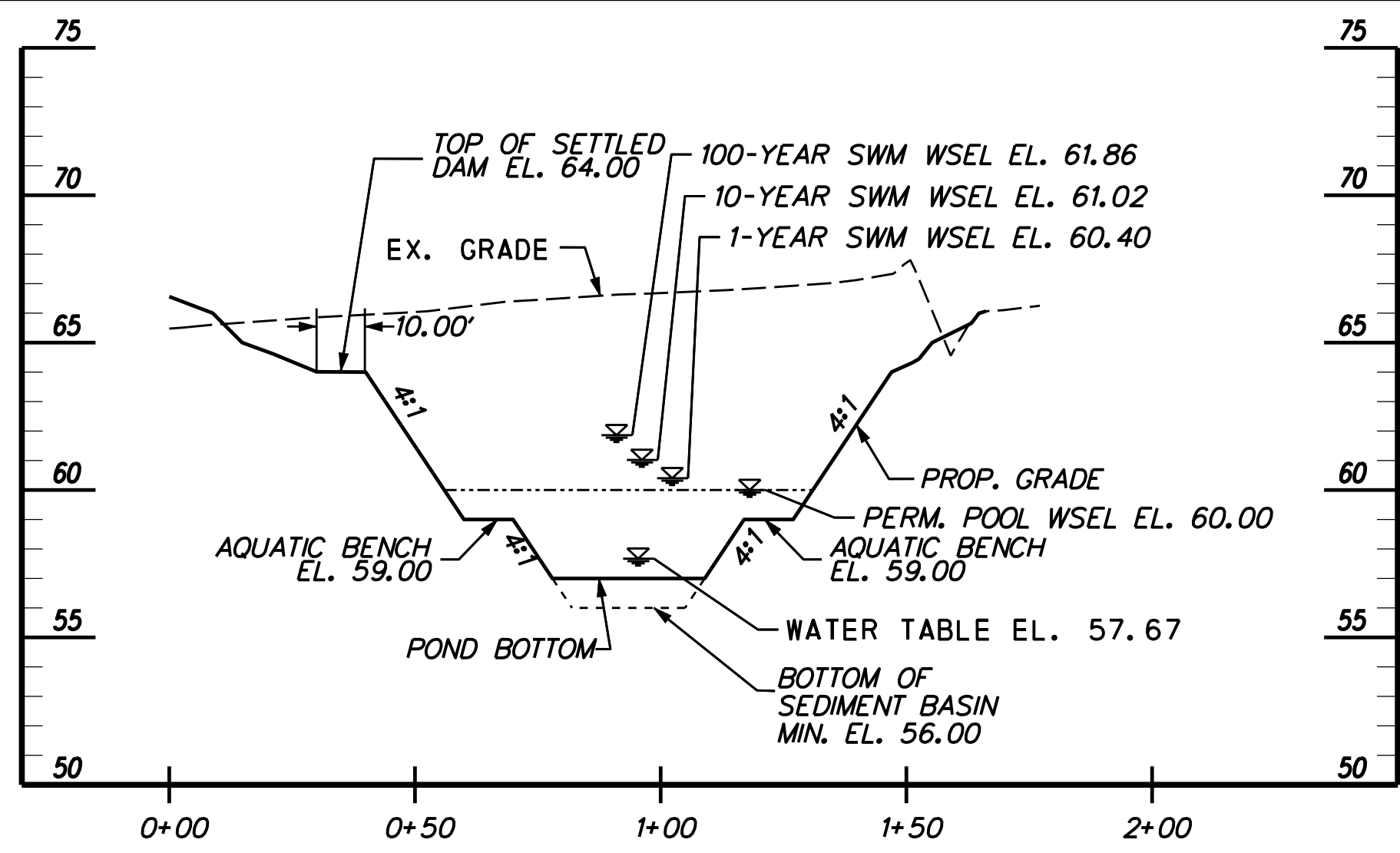
US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT T200811301	BRIDGE NO.	
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF	
	CHECKED BY: JZS	

DETAILS FOR SWM
POND
BMP NO. 611

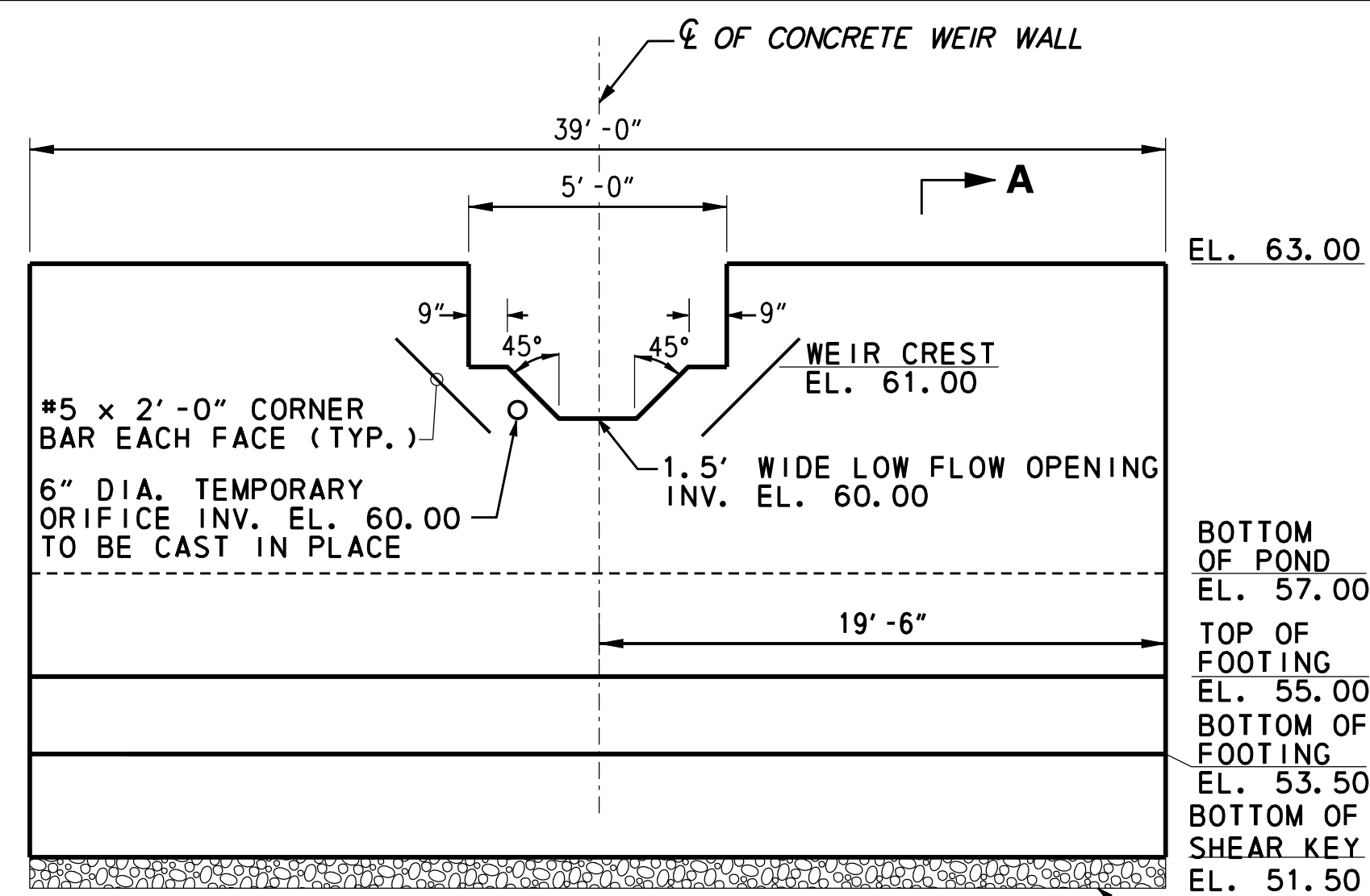
SHEET NO. 402
TOTAL SHTS. 850

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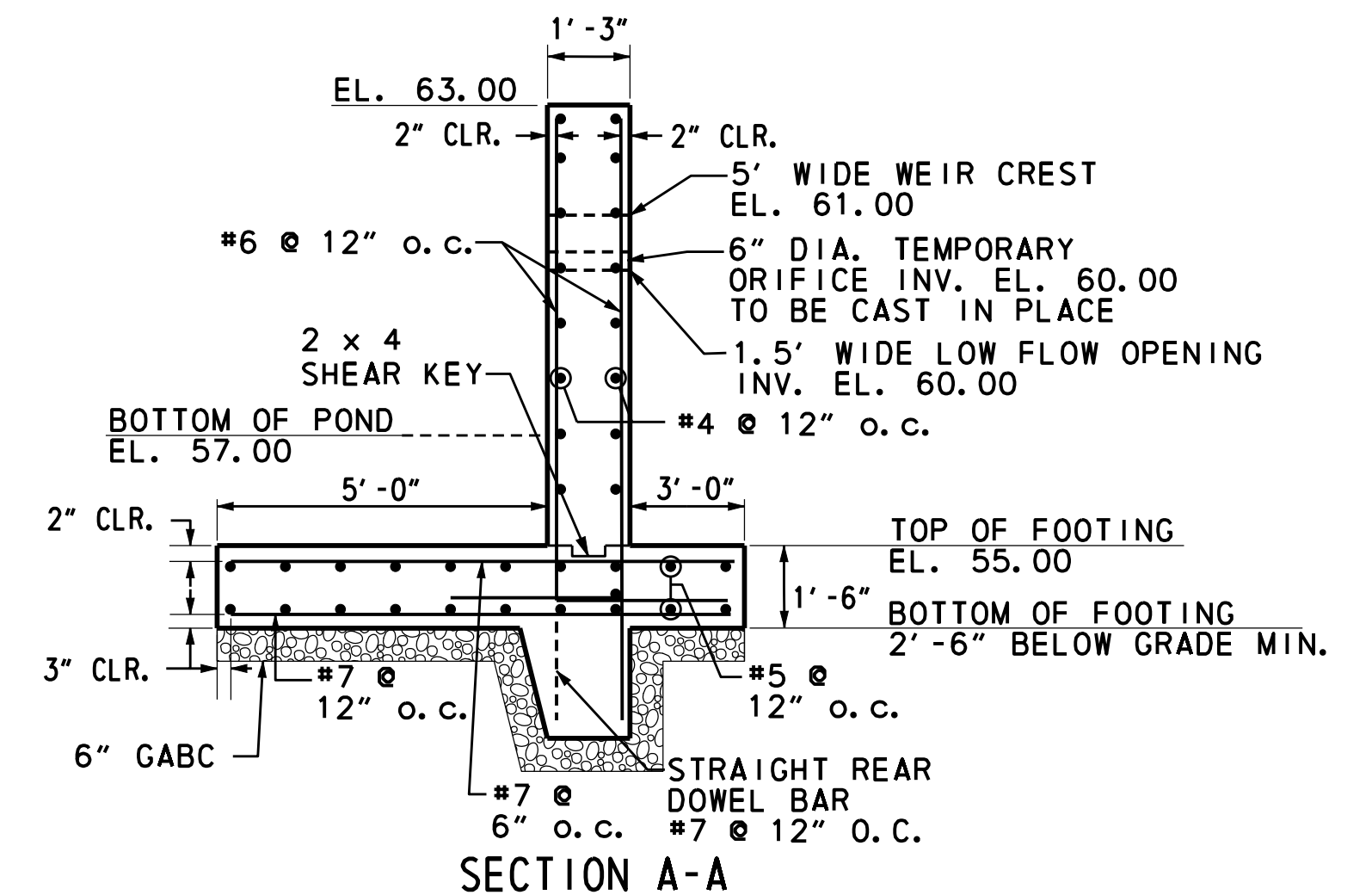


CROSS SECTION A-A

SCALE: HORIZ. 1"=30'
VERT. 1"=5'

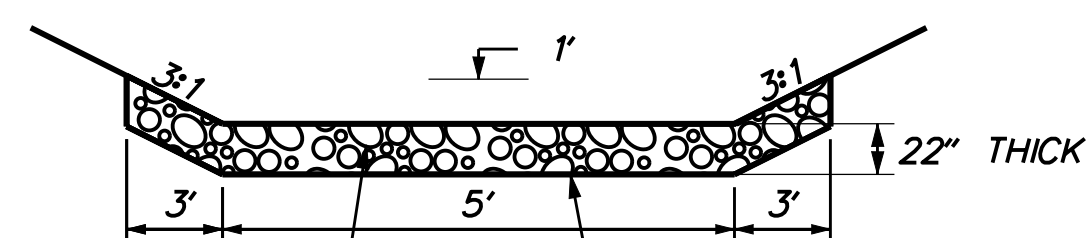


ELEVATION



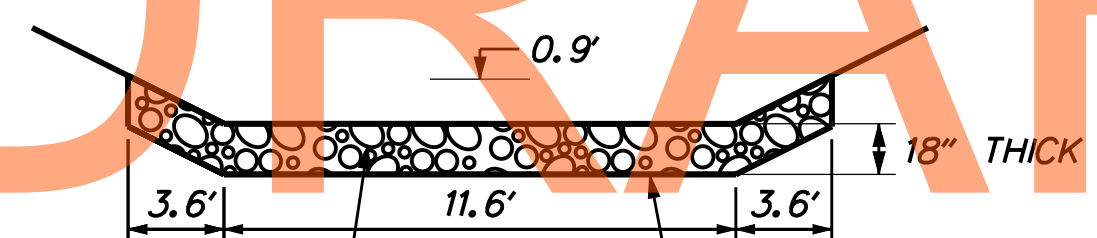
SECTION A-A

*ALTERNATE HOOKED BARS W/STRAIGHT BARS



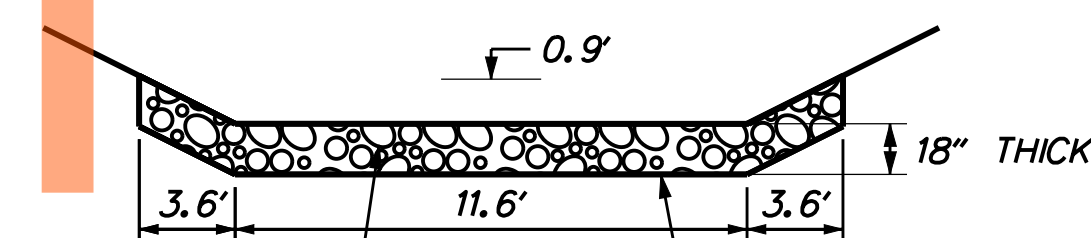
RIPRAP ENERGY DISSIPATOR
CROSS SECTION D-D

NOT TO SCALE



STONE CHECK DAM
CROSS SECTION E-E

NOT TO SCALE



STONE CHECK DAM
CROSS SECTION F-F

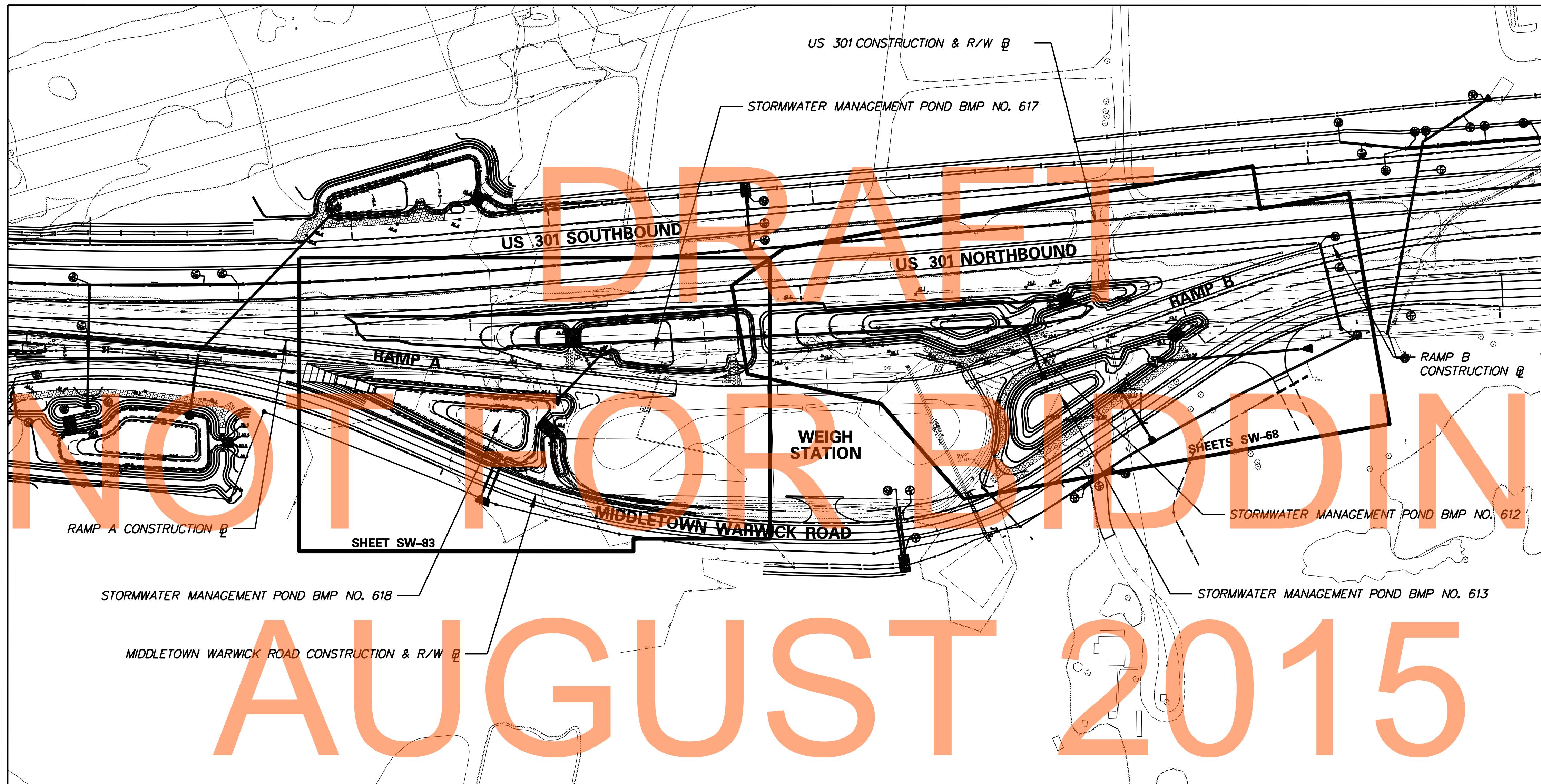
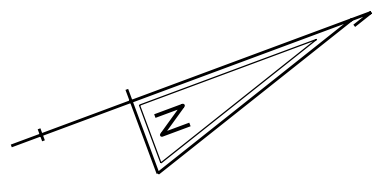
NOT TO SCALE

DRAFT

NOT FOR BIDDING

AUGUST 2015

DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 611 - (198+00 N)



PLAN INDEX - WEIGH STATION AREA PONDS
STORMWATER MANAGEMENT POND - BMP NO. 612 & 613 - (STA. 162+00 N)
STORMWATER MANAGEMENT POND - BMP NO. 617 - (STA. 156+00 N) AND
STORMWATER MANAGEMENT POND - BMP NO. 618 - (WEIGH STATION SOUTH)

NOTE: SEE SHEETS SW-69 TO SW-74 FOR STORMWATER MANAGEMENT POND BMP NO. 612 AND 613 DETAILS.
 NOTE: SEE SHEETS SW-84 TO SW-90 FOR STORMWATER MANAGEMENT POND BMP NO. 617 AND 618 DETAILS.

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ADDENDUMS / REVISIONS	

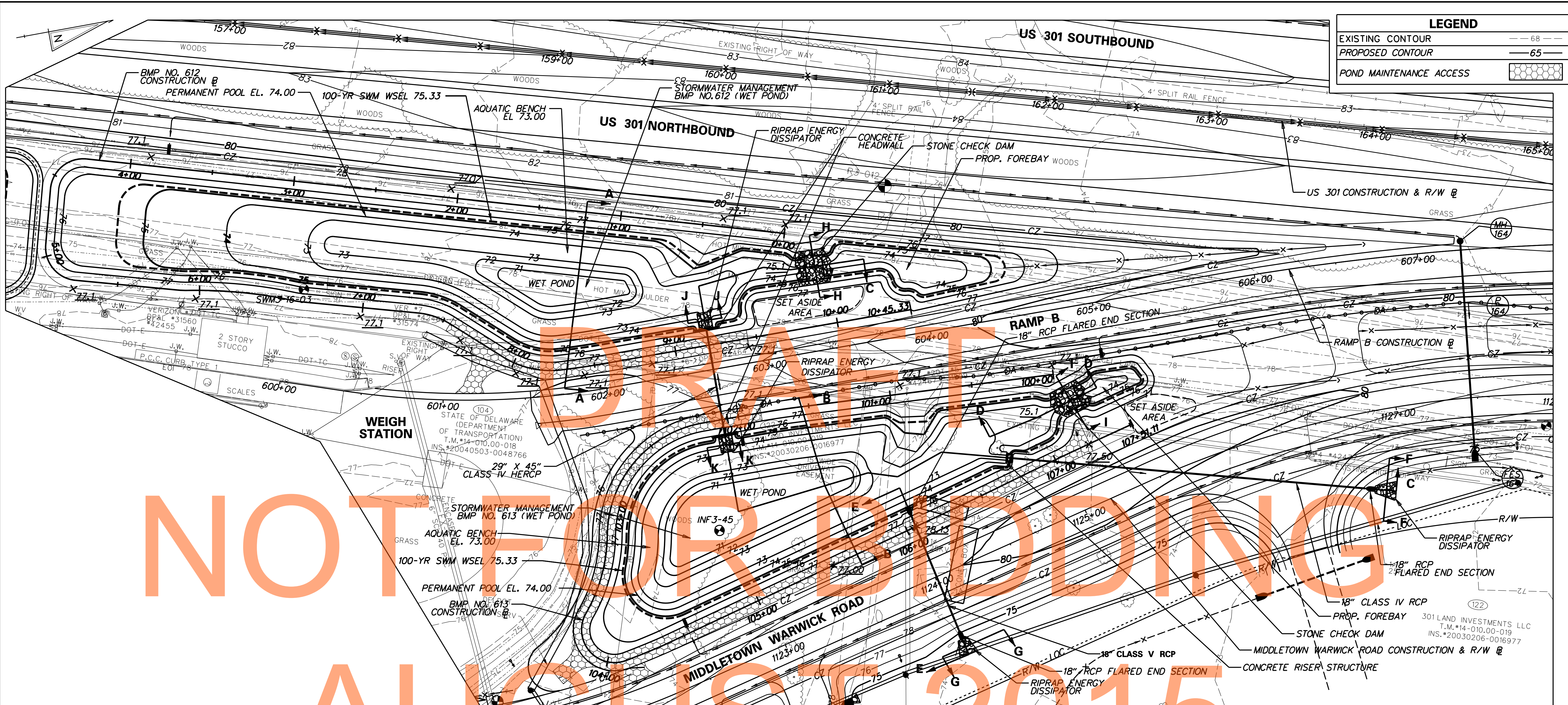


US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

STORMWATER
MANAGEMENT PLAN

SW-67	
SHEET NO.	404
TOTAL SHTS.	850



DRAFT

NOT FOR BIDDING

AUGUST 2015

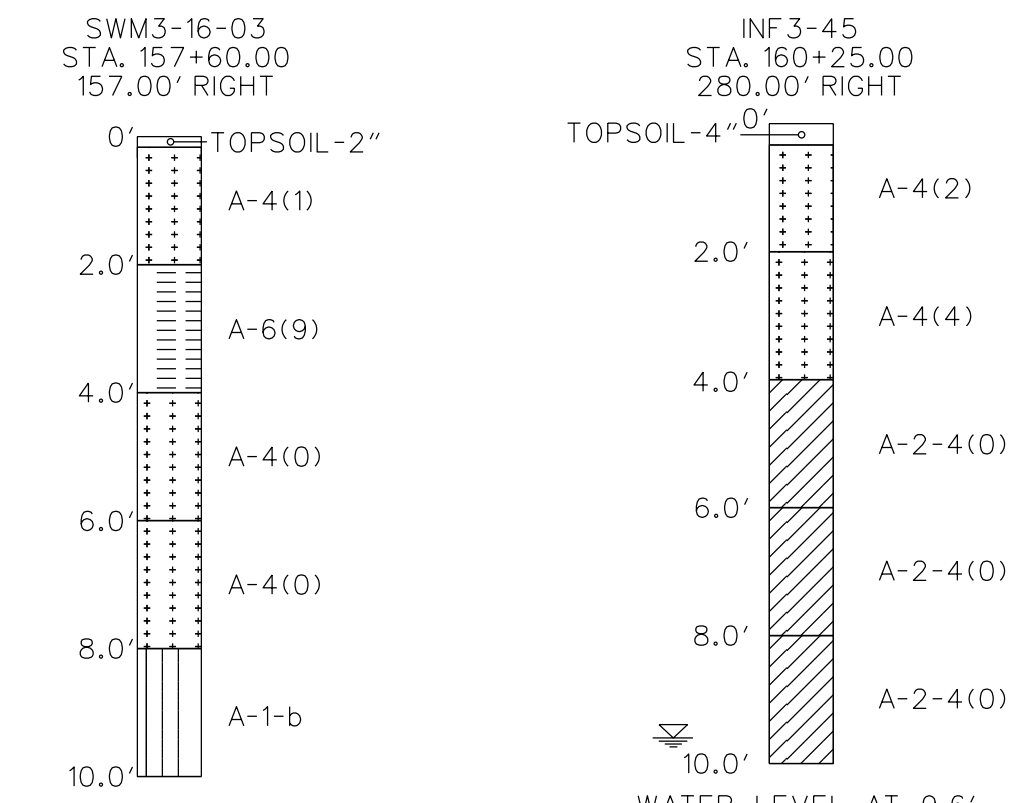
PLAN - STORMWATER MANAGEMENT POND - BMP NO. 612 AND 613 - (STA. 162+00 N)
 (US 301 STA. 156+01 TO STA. 163+18), TYPE: WET POND

NOTE: SEE SHEETS SW-69 TO SW-74 FOR STORMWATER MANAGEMENT POND BMP NO. 612 & 613 DETAILS.

FACILITY DESIGN SUMMARY FOR STORMWATER MANAGEMENT BMP NO. 612 & 613				
DESIGN STORM	FACILITY INFLOW (CFS)	FACILITY DISCHARGE (CFS)	WATER SURFACE ELEVATION (FT.)	STORAGE VOLUME (AC. FT.)
1-YEAR	4.90	0.20	74.28	0.195
10-YEAR	13.35	0.63	74.72	0.537
100-YEAR	27.25	2.24	75.33	1.084

HAZARD CLASSIFICATION: CLASS 'A' AS PER POND CODE 378
 PERMANENT POOL VOLUME: 0.876 AC.FT.
 DRAINAGE AREA TO FACILITY 4.067 ACRES

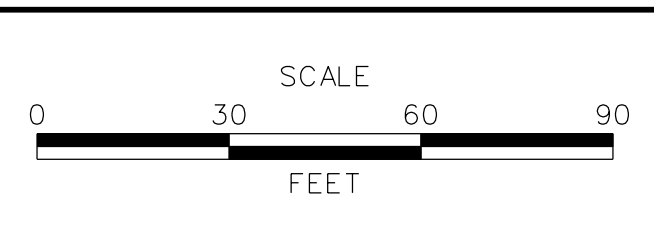
MANAGEMENT PROVIDED BY FACILITY: WATER QUALITY BY EXTENDED DETENTION FOR 1-YEAR STORM,
 AND WATER QUANTITY FOR 10-YEAR AND 100-YEAR STORMS.



SW-68



ADDENDUMS / REVISIONS



US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

STORMWATER MANAGEMENT PLAN	SHEET NO. 405
	TOTAL SHTS. 850

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POND CONSTRUCTION SEQUENCE AND NOTES

THE STORMWATER MANAGEMENT POND SHALL FUNCTION AS A SEDIMENT BASIN DURING ROADWAY CONSTRUCTION AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE STANDARD SPECIFICATIONS:

- SECTION 910 STORMWATER MANAGEMENT FACILITIES
 - STORMWATER MANAGEMENT POND
 - POND OUTLET STRUCTURE, CONCRETE
 - CLAY BORROW

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. CLEAR AND GRUB FOR INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS.
3. INSTALL PERIMETER SEDIMENT CONTROLS AS SHOWN ON EROSION & SEDIMENT CONTROL SHEETS.
4. CLEAR AND GRUB REMAINING AREA FOR POND CONSTRUCTION.
5. CONSTRUCT POND OUTLET STRUCTURE, RIPRAP ENERGY DISSIPATOR AT END OF PRINCIPAL SPILLWAY AND PARTIAL EMBANKMENT AS NEEDED TO INSTALL POND OUTLET STRUCTURE. INSTALL POND OUTLET STRUCTURE. INSTALL SKIMMER DEWATERING DEVICE. DE-WATER FOUNDATION AS NEEDED IN ACCORDANCE WITH SECTION 111 AND USE SUMP PIT FOR PUMPING. (SEE EROSION & SEDIMENT CONTROL DETAILS FOR SKIMMER DEWATERING DEVICE INSTALLATION).
6. EXCAVATE THE POND AND COMPLETE THE EMBANKMENT TO LINES, GRADES AND DETAILS SHOWN IN THE CONSTRUCTION PLANS. DURING EXCAVATION, THE CONTRACTOR SHALL SALVAGE AND STOCKPILE SOILS TO BE USED TO CONSTRUCT EMBANKMENT. THE SOILS REQUIRED FOR THE EMBANKMENT MAY BE OBTAINED FROM ELSEWHERE WITHIN THE PROJECT LIMITS. EXCAVATE POND BOTTOM TO ELEVATION 69.00 AS SHOWN FOR SEDIMENT STORAGE DURING CONSTRUCTION.
7. STABILIZE ALL BARE AREAS.

NOTE: SEE CONSTRUCTION SEQUENCE PLANS FOR LOCATION OF EROSION AND SEDIMENT CONTROL MEASURES.

MAINTENANCE OF POND AS A SEDIMENT BASIN

1. CONTRACTOR SHALL INSPECT THE BASIN IMMEDIATELY AFTER EVERY RAIN AND MAKE REPAIRS AS NEEDED.
2. CONTRACTOR SHALL CLEARLY MARK THE CLEANOUT ELEVATION ON A STAKE DRIVEN INTO THE GROUND AT A LOCATION CLEARLY VISIBLE FROM THE EMBANKMENT. SEDIMENT SHALL BE REMOVED WHEN CLEANOUT ELEVATION IS REACHED AND DISPOSED OF AT A LOCATION APPROVED BY THE ENGINEER.

CONVERSION TO PERMANENT STORMWATER MANAGEMENT POND

1. CONVERT THE BASIN INTO THE PERMANENT STORMWATER MANAGEMENT POND AND GROUT 4" DIA. ORIFICE AT EL. 74.00 AFTER ALL AREAS DRAINING TO THE POND HAVE BEEN PERMANENTLY STABILIZED AND THE ENGINEER HAS APPROVED THE CONVERSION.
2. REMOVE ACCUMULATED SEDIMENT TO ELEVATION 71.00 AND DISPOSE SEDIMENT AT A LOCATION APPROVED BY THE ENGINEER.
3. COMPLETE STABILIZATION OF ALL BARE AREAS. REMOVE EROSION AND SEDIMENT CONTROL MEASURES AND DEACTIVATE SKIMMER DEWATER DEVICE.

AS-BUILT DRAWINGS OF STORMWATER MANAGEMENT FACILITIES

THE CONTRACTOR SHALL PROVIDE 'AS-BUILT' DRAWINGS OF ALL STORMWATER MANAGEMENT FACILITIES, SUCH AS PONDS, INFILTRATION BASINS, BIOFILTRATION SWALES, ETC. 'AS-BUILT' DRAWINGS SHALL SHOW THE ACTUAL FINISH GROUND CONTOURS, OUTLET STRUCTURES DIMENSIONS AND ELEVATIONS, ETC. AS THEY EXIST AT THE COMPLETION OF THE PROJECT. THESE DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER OR LAND SURVEYOR.

ITEM 712005, RIPRAP, R-4	
STATION/OFFSET	AREA
STA. 160+55, 107.3' RT. TO STA. 160+79, 114.8' RT.	47 SY
STA. 162+19, 186.5' RT. TO STA. 162+43, 178.0' RT.	41 SY

ITEM 712006, RIPRAP, R-5	
STATION/OFFSET	AREA
STA. 159+99, 150.0' RT. TO STA. 160+09, 157.5' RT.	9 SY
STA. 160+19, 223.4' RT. TO STA. 160+30, 231.0' RT.	9 SY
STA. 161+78, 342.8' RT. TO STA. 161+88, 337.6' RT.	10 SY
STA. 164+20, 220.3' RT. TO STA. 164+32, 212.5' RT.	12 SY

ITEM 302011, DELAWARE NO. 3 STONE	
STATION/OFFSET	WEIGHT
STA. 158+48, 174.5' RT. TO STA. 160+33, 166.8' RT.	58 TON
STA. 159+32, 374.8' RT. TO STA. 162+47, 210.9' RT.	152 TON

ITEM 713002, GEOTEXTILES, SEPARATION	
STATION/OFFSET	AREA
STA. 158+48, 174.5' RT. TO STA. 160+33, 166.8' RT.	301 SY
STA. 159+32, 374.8' RT. TO STA. 162+47, 210.9' RT.	791 SY

ITEM 713003, GEOTEXTILES, RIPRAP	
STATION/OFFSET	AREA
STA. 159+99, 150.0' RT. TO STA. 160+09, 157.5' RT.	13 SY
STA. 160+19, 223.4' RT. TO STA. 160+30, 231.0' RT.	13 SY
STA. 161+78, 342.8' RT. TO STA. 161+88, 337.6' RT.	15 SY
STA. 164+20, 220.3' RT. TO STA. 164+32, 212.5' RT.	17 SY
STA. 160+55, 107.3' RT. TO STA. 160+79, 114.8' RT.	56 SY
STA. 162+19, 186.5' RT. TO STA. 162+43, 178.0' RT.	49 SY

ITEM 272501, POND OUTLET STRUCTURE, SPECIAL	
ITEM	QUANTITY
CONCRETE RISER STRUCTURE	1 EA
18" CLASS IV RCP	216 LF
18" CLASS V RCP	75 LF
29" X 45" CLASS IV HERCP	67 LF
CONCRETE HEADWALL/ENDWALL	2 EA
18" RCP FLARED END SECTION	3 EA
CONCRETE CRADLES	38 CY
DELAWARE NO. 57 STONE	29 TON

TEMPORARY SEDIMENT BASIN DETAILS			
SKIMMER ORIFICE SIZE (IN)	SKIMMER INVERT	CLEANOUT ELEVATION	*EMERGENCY SPILLWAY ELEVATION
4	74.00	74.50	75.00

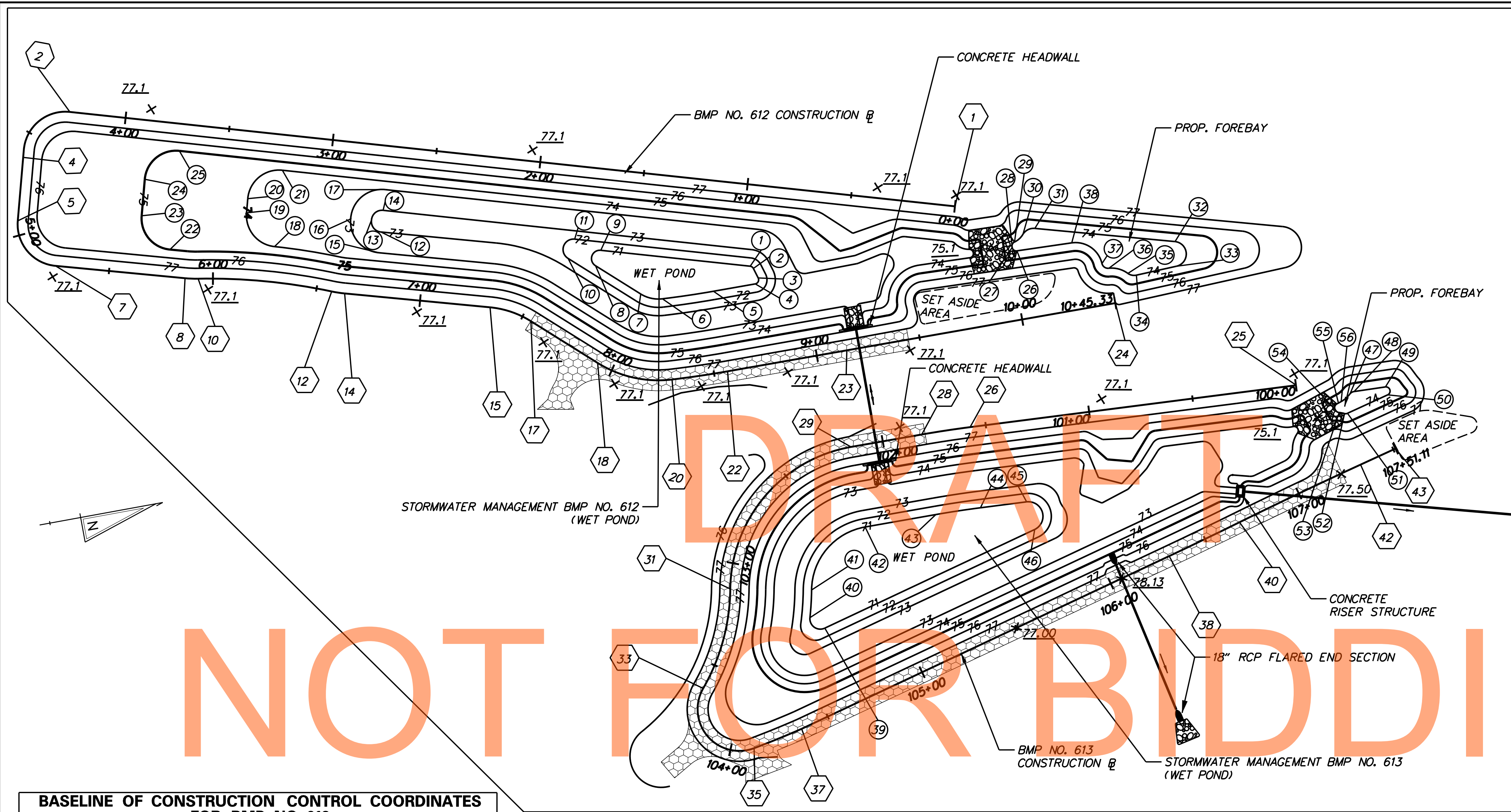
* BLOCK OUTLET STRUCTURE TO THIS ELEVATION IN TEMPORARY CONDITIONS

NOTES - STORMWATER MANAGEMENT POND - BMP NO. 612 AND 613 - (STA. 162+00 N)

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 DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT	BRIDGE NO.	STORMWATER MANAGEMENT PLAN	SHEET NO.	
			T200811301	DESIGNED BY:		DSM/ACF	406
			COUNTY	CHECKED BY:		JZS	TOTAL SHTS.
			NEW CASTLE				850

SW-69



LEGEND	
PROPOSED CONTOUR	—65—
POND MAINTENANCE ACCESS	
BASELINE OF CONSTRUCTION CONTROL COORDINATES	⑧
GRADING CONTROL POINTS	⑧
BOTTOM OF POND	BOP
BOTTOM OF FOREBAY	BOF

- NOTES:
1. THE POND, BETWEEN ELEVATIONS 73.0 AND 77.0, INCLUDING THE BENCH AT ELEVATION 73.0 SHALL RECEIVE TOPSOILING, 6" DEPTH (ITEM 908010).
 2. THE POND, BETWEEN ELEVATIONS 71.0 AND 75.0, NOT INCLUDING THE POND BOTTOM, SHALL RECEIVE PERMANENT GRASS SEEDING - WET GROUND (ITEM 908015).
 3. THE REMAINDER OF THE EMBANKMENT AREA ABOVE ELEVATION 75.0 SHALL RECEIVE PERMANENT GRASS SEEDING - DRY GROUND (ITEM 908014).
 4. WET GROUND SEEDING AREA = 2,208 SY (BMP 612), 1,621 SY (BMP 613), DRY GROUND SEEDING AREA = 2,857 SY (BMP 612), 1,787 SY (BMP 613).

	NORTHING	EASTING	ELEVATION	NOTE
1	517, 494. 1341	558, 088. 8107	71.00	BOP
2	517, 495. 4857	558, 090. 1610	71.00	BOP
3	517, 496. 9326	558, 095. 0465	71.00	BOP
4	517, 495. 0016	558, 097. 6144	71.00	BOP
5	517, 474. 6446	558, 097. 4785	71.00	BOP
6	517, 449. 9001	558, 096. 6261	71.00	BOP
7	517, 440. 1066	558, 092. 4731	71.00	BOP
8	517, 421. 1951	558, 075. 2071	71.00	BOP
9	517, 425. 0252	558, 068. 4169	71.00	BOP
10	517, 408. 8787	558, 069. 3787	71.00	BOP
11	517, 413. 6664	558, 060. 8910	71.00	BOP
12	517, 322. 8816	558, 040. 8024	73.00	BOP
13	517, 319. 4202	558, 034. 6780	73.00	BOP
14	517, 325. 7796	558, 030. 7608	73.00	BOP
15	517, 320. 1557	558, 050. 4237	73.00	BOP
16	517, 309. 7716	558, 032. 0503	73.00	BOP
17	517, 328. 6123	558, 021. 1704	73.00	BOP
18	517, 271. 4326	558, 038. 5068	74.00	BOP
19	517, 261. 1853	558, 020. 1729	74.00	BOP
20	517, 262. 9787	558, 013. 5873	74.00	BOP
21	517, 281. 7007	558, 003. 1431	74.00	BOP
22	517, 221. 8354	558, 030. 8832	75.00	BOP
23	517, 211. 4512	558, 012. 5098	75.00	BOP
24	517, 216. 0671	557, 995. 5601	75.00	BOP
25	517, 234. 7892	557, 985. 1159	75.00	BOP
26	517, 621. 3011	558, 104. 5934	74.00	BOF
27	517, 619. 3742	558, 102. 5229	74.00	BOF
28	517, 619. 3898	558, 102. 0898	74.00	BOF
29	517, 620. 9019	558, 100. 2217	74.00	BOF
30	517, 625. 5173	558, 097. 3823	74.00	BOF
31	517, 631. 6807	558, 095. 5340	74.00	BOF
32	517, 696. 6839	558, 113. 8459	74.00	BOF
33	517, 695. 2874	558, 125. 6167	74.00	BOF
34	517, 675. 5559	558, 126. 3747	74.00	BOF
35	517, 671. 7192	558, 124. 8012	74.00	BOF
36	517, 663. 1417	558, 120. 7315	74.00	BOF
37	517, 660. 3530	558, 117. 8887	74.00	BOF
38	517, 647. 8361	558, 105. 5471	74.00	BOF

BASELINE OF CONSTRUCTION CONTROL COORDINATES FOR BMP NO. 612

	STATION	NORTHING	EASTING
1	POB STA. 0+00.00	517, 595. 9298	558, 078. 2317
2	PC STA. 4+26.91	517, 186. 5082	557, 957. 2998
	PI STA. 4+47.34	517, 166. 9140	557, 951. 5122
4	PT STA. 4+58.75	517, 161. 5455	557, 971. 2254
5	PC STA. 4+92.92	517, 152. 5669	558, 004. 1949
	PI STA. 5+12.72	517, 147. 3650	558, 023. 2964
7	PT STA. 5+24.13	517, 166. 4124	558, 028. 6928
8	PC STA. 5+86.57	517, 226. 4817	558, 045. 7112
	PI STA. 5+89.71	517, 229. 5071	558, 046. 5683
10	PRC STA. 5+92.85	517, 232. 6105	558, 047. 0751
	PI STA. 6+25.24	517, 264. 5738	558, 052. 2942
12	PRC STA. 6+57.34	517, 294. 5249	558, 064. 6162
	PI STA. 6+60.48	517, 297. 4329	558, 065. 8126
14	PT STA. 6+63.62	517, 300. 4583	558, 066. 6697
15	PC STA. 7+33.68	517, 367. 8672	558, 085. 7676
	PI STA. 7+44.31	517, 378. 0931	558, 088. 6647
17	PT STA. 7+54.56	517, 385. 9421	558, 095. 8308
18	PC STA. 7+92.30	517, 413. 8109	558, 121. 2748
	PI STA. 8+11.68	517, 428. 1275	558, 134. 3457
20	PCC STA. 8+29.57	517, 447. 4760	558, 135. 5506
	PI STA. 8+43.04	517, 460. 9172	558, 136. 3877
22	PT STA. 8+56.50	517, 474. 3842	558, 136. 4776
23	PI STA. 9+14.57	517, 532. 4508	558, 136. 8653
24	POE STA. 10+45.33	517, 663. 2157	558, 137. 7382

PLAN - STORMWATER MANAGEMENT POND - BMP NO. 612 AND 613 - (STA. 162+00 N)

BASELINE OF CONSTRUCTION CONTROL COORDINATES FOR BMP NO. 613

	STATION	NORTHING	EASTING
25	POB STA. 100+00.00	517, 741. 3590	558, 192. 1228
26	PC STA. 101+57.61	517, 583. 9670	558, 183. 7547
	PI STA. 101+69.34	517, 572. 2549	558, 183. 1320
28	PT STA. 101+81.07	517, 560. 5266	558, 183. 0537
29	PC STA. 102+15.50	517, 526. 0943	558, 182. 8239
	PI STA. 102+73.59	517, 468. 0018	558, 182. 4360
31	PRC STA. 103+12.48	517, 456. 9138	558, 239. 4619
	PI STA. 103+38.03	517, 452. 0377	558, 264. 5404
33	PRC STA. 103+62.46	517, 435. 5349	558, 284. 0434
	PI STA. 104+18.18	517, 399. 5449	558, 326. 5763
35	PCC STA. 104+11.51	517, 454. 3686	558, 316. 6419
	PI STA. 104+23.82	517, 466. 4852	558, 314. 4462
37	PT STA. 104+36.13	517, 478. 4701	558, 311. 6192
38	PC STA. 106+30.92	517, 666. 7787	558, 261. 8029
	PI STA. 106+49.63	517, 684. 8725	558, 257. 0163
40	PRC STA. 106+68.35	517, 702. 8737	558, 251. 8927
	PI STA. 107+00.43	517, 733. 7312	558, 243. 1100
42	PT STA. 107+32.51	517, 764. 8204	558, 235. 1867
43	POE STA. 107+51.11	517, 782. 8450	558, 230. 5930

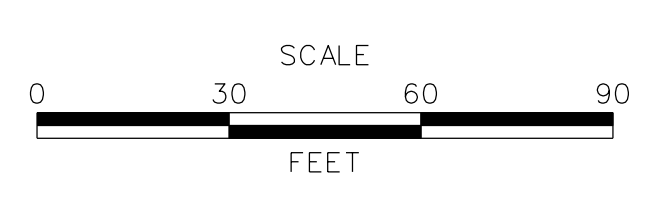
GRADING CONTROL POINTS FOR BMP NO. 613

	NORTHING	EASTING	ELEVATION	NOTE
39	517, 498. 0977	558, 266. 0852	71.00	BOP
40	517, 492. 0266	558, 259. 8255	71.00	BOP
41	517, 495. 1969	558, 246. 9056	71.00	BOP
42	517, 525. 8340	558, 221. 8230	71.00	BOP
43	517, 560. 2662	558, 222. 0528	71.00	BOP
44	517, 581. 8964	558, 222. 6997	71.00	BOP
45	517, 604. 1940	558, 223. 8852	71.00	BOP
46	517, 605. 6126	558, 237. 6425	71.00	BOP
47	517, 766. 0297	558, 200. 8895	74.00	BOF
48	517, 768. 1784	558, 200. 0865	74.00	BOF
49	517, 783. 3768	558, 200. 6133	74.00	BOF
50	517, 783. 8015	558, 204. 5501	74.00	BOF
51	517, 763. 2091	558, 209. 7982	74.00	BOF
52	517, 761. 8113	558, 209. 6443	74.00	BOF
53	517, 759. 3310	558, 208. 6919	74.00	BOF
54	517, 757. 8550	558, 207. 2294	74.00	BOF
55	517, 759. 0282	558, 204. 4468	74.00	BOF
56	517, 761. 2110	558, 203. 7327	74.00	BOF

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ADDENDUMS / REVISIONS	

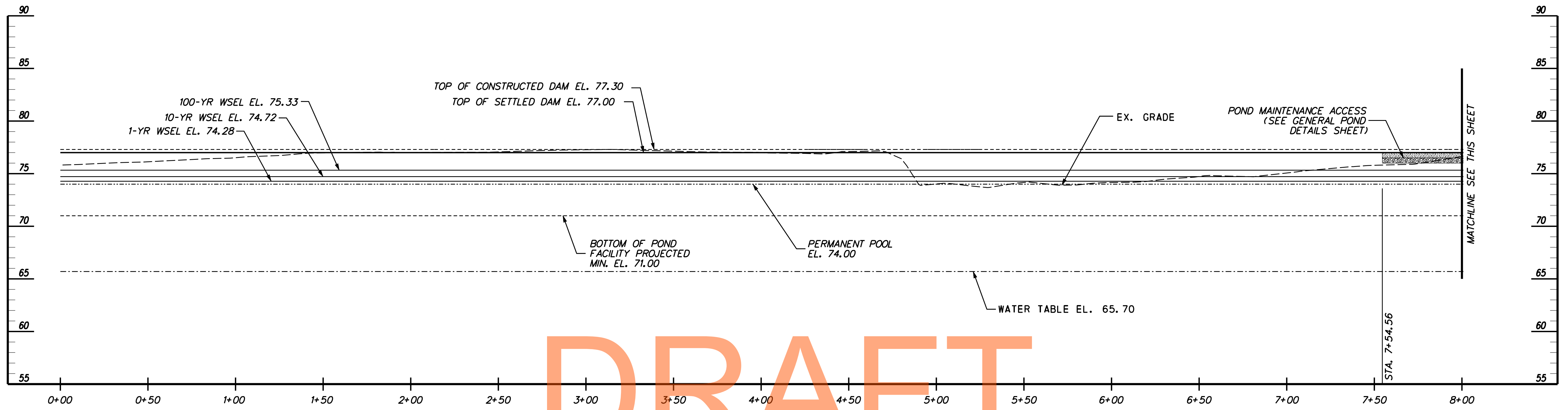


US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT T200811301	BRIDGE NO.	
COUNTY NEW CASTLE	DESIGNED BY: JZS	DSM/ACF
	CHECKED BY:	JZS

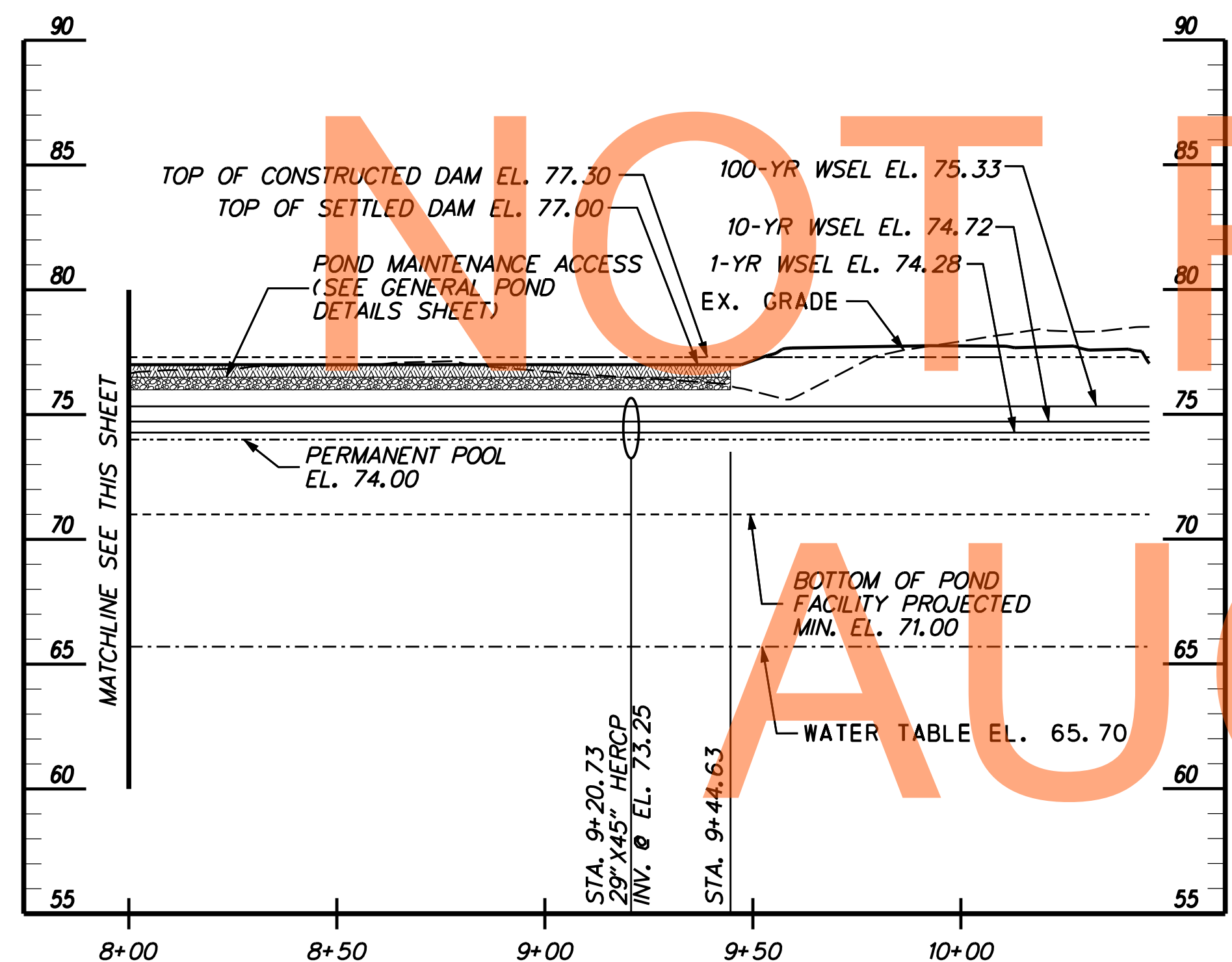
DETAILS FOR SWM POND BMP NO. 612 AND 613	SHEET NO. 407
	TOTAL SHTS. 850

SW-70

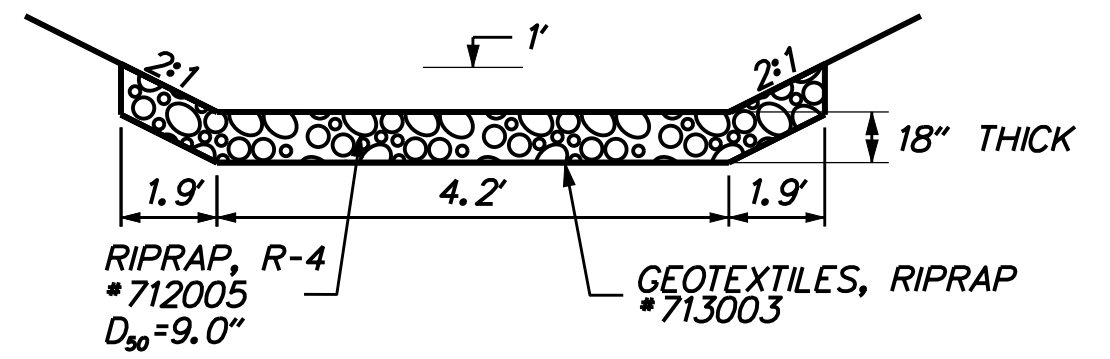
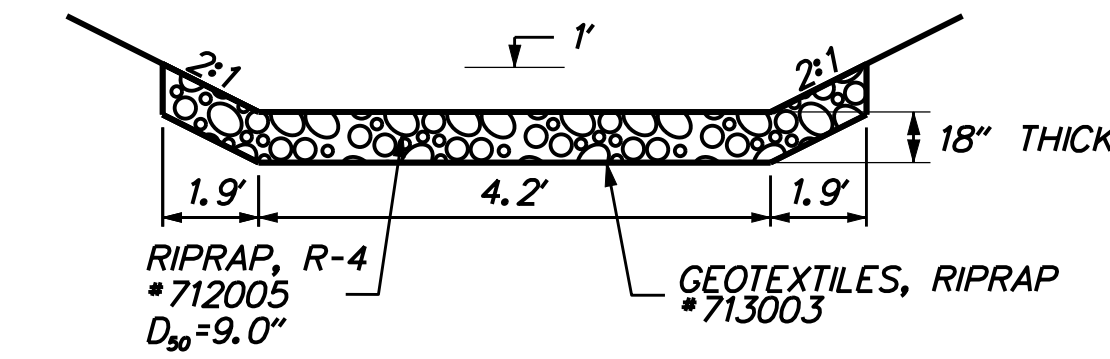
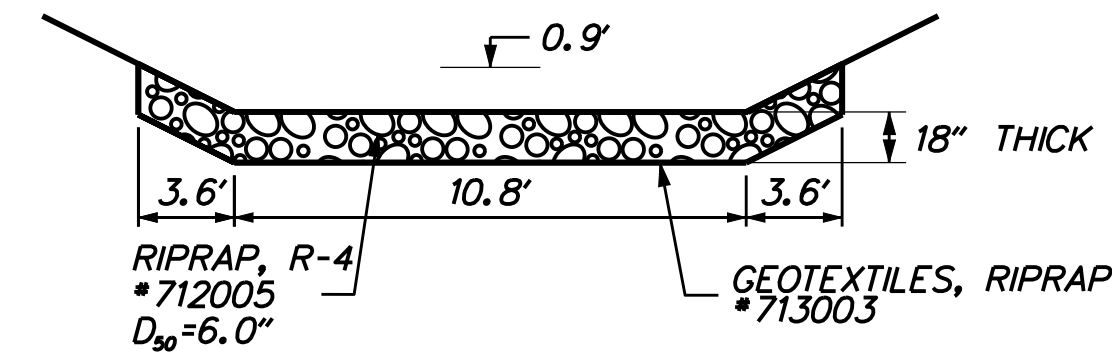
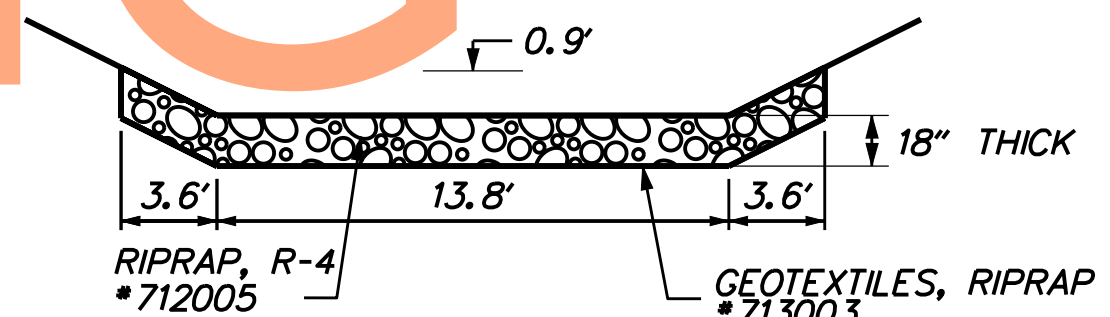
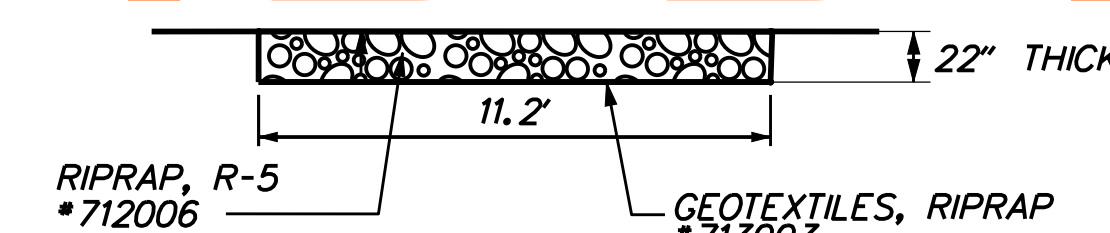
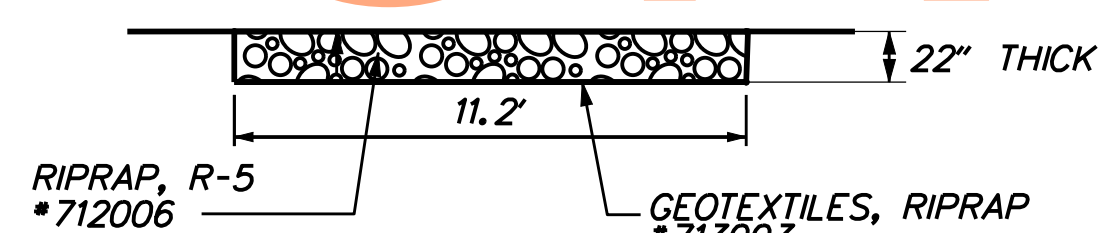


PROFILE ALONG CL OF EMBANKMENT - BMP NO. 612
 SCALE: HORIZ. 1"=30'
 VERT. 1"=5'

POND MAINTENANCE ACCESS	
6" TOPSOIL, PERM. SEEDING	
6" DELAWARE NO. 3 STONE	



PROFILE ALONG CL OF EMBANKMENT - BMP NO. 612
 SCALE: HORIZ. 1"=30'
 VERT. 1"=5'



DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 612 AND 613 - (STA. 162+00 N)

SW-71



ADDENDUMS / REVISIONS

SCALE: AS SHOWN

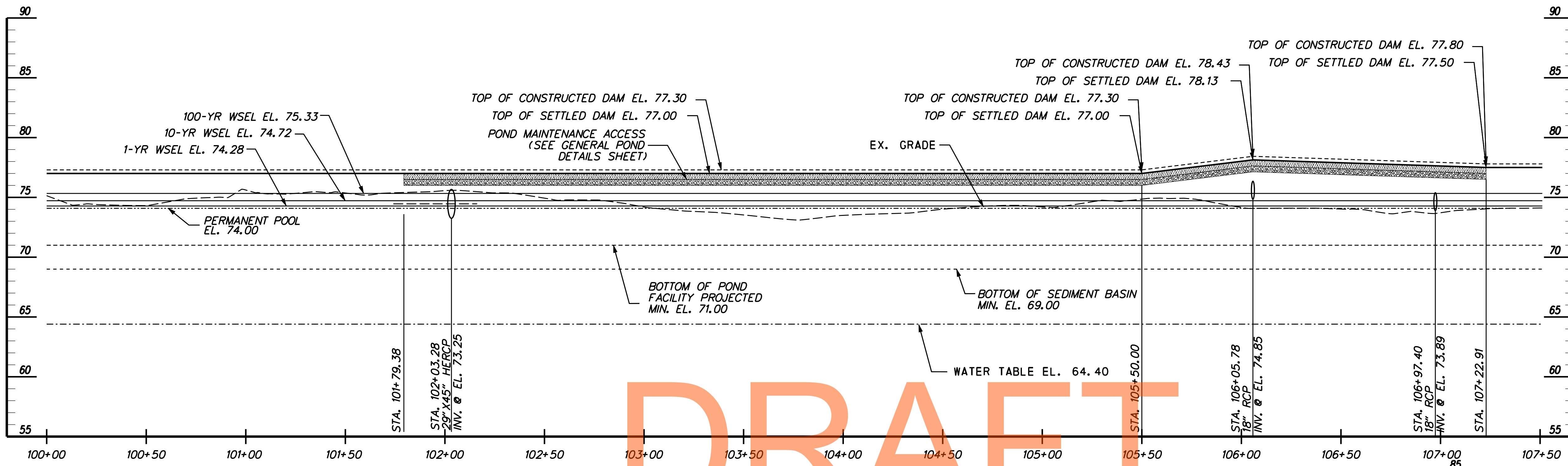
US 301
 MARYLAND STATE LINE
 TO LEVELS ROAD

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

DETAILS FOR SWM
 POND
 BMP NO. 612 AND 613

SHEET NO. 408
TOTAL SHTS. 850

E:\2814 DEL ROUTE 301\001,3,4,5,6 (DESIGN)\CAD\SB_301AET_000_STR.DGN



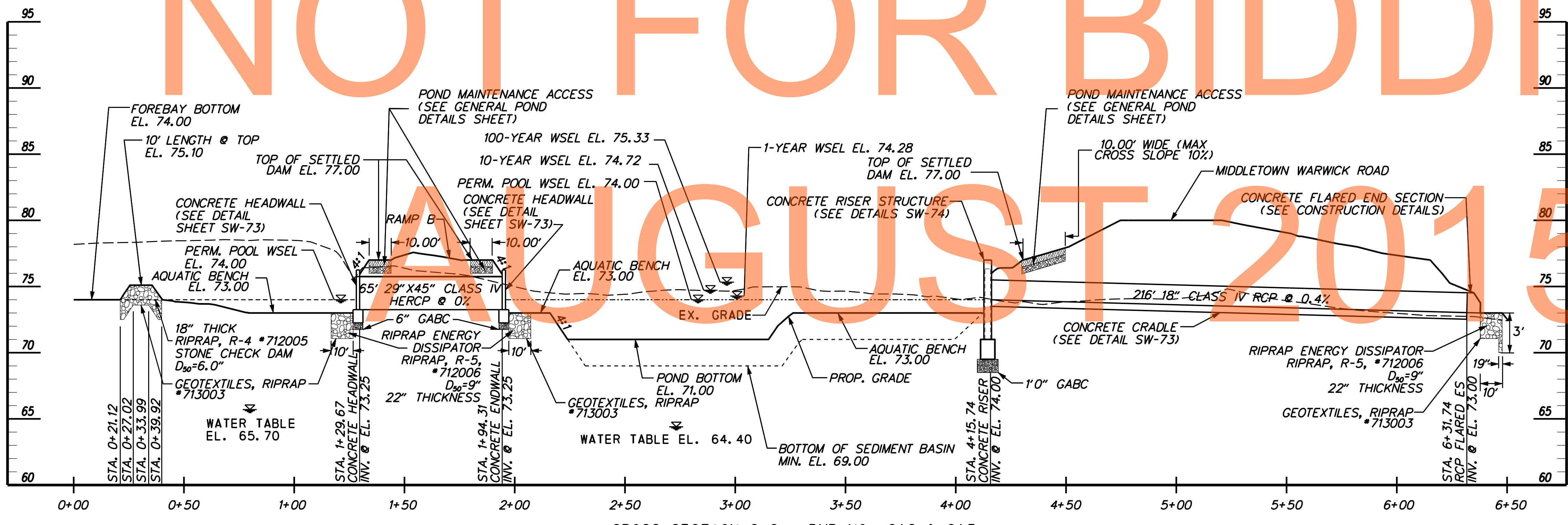
PROFILE ALONG CL OF EMBANKMENT - BMP NO. 613
 SCALE: HORIZ. 1"=30'
 VERT. 1"=5'

POND MAINTENANCE ACCESS	
6" TOPSOIL, PERM. SEEDING	
6" DELAWARE NO. 3 STONE	

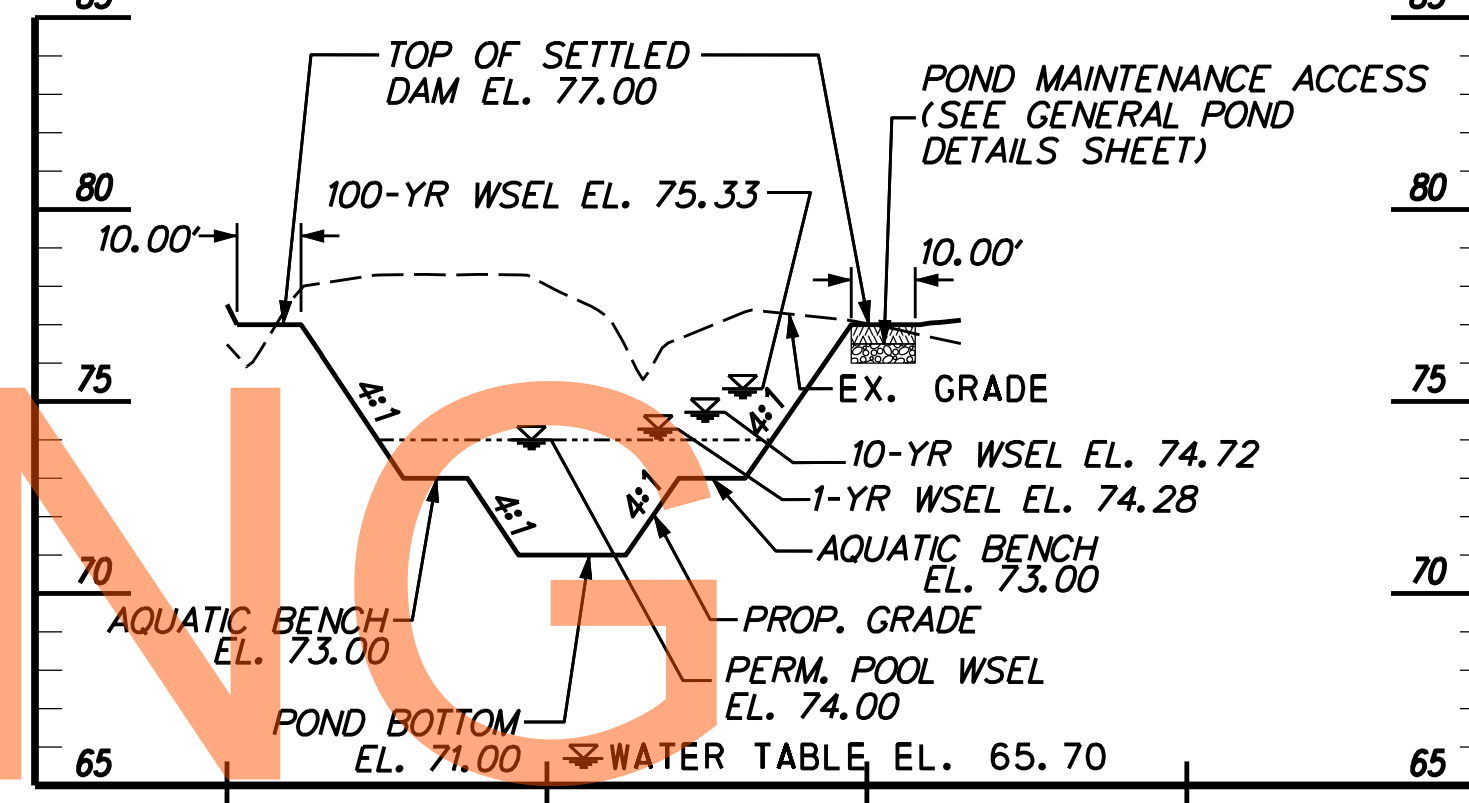
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NOT FOR BIDDING

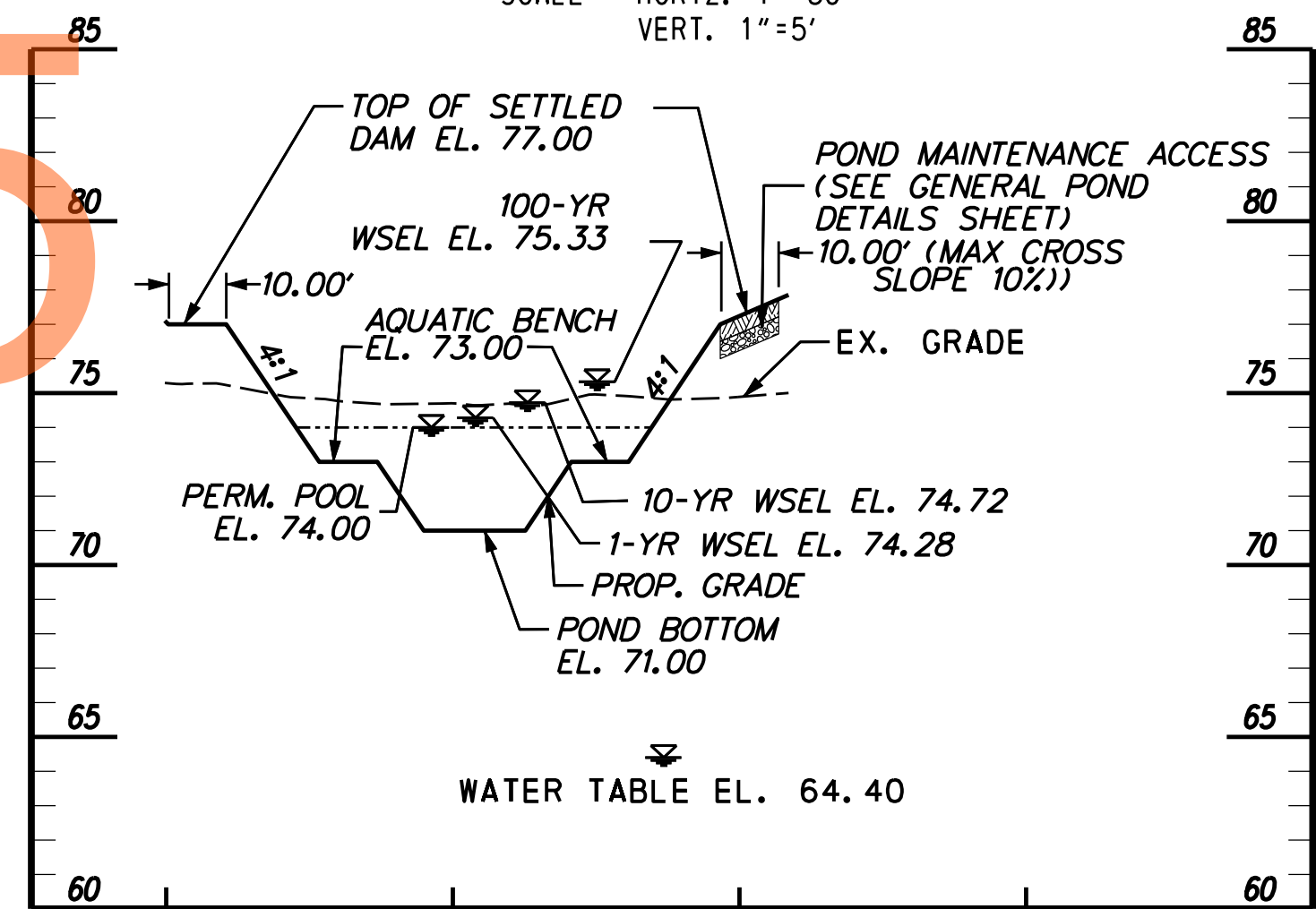
AUGUST 2015



CROSS SECTION C-C - BMP NO. 612 & 613
 SCALE: HORIZ. 1"=30'
 VERT. 1"=5'



CROSS SECTION A-A - BMP NO. 612
 SCALE: HORIZ. 1"=30'
 VERT. 1"=5'



CROSS SECTION B-B - BMP NO. 613
 SCALE: HORIZ. 1"=30'
 VERT. 1"=5'

DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 612 AND 613 - (162+00 N)

SW-72



ADDENDUMS / REVISIONS

SCALE: AS SHOWN

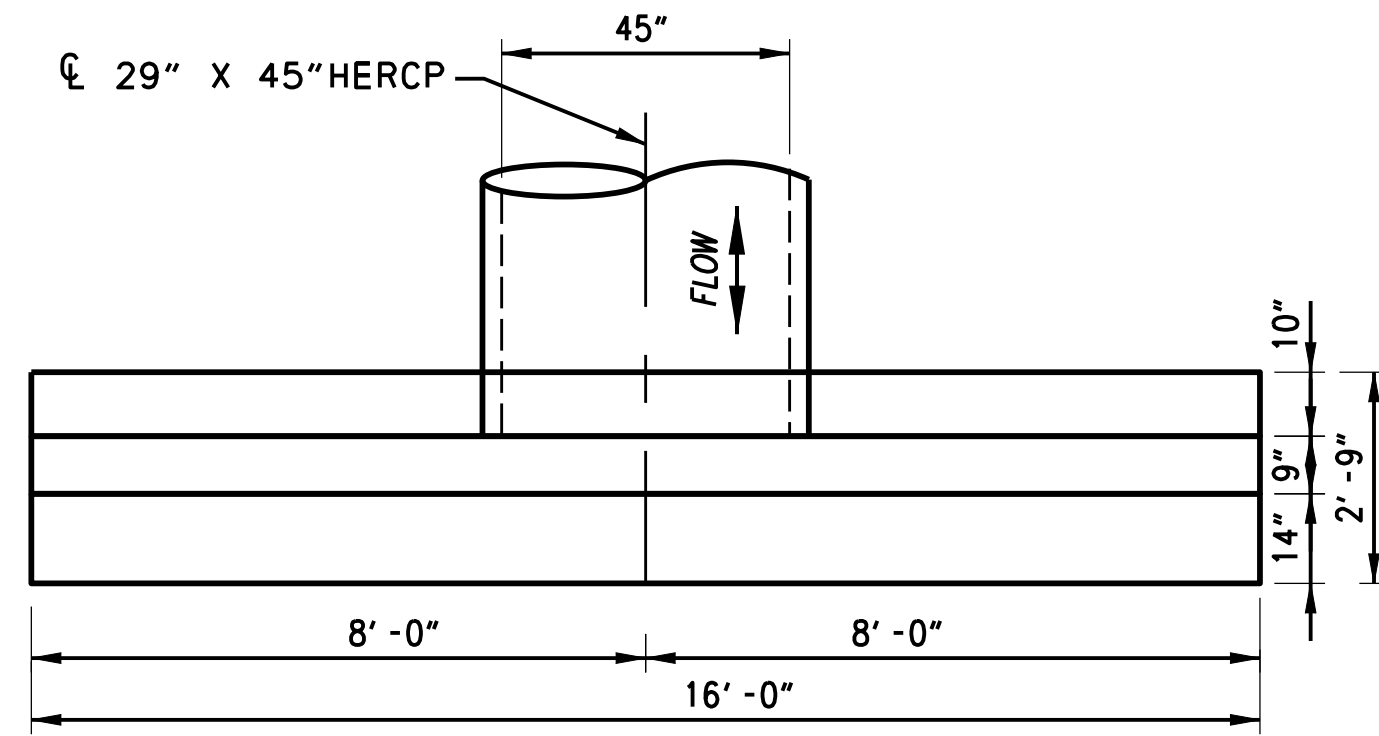
US 301
 MARYLAND STATE LINE
 TO LEVELS ROAD

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

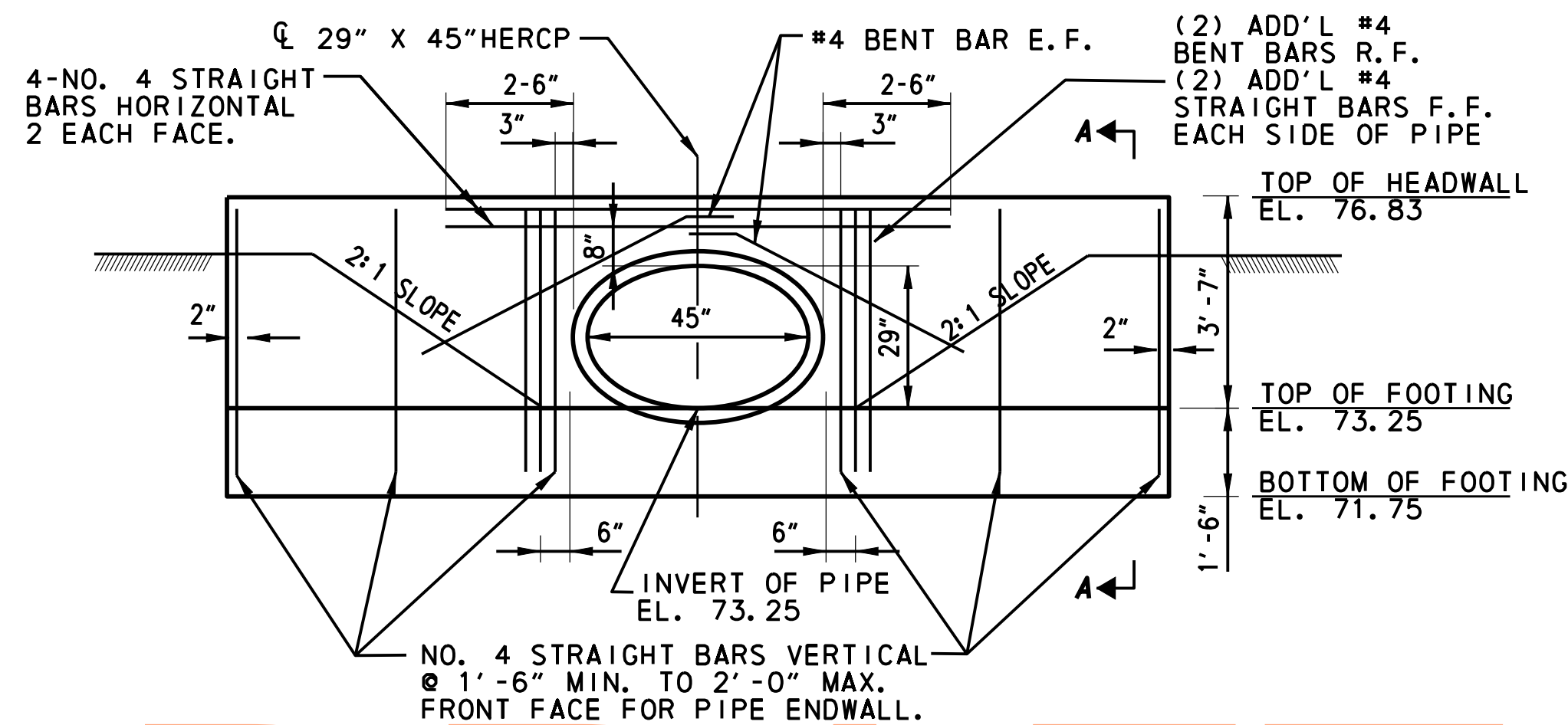
DETAILS FOR SWM
 POND
 BMP NO. 612 AND 613

SHEET NO. 409
TOTAL SHTS. 850

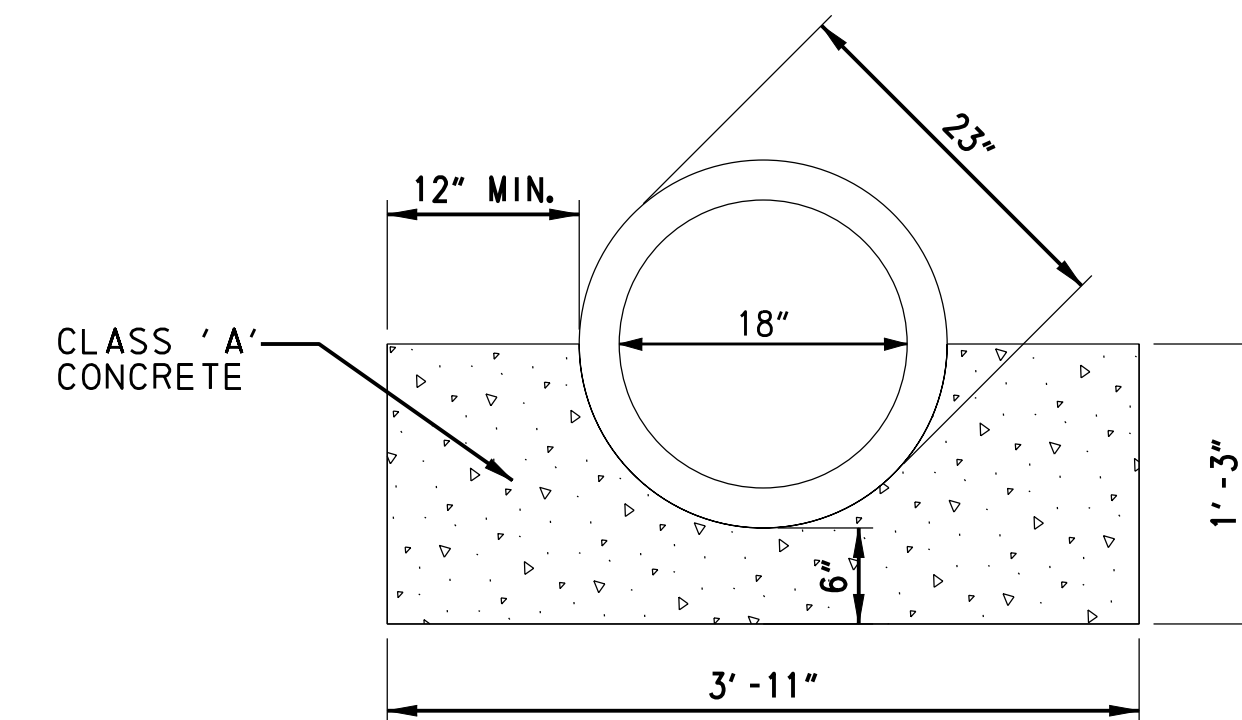
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PLAN

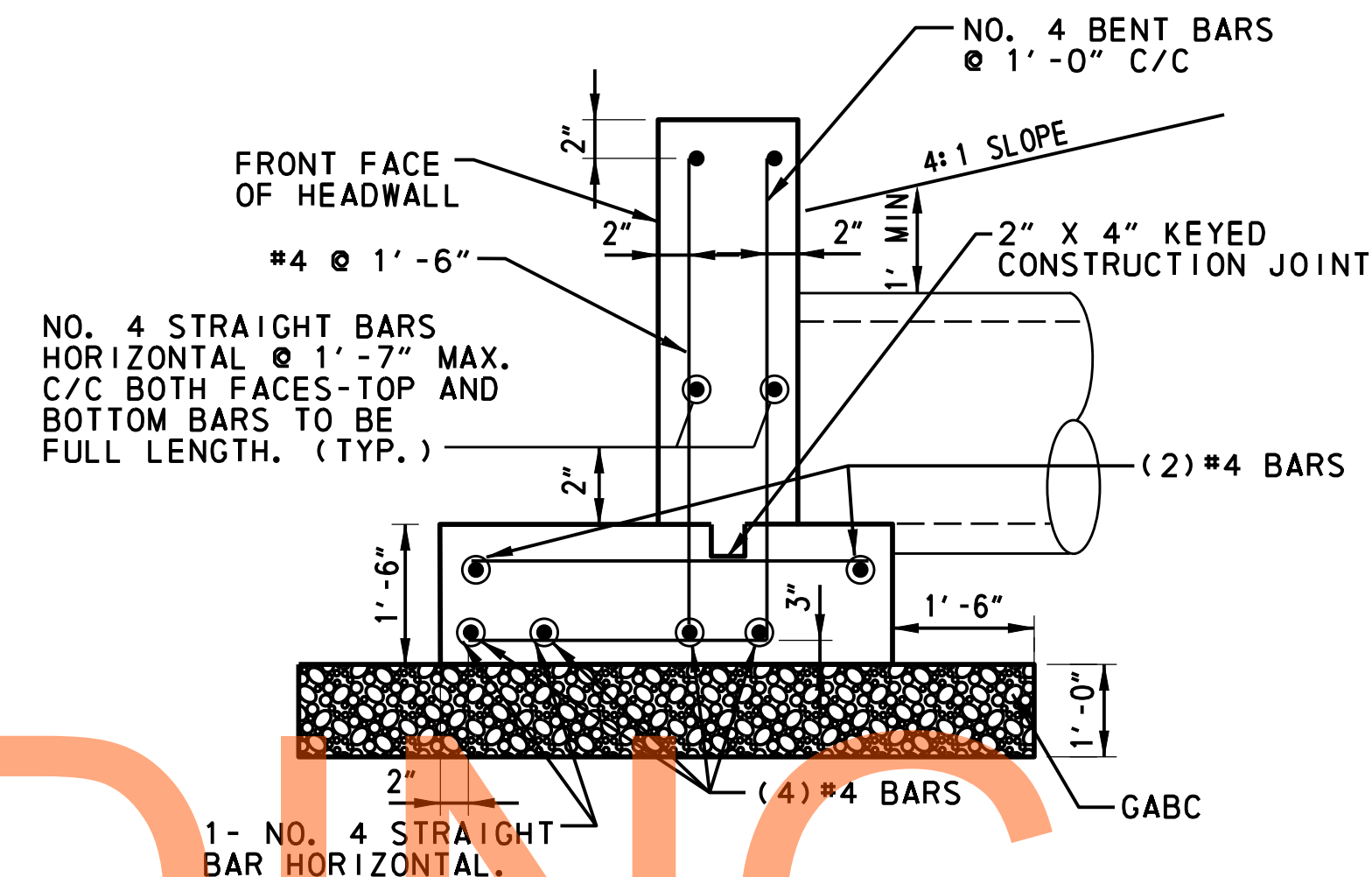


ELEVATION



CONCRETE CRADLE

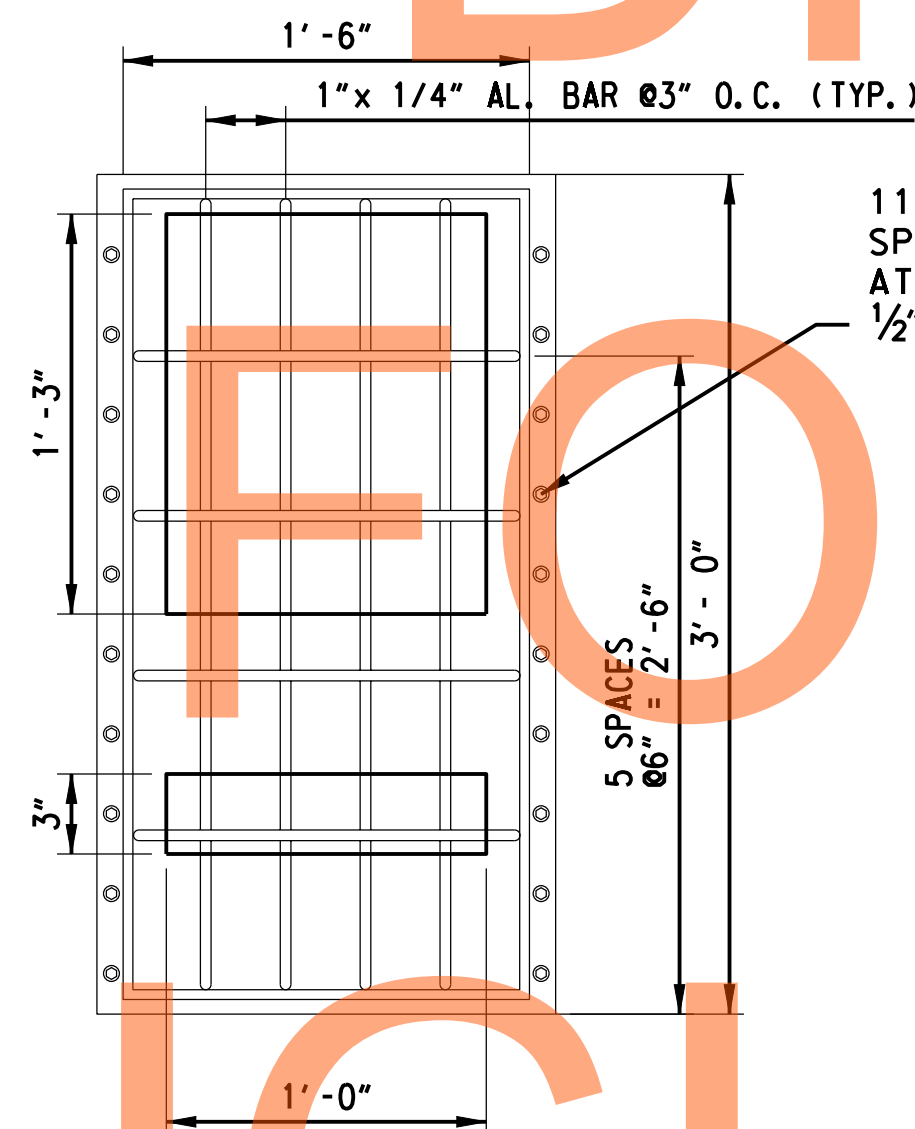
NOT TO SCALE



SECTION A-A

CONCRETE HEADWALL DETAIL FOR 29\"/>

NOT TO SCALE



TRIANGULAR RACK

CONTINUOUS ALUMINUM ANGLES OR PLATES WELDED TO BAR ENDS PROVIDE MOUNTING SURFACE TO RISER STRUCTURE

4\"/>

1/4\"/>

1\"/>

2\"/>

RISER STRUCTURE WALL (TYP.)

TYPICAL CONFIGURATIONS AND DETAILS

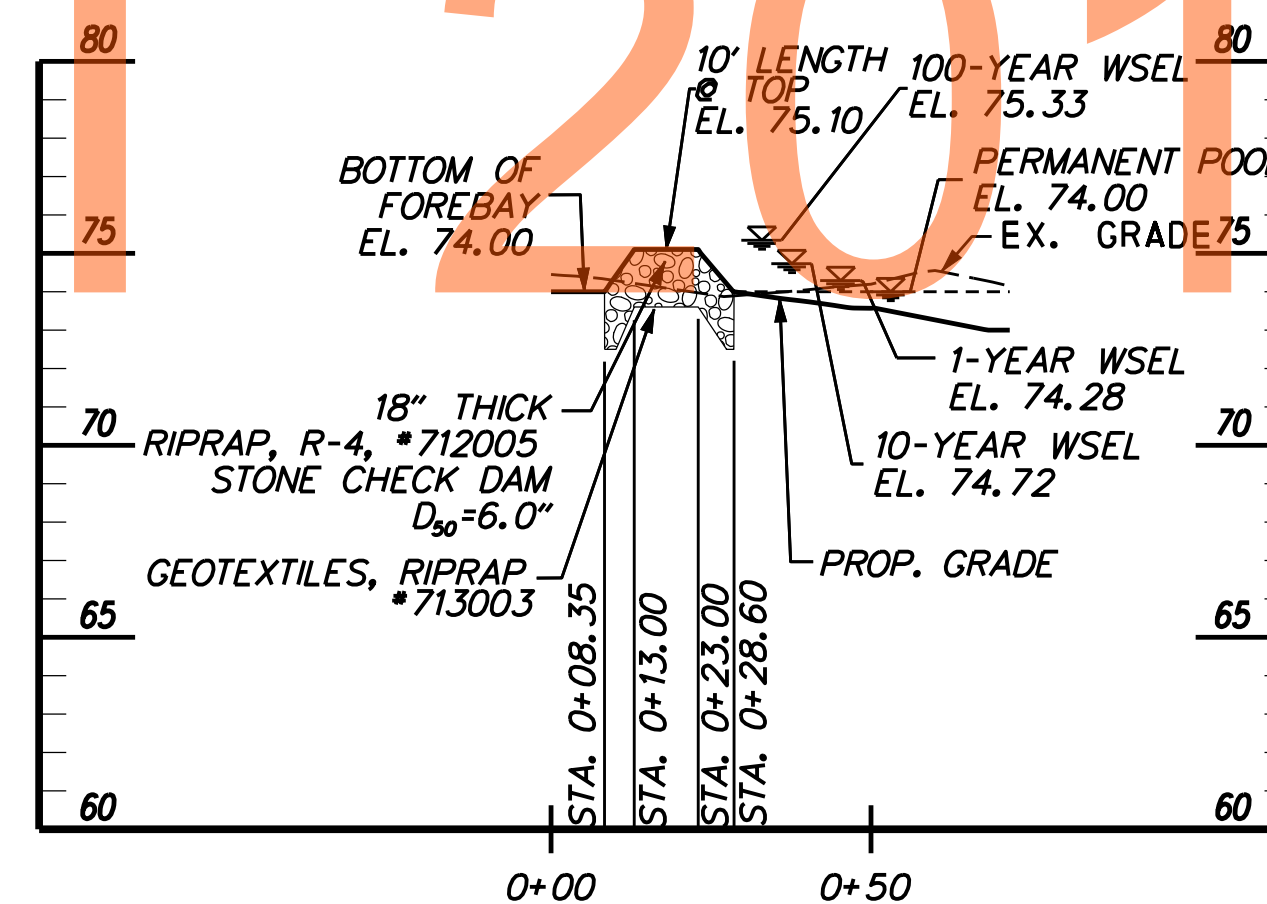
FOR WEIR TRASH RACKS

NOT TO SCALE

NOTES FOR WEIR TRASH RACK:

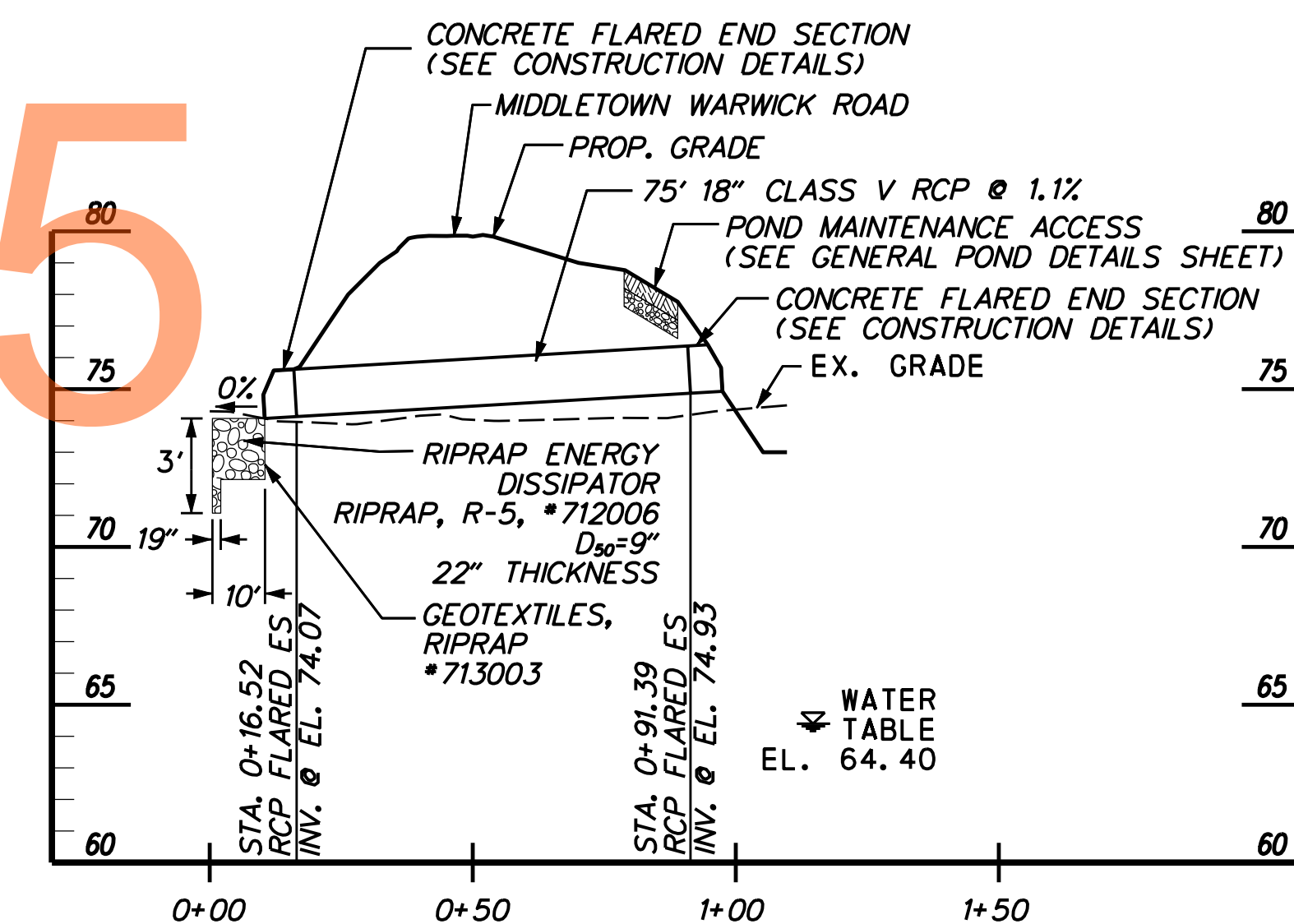
1. EXPANSION ANCHORS SHALL CONFORM TO ASTM A510 AND SHALL HAVE A MINIMUM EMBEDMENT DEPTH OF 4\"/>
2. EXPANSION ANCHORS SHALL BE ZINC PLATED IN CONFORMANCE WITH ASTM B633, TYPE III FE/ZN 5.
3. ALUMINUM ANGLES SHALL CONFORM TO ASTM B308 ALLOY 6061-T6. REMAINING ALUMINUM SHALL CONFORM TO ASTM B211 ALLOY 606-T6.

POND MAINTENANCE ACCESS	
6\"/>	
6\"/>	



CROSS SECTION D-D - BMP NO. 613

SCALE: HORIZ. 1\"/>

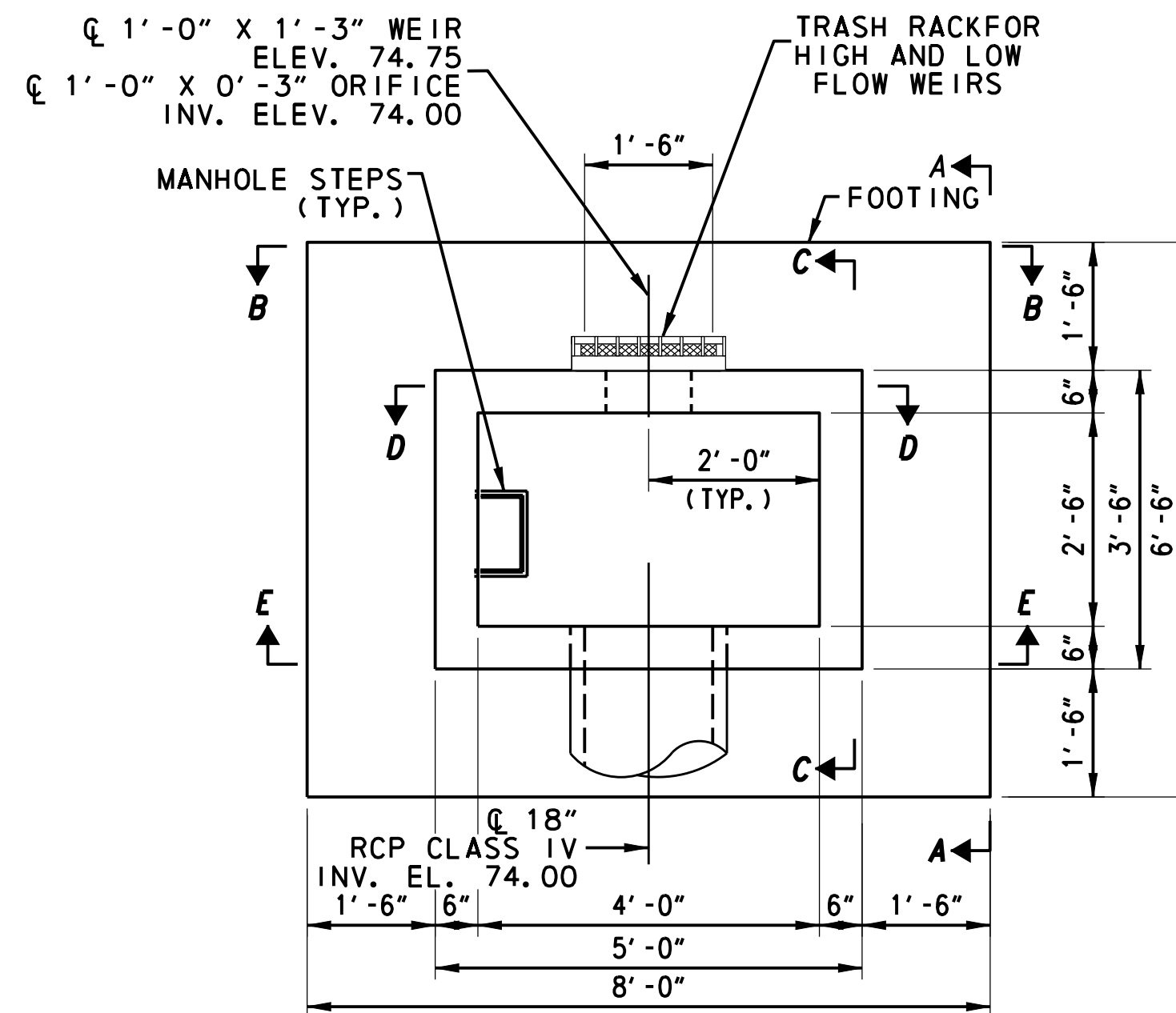


CROSS SECTION E-E - BMP NO. 613

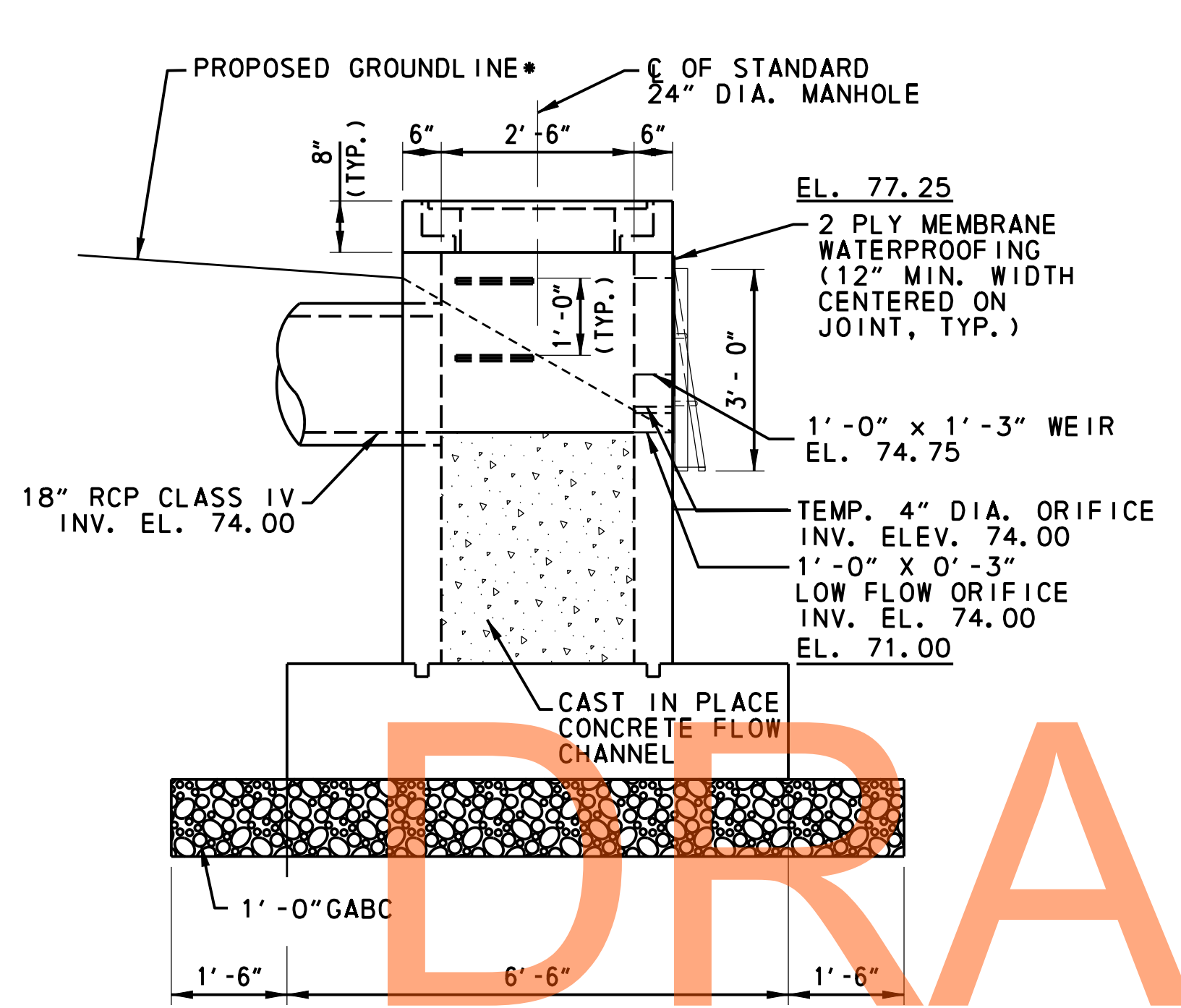
SCALE: HORIZ. 1\"/>

DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 613 - (STA. 162+00 N)

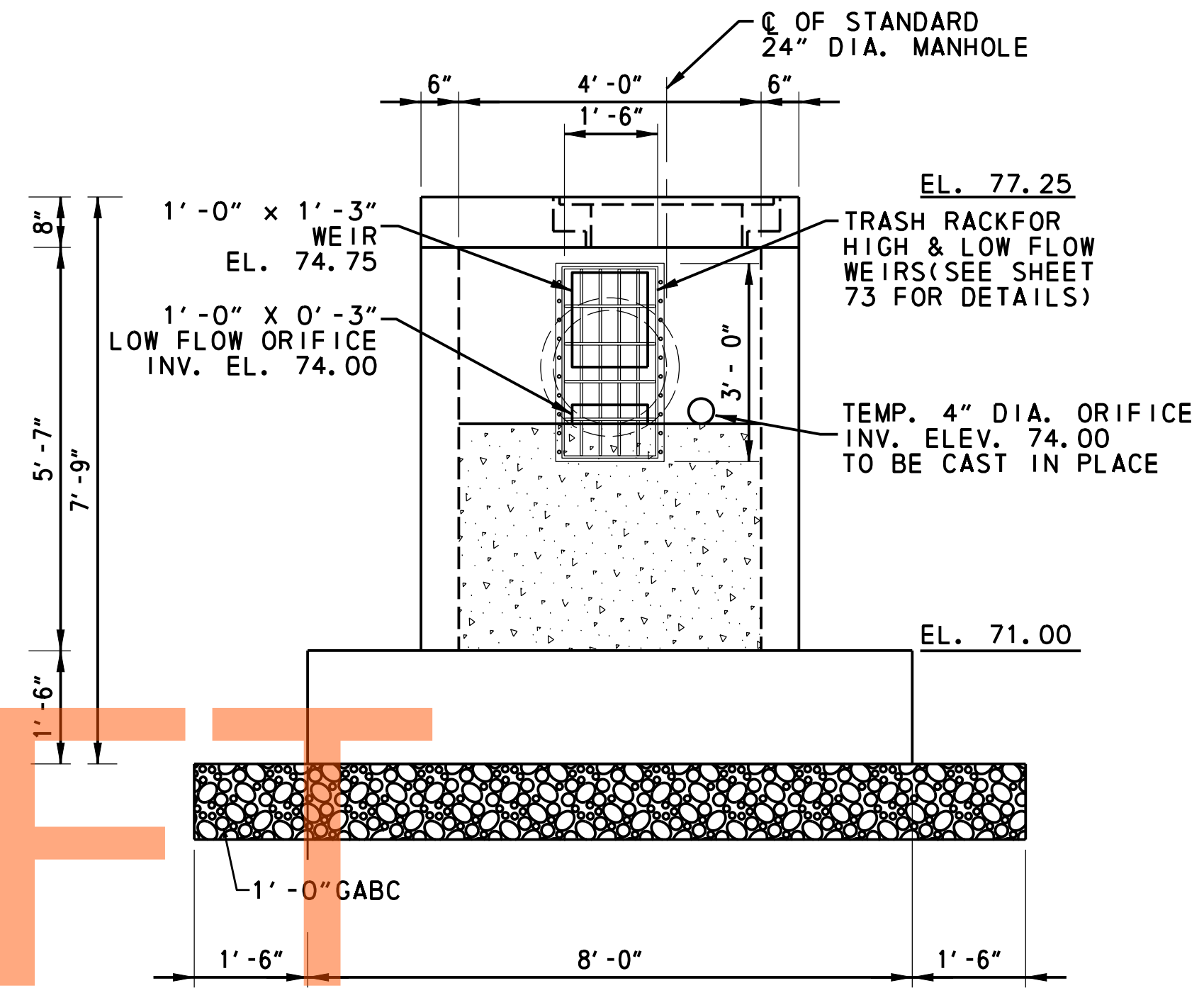
SW-73



RISER STRUCTURE - PLAN
NOT TO SCALE



VIEW A-A
NOT TO SCALE



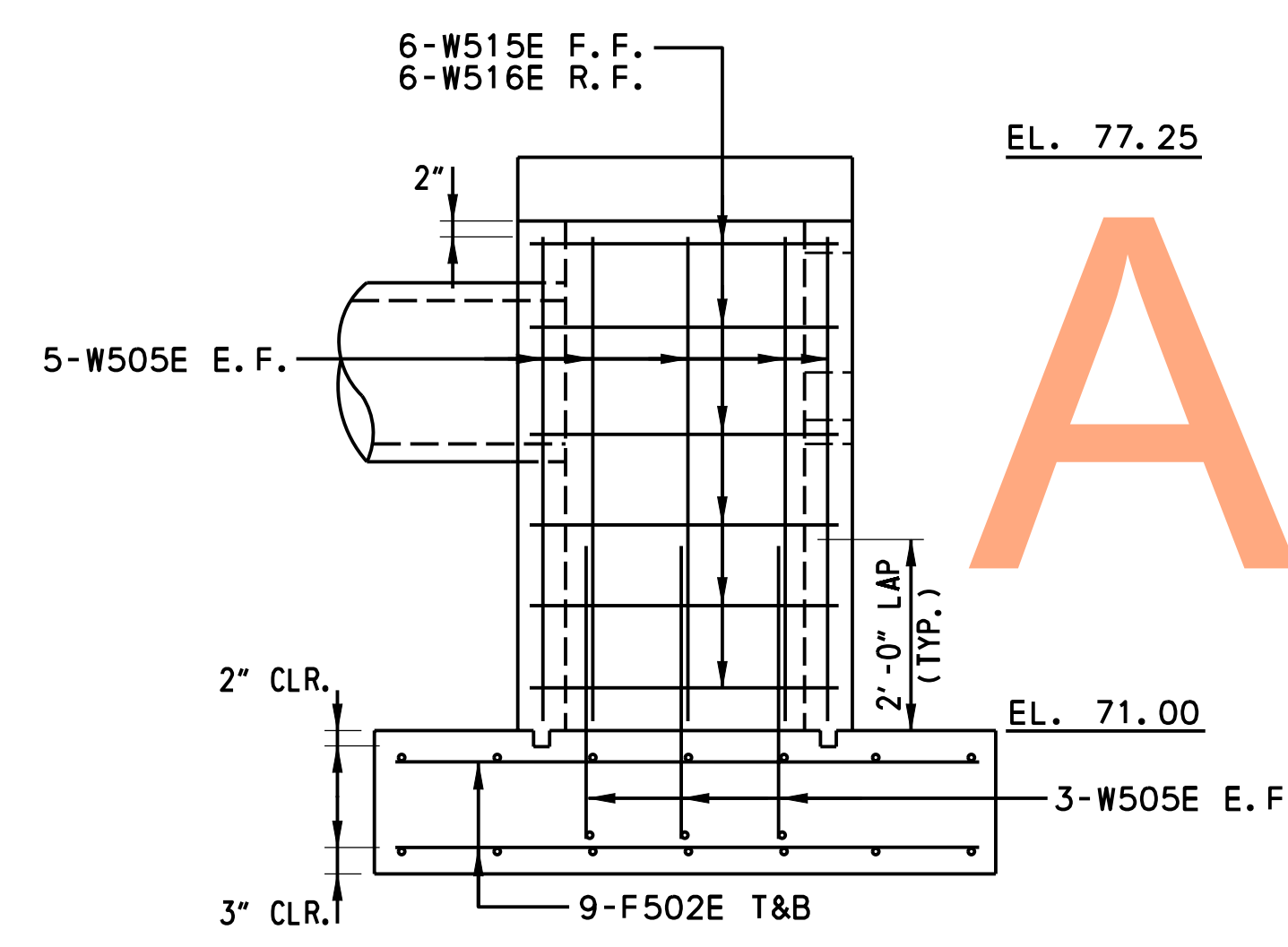
VIEW B-B
NOT TO SCALE

MARK	BAR SIZE	SHAPE	REBAR TYPE
D503E	3	C	A
D504F	3	D	B
E517E	3	A	C
F501E	4	A	D
F502E	4	A	E
S526E	3	A	
S528E	3	A	
S529E	3	B	
S530E	3	A	
S531E	3	A	
S532E	3	A	
W505E	3	A	
W506E	3	A	
W507E	3	A	
W508E	3	A	
W509E	3	B	
W510E	3	C	
W511E	3	B	
W512E	3	A	
W513E	3	B	
W514E	3	A	
W515E	3	B	
W516E	3	A	
W518E	3	A	
W519E	3	A	
W520E	3	A	
W512E	3	A	
W522E	3	A	
W523E	3	C	
W524E	3	D	
W525E	3	A	
W526E	3	E	

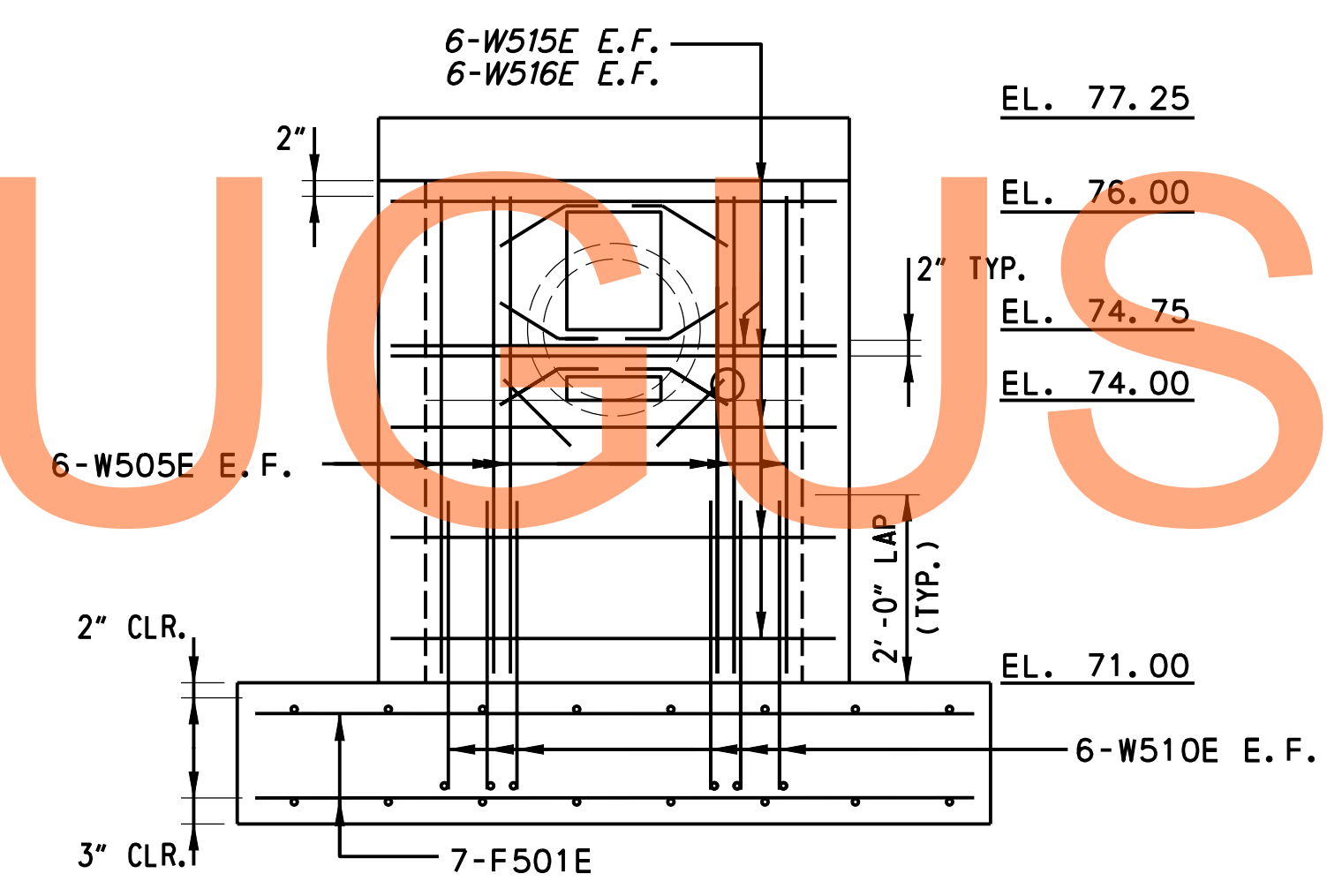
- SEE DELDOT STANDARD CONSTRUCTION DETAILS D-6(2001)-3 FOR MANHOLE FRAME AND COVER DETAILS.
- SEE GENERAL POND DETAILS SHEET FOR MANHOLE STEP DETAILS.
- TOP SLAB, TRASH RACKS, AND MANHOLE STEPS NOT SHOWN IN SECTION FOR CLARITY.
- E. F. = EACH FACE
F. F. = FRONT FACE
R. F. = REAR FACE
T&B = TOP AND BOTTOM

NOT FOR BIDDING

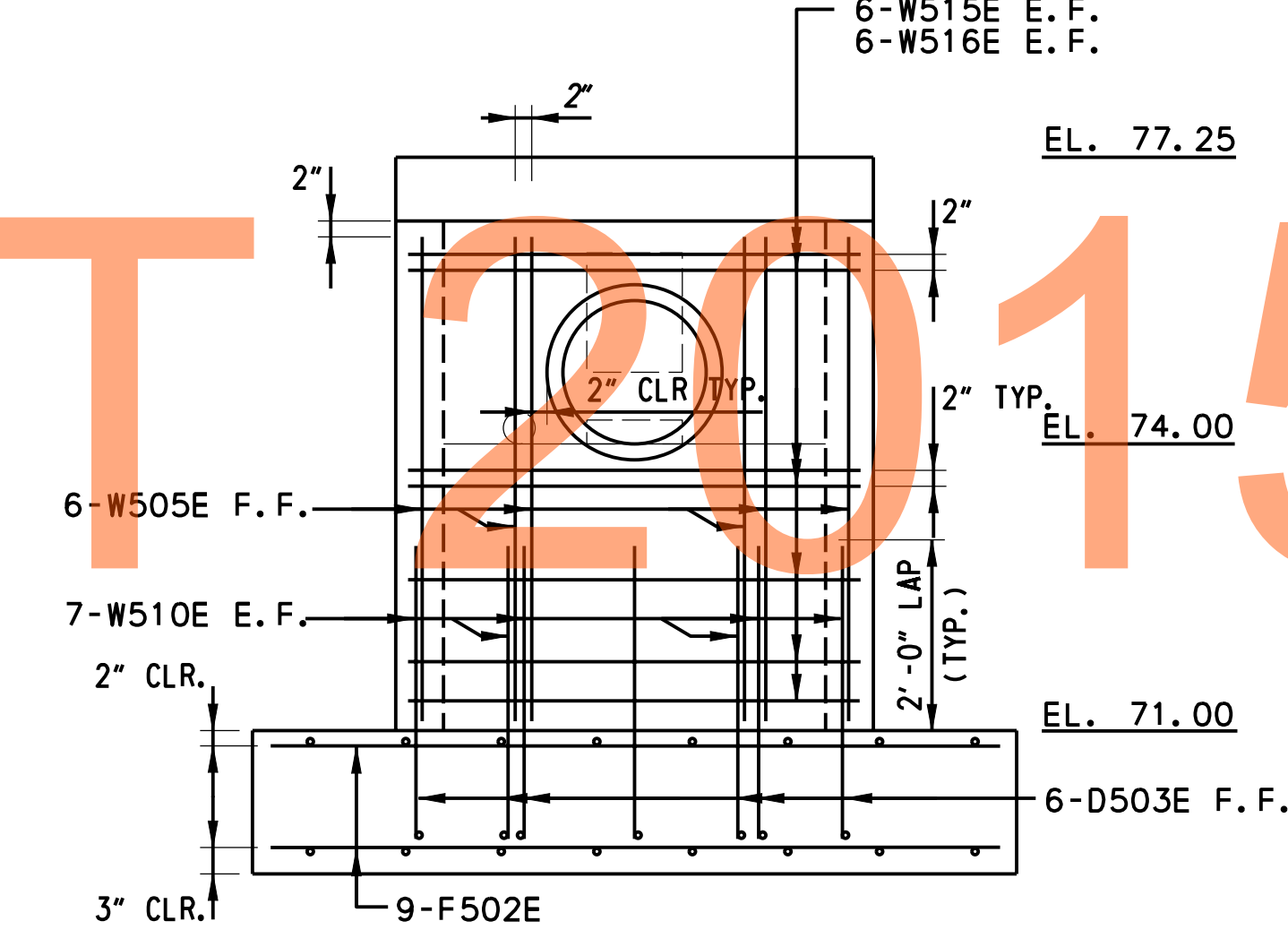
AUGUST 2015



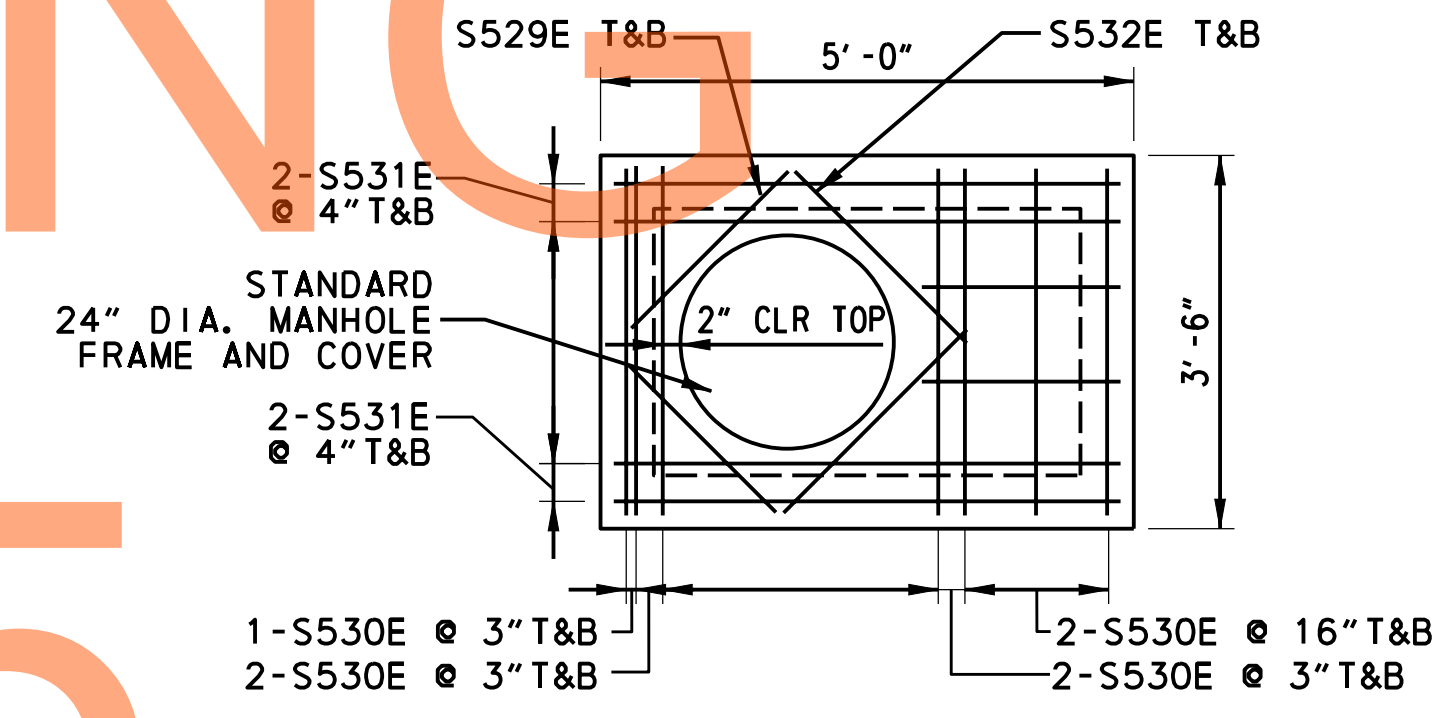
SECTION C-C
NOT TO SCALE



SECTION D-D
NOT TO SCALE



SECTION E-E
NOT TO SCALE



TOP SLAB - REINFORCEMENT PLAN
NOT TO SCALE

- WHILE BMP IS FUNCTIONING AS A SEDIMENT BASIN, PERMANENT OPENINGS OF RISER STRUCTURE EXCEPT TEMPORARY ORIFICE SHALL BE BLOCKED TO THE ELEVATION SHOWN ON THE TEMPORARY SEDIMENT BASIN DETAILS. COST INCIDENTAL TO ITEM 275000-SKIMMER DEWATERING DEVICE.
- FLEXIBLE DRAIN PIPE OF SKIMMER DEWATERING DEVICE TO ATTACH TO TEMPORARY ORIFICE THROUGH FLANGE WITH RUBBER GASKET AND BE MADE WATERTIGHT AROUND PERIMETER OF FLEXIBLE PIPE. DEVICE TO ATTACH TO STRUCTURE WITH CONCRETE SCREWS OR OTHER SUITABLE ATTACHMENT AS APPROVED BY THE ENGINEER. FOLLOWING POND CONVERSION, SKIMMER DEWATERING DEVICE AND ALL TEMPORARY MATERIALS USED TO BLOCK OPENINGS SHALL BE REMOVED. TEMPORARY ORIFICE FOR SKIMMER SHALL BE GROUTED FLUSH. COST OF SKIMMER ATTACHMENT AND REMOVAL SHALL BE INCIDENTAL TO ITEM 275000- SKIMMER DEWATERING DEVICE.

DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 613 - (STA. 162+00 N)

SW-74



ADDENDUMS / REVISIONS

SCALE: AS SHOWN

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: RLA
	CHECKED BY: JZS

DETAILS FOR SWM
POND
BMP NO. 613

SHEET NO. 411
TOTAL SHTS. 850

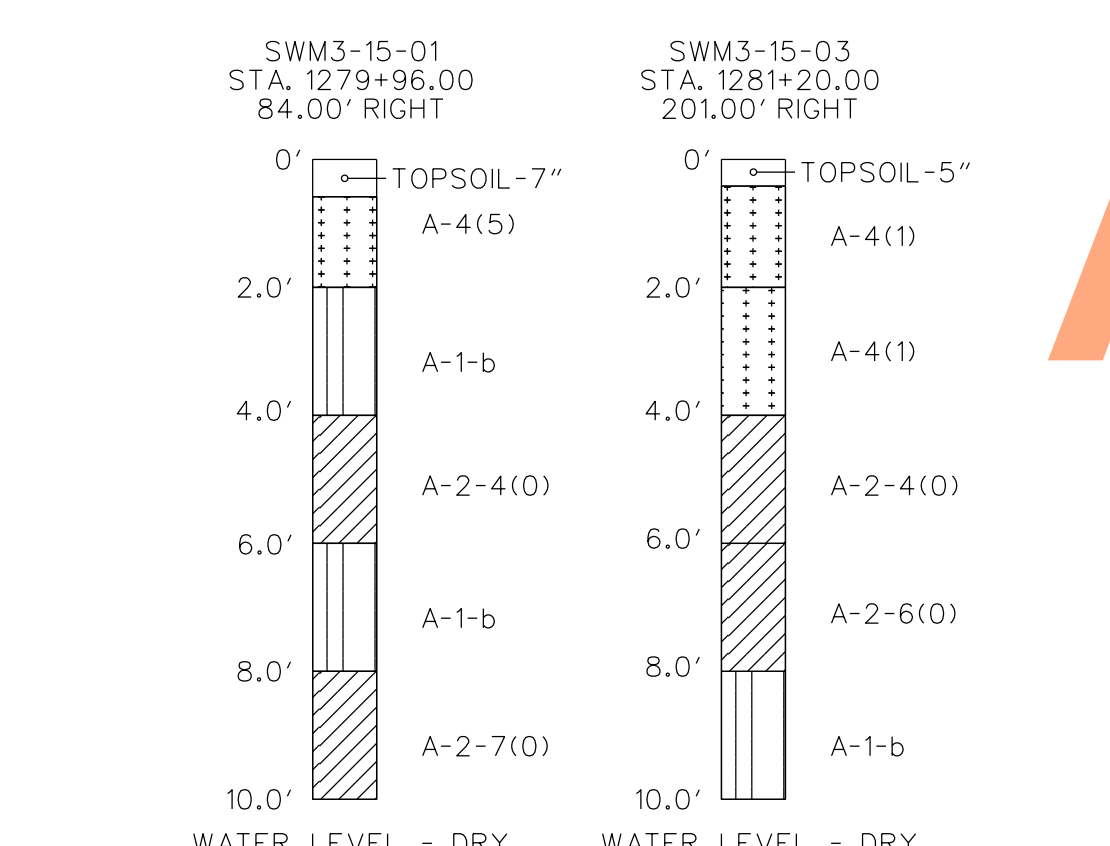
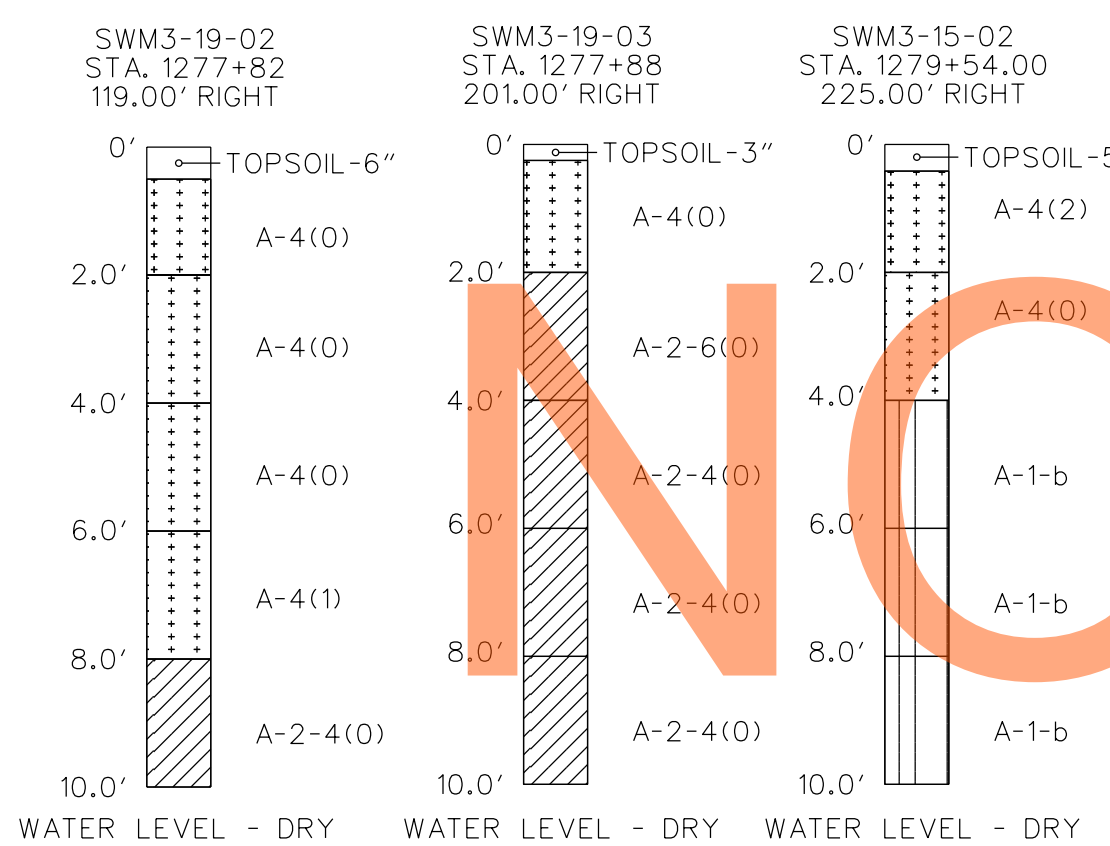
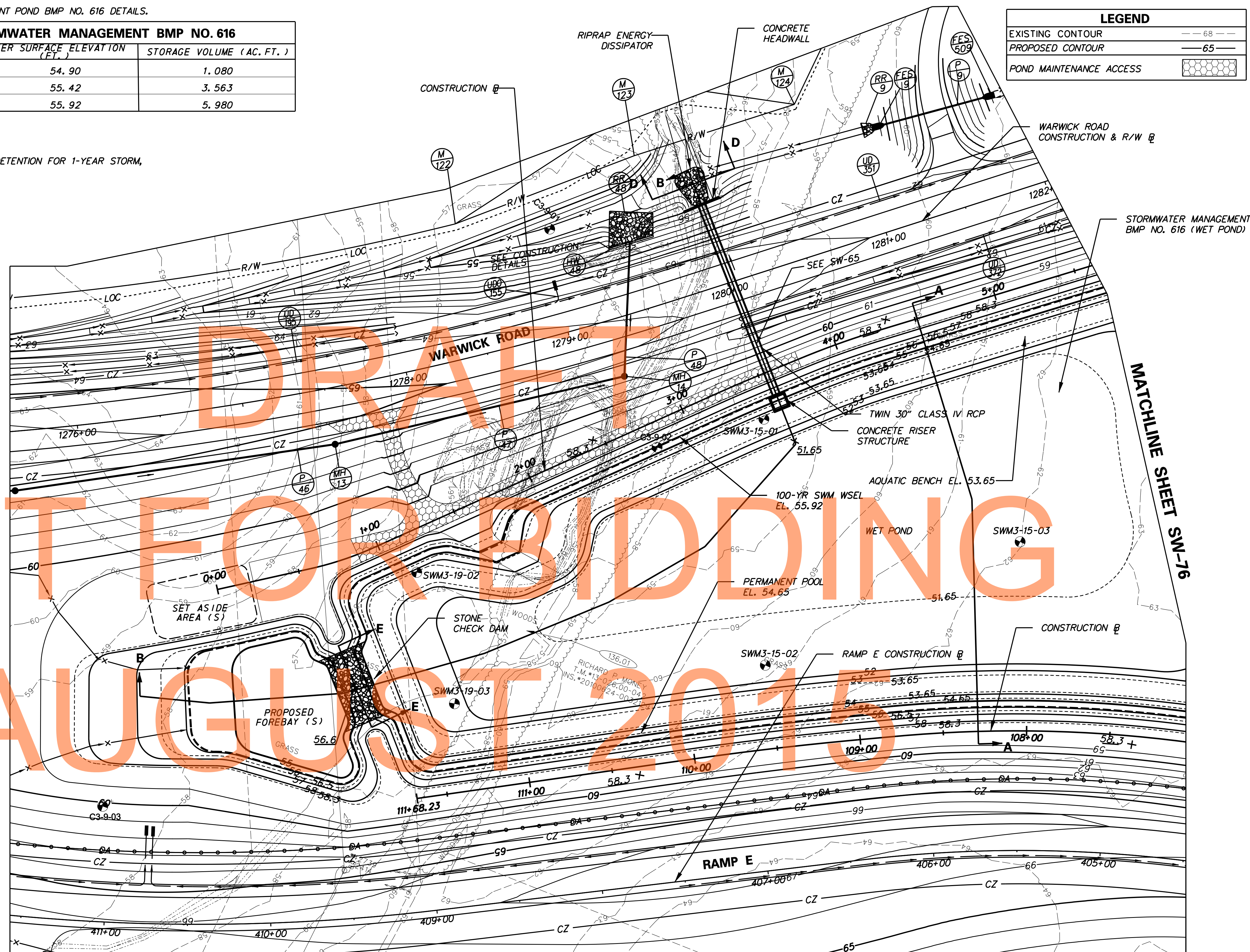
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NOTE: SEE SHEETS SW-77 TO SW-82 FOR STORMWATER MANAGEMENT POND BMP NO. 616 DETAILS.

FACILITY DESIGN SUMMARY FOR STORMWATER MANAGEMENT BMP NO. 616				
DESIGN STORM	FACILITY INFLOW (CGS)	FACILITY DISCHARGE (CGS)	WATER SURFACE ELEVATION (FT.)	STORAGE VOLUME (AC. FT.)
1-YEAR	13.67	1.42	54.90	1.080
10-YEAR	40.91	2.94	55.42	3.563
100-YEAR	87.65	23.19	55.92	5.980

HAZARD CLASSIFICATION: CLASS A AS PER POND CODE 378
 PERMANENT POOL VOLUME: 8,434 AC. FT.
 DRAINAGE AREA TO FACILITY: 26.423 ACRES
 MANAGEMENT PROVIDED BY FACILITY: WATER QUALITY BY EXTENDED DETENTION FOR 1-YEAR STORM,
 WATER QUANTITY FOR 10-YEAR AND 100-YEAR STORMS

LEGEND	
EXISTING CONTOUR	--- 68 ---
PROPOSED CONTOUR	— 65 —
POND MAINTENANCE ACCESS	

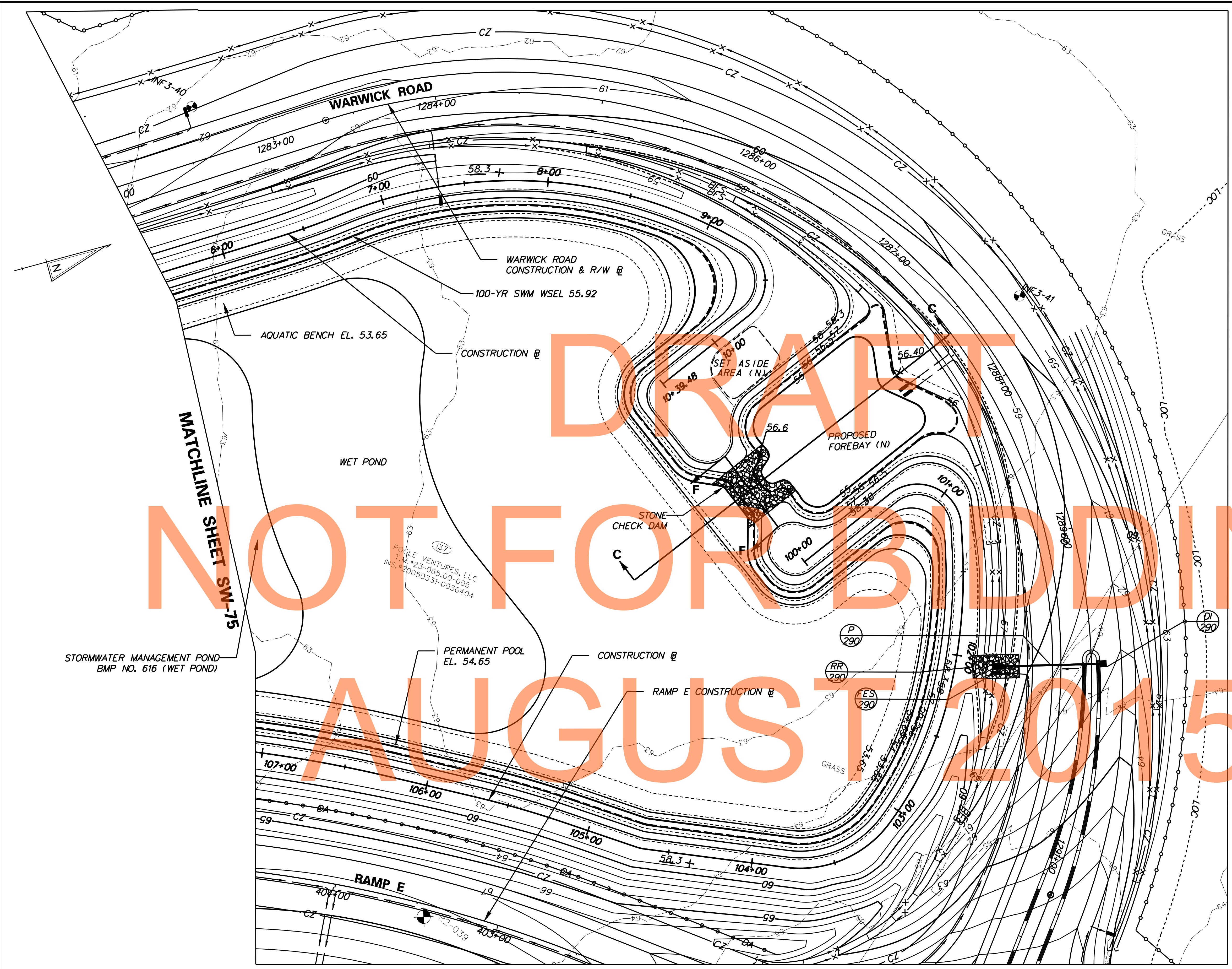


PLAN - STORMWATER MANAGEMENT POND - BMP NO. 616 - (STA. 246+00 S)
 (WARWICK ROAD STA. 1276+00 TO STA. 1291+23), TYPE: WET POND

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	DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO. DESIGNED BY: DSM/ACF	STORMWATER MANAGEMENT PLAN	SHEET NO. 412
					COUNTY NEW CASTLE	CHECKED BY: JZS		TOTAL SHTS. 850

LEGEND	
EXISTING CONTOUR	--- 68 ---
PROPOSED CONTOUR	--- 65 ---
POND MAINTENANCE ACCESS	



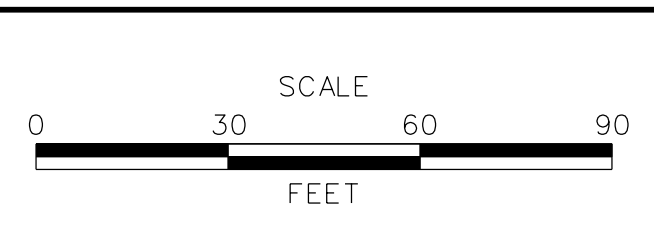
DRAFT
NOT FOR BIDDING

**PLAN - STORMWATER MANAGEMENT POND - BMP NO. 616 - (STA. 246+00 S)
(WARWICK ROAD STA. 1276+00 TO STA. 1291+23), TYPE: WET POND**

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ADDENDUMS / REVISIONS



**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

**STORMWATER
MANAGEMENT PLAN**

SW-76

SHEET NO.	413
TOTAL SHTS.	850

POND CONSTRUCTION SEQUENCE AND NOTES

THE STORMWATER MANAGEMENT POND SHALL FUNCTION AS A SEDIMENT BASIN DURING ROADWAY CONSTRUCTION AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE STANDARD SPECIFICATIONS:

- SECTION 910 STORMWATER MANAGEMENT FACILITIES
 - STORMWATER MANAGEMENT POND
 - POND OUTLET STRUCTURE, CONCRETE
 - CLAY BORROW

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. CLEAR AND GRUB FOR INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS.
3. INSTALL PERIMETER SEDIMENT CONTROLS AS SHOWN ON EROSION & SEDIMENT CONTROL SHEETS.
4. CLEAR AND GRUB REMAINING AREA FOR POND CONSTRUCTION.
5. CONSTRUCT POND OUTLET STRUCTURE, RIPRAP ENERGY DISSIPATOR AT END OF PRINCIPAL SPILLWAY AND PARTIAL EMBANKMENT AS NEEDED TO INSTALL POND OUTLET STRUCTURE. INSTALL SKIMMER DEWATERING DEVICE. DE-WATER FOUNDATION AS NEEDED IN ACCORDANCE WITH SECTION 111 AND USE SUMP PIT FOR PUMPING. (SEE EROSION & SEDIMENT CONTROL DETAILS FOR SKIMMER DEWATERING DEVICE INSTALLATION).
6. EXCAVATE THE POND AND COMPLETE THE EMBANKMENT TO LINES, GRADES AND DETAILS SHOWN IN THE CONSTRUCTION PLANS. DURING EXCAVATION, THE CONTRACTOR SHALL SALVAGE AND STOCKPILE SOILS TO BE USED TO CONSTRUCT EMBANKMENT. THE SOILS REQUIRED FOR THE EMBANKMENT MAY BE OBTAINED FROM ELSEWHERE WITHIN THE PROJECT LIMITS. OVEREXCAVATE POND BOTTOM TO ELEVATION 49.65 AS SHOWN FOR SEDIMENT STORAGE DURING CONSTRUCTION.
7. STABILIZE ALL BARE AREAS. SEE CONSTRUCTION SEQUENCE PLANS FOR LOCATION OF EROSION AND SEDIMENT CONTROL MEASURES.

MAINTENANCE OF POND AS A SEDIMENT BASIN

1. CONTRACTOR SHALL INSPECT THE BASIN IMMEDIATELY AFTER EVERY RAIN AND MAKE REPAIRS AS NEEDED.
2. CONTRACTOR SHALL CLEARLY MARK THE CLEANOUT ELEVATION ON A STAKE DRIVEN INTO THE GROUND AT A LOCATION CLEARLY VISIBLE FROM THE EMBANKMENT. SEDIMENT SHALL BE REMOVED WHEN CLEANOUT ELEVATION IS REACHED AND DISPOSED OF AT A LOCATION APPROVED BY THE ENGINEER.

CONVERSION TO PERMANENT STORMWATER MANAGEMENT POND

1. CONVERT THE BASIN INTO THE PERMANENT STORMWATER MANAGEMENT POND AND GROUT TEMPORARY 6" DIA. ORIFICE AT EL. 54.65 AFTER ALL AREAS DRAINING TO THE POND HAVE BEEN PERMANENTLY STABILIZED AND THE ENGINEER HAS APPROVED THE CONVERSION.
2. REMOVE ACCUMULATED SEDIMENT TO ELEVATION 51.65 AND DISPOSE SEDIMENT AT A LOCATION APPROVED BY THE ENGINEER.
3. COMPLETE STABILIZATION OF ALL BARE AREAS. REMOVE EROSION AND SEDIMENT CONTROL MEASURES AND DEACTIVATE SKIMMER DEWATER DEVICE.

AS-BUILT DRAWINGS OF STORMWATER MANAGEMENT FACILITIES

THE CONTRACTOR SHALL PROVIDE 'AS-BUILT' DRAWINGS OF ALL STORMWATER MANAGEMENT FACILITIES, SUCH AS PONDS, INFILTRATION BASINS, BIOFILTRATION SWALES, ETC. 'AS-BUILT' DRAWINGS SHALL SHOW THE ACTUAL FINISH GROUND CONTOURS, OUTLET STRUCTURES DIMENSIONS AND ELEVATIONS, ETC. AS THEY EXIST AT THE COMPLETION OF THE PROJECT. THESE DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER OR LAND SURVEYOR.

DRAFT
NOT FOR BIDDING
AUGUST 2015

ITEM 302011, DELAWARE NO. 3 STONE	
STATION/OFFSET	WEIGHT
STA 1277+50, 98.1' RT. TO STA 1280+26, 56.4' RT.	104 TON

ITEM 712006, RIPRAP, R-5	
STATION/OFFSET	AREA
STA 1279+89, 75.2' LT. TO STA 1280+07, 75.0' LT.	36 SY

ITEM 712005, RIPRAP, R-4	
STATION/OFFSET	AREA
STA 1277+27, 181.0' RT. TO STA 1277+47, 176.6' RT.	115 SY
STA 1287+30, 161.4' RT. TO STA 1287+93, 161.3' RT.	111 SY

ITEM 713003, GEOTEXTILES, RIPRAP	
STATION/OFFSET	AREA
STA 1279+89, 75.2' LT. TO STA 1280+07, 75.0' LT.	44 SY
STA 1277+27, 181.0' RT. TO STA 1277+47, 176.6' RT.	133 SY
STA 1287+30, 161.4' RT. TO STA 1287+93, 161.3' RT.	129 SY

ITEM 713002, GEOTEXTILES, SEPARATION	
STATION/OFFSET	AREA
STA 1277+50, 98.1' RT. TO STA 1280+26, 56.4' RT.	538 SY

ITEM 272501, POND OUTLET STRUCTURE, SPECIAL	
ITEM	QUANTITY
CONCRETE RISER STRUCTURE	1 EA
30" CLASS IV RCP	248 LF
CONCRETE HEADWALL	1 EA
DELAWARE NO. 57 STONE	20 TON
CONCRETE CRADLE	67 CY
ANTI-SEEP COLLARS	1 EA
8" SCH. 40 PVC PIPE	21 LF
GATE VALVE	1 EA

TEMPORARY SEDIMENT BASIN DETAILS			
SKIMMER ORIFICE SIZE (IN)	SKIMMER INVERT	CLEANOUT ELEVATION	*EMERGENCY SPILLWAY ELEVATION
6	54.65	55.03	55.40

* BLOCK OUTLET STRUCTURE TO THIS ELEVATION IN TEMPORARY CONDITIONS

NOTES - STORMWATER MANAGEMENT POND - BMP NO. 616 - (STA 246+00 S)

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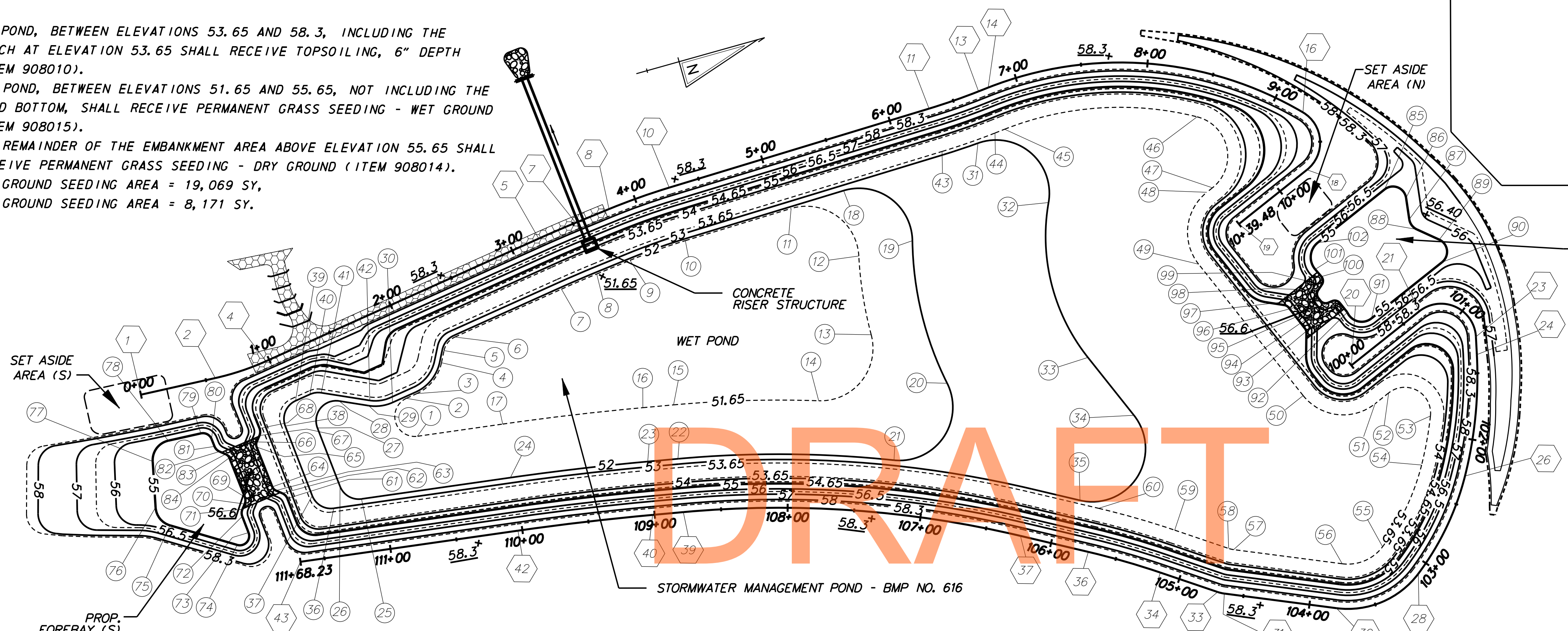
 DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT	BRIDGE NO.	STORMWATER MANAGEMENT PLAN	SHEET NO.	
			T200811301	DESIGNED BY:		DSM/ACF	414
			NEW CASTLE	CHECKED BY:		JZS	TOTAL SHTS.
						850	

SW-77

NOTES:

1. THE POND, BETWEEN ELEVATIONS 53.65 AND 58.3, INCLUDING THE BENCH AT ELEVATION 53.65 SHALL RECEIVE TOPSOILING, 6" DEPTH (ITEM 908010).
2. THE POND, BETWEEN ELEVATIONS 51.65 AND 55.65, NOT INCLUDING THE POND BOTTOM, SHALL RECEIVE PERMANENT GRASS SEEDING - WET GROUND (ITEM 908015).
3. THE REMAINDER OF THE EMBANKMENT AREA ABOVE ELEVATION 55.65 SHALL RECEIVE PERMANENT GRASS SEEDING - DRY GROUND (ITEM 908014).
4. WET GROUND SEEDING AREA = 19,069 SY,
DRY GROUND SEEDING AREA = 8,171 SY.

LEGEND	
PROPOSED CONTOUR	— 65 —
POND MAINTENANCE ACCESS	
BASELINE OF CONSTRUCTION CONTROL COORDINATES	⑧
GRADING CONTROL POINTS	⑧
BOTTOM OF POND	BOP
BOTTOM OF FOREBAY	BOF



PLAN - STORMWATER MANAGEMENT POND - BMP NO. 616 - (STA. 246+00 S)

GRADING CONTROL POINTS

	NORTHING	EASTING	ELEVATION	NOTE
54	526,704.2107	560,924.7643	53.65	BOP
55	526,659.4226	560,975.8986	53.65	BOP
56	526,626.8173	560,979.9960	53.65	BOP
57	526,551.2006	560,947.7374	53.65	BOP
58	526,547.8473	560,945.8968	53.65	BOP
59	526,512.5631	560,921.7201	53.65	BOP
60	526,462.0047	560,890.5098	53.65	BOP
61	525,877.7092	560,718.8351	55.00	
62	525,875.1381	560,714.0573	55.00	
63	525,871.0344	560,710.7446	55.00	
64	525,869.2009	560,707.3626	55.00	
65	525,865.9328	560,675.4023	55.00	
66	525,867.0163	560,671.7530	55.00	
67	525,870.3082	560,667.6750	55.00	
68	525,871.8220	560,662.5360	55.00	
69	525,847.2584	560,709.0451	55.00	BOF
70	525,845.7415	560,714.1540	55.00	BOF
71	525,843.0232	560,717.5214	55.00	BOF
72	525,841.5021	560,722.5872	55.00	BOF
73	525,842.7506	560,735.5919	55.00	BOF
74	525,832.0847	560,742.2043	55.00	BOF
75	525,787.4162	560,714.4122	55.00	BOF
76	525,780.6725	560,698.5371	55.00	BOF
77	525,787.9105	560,664.7161	55.00	BOF
78	525,803.3860	560,652.8769	55.00	BOF
79	525,828.4168	560,654.2266	55.00	BOF
80	525,835.0004	560,660.4741	55.00	BOF
81	525,835.6348	560,666.4221	55.00	BOF
82	525,838.1985	560,671.1265	55.00	BOF
83	525,842.2258	560,674.3775	55.00	BOF
84	525,844.0592	560,677.7594	55.00	BOF
85	526,733.3896	560,718.1172	55.00	BOF
86	526,747.1906	560,728.5893	55.00	BOF
87	526,745.1500	560,744.7144	55.00	BOF
88	526,748.6157	560,753.6074	55.00	BOF
89	526,762.7100	560,765.5200	55.00	BOF
90	526,760.1350	560,782.3739	55.00	BOF
91	526,697.7566	560,808.6354	55.00	BOF
92	526,681.4879	560,799.3667	55.00	BOF
93	526,678.0455	560,791.1893	55.00	BOF
94	526,672.8213	560,788.1673	55.00	BOF
95	526,669.7012	560,788.5546	55.00	BOF
96	526,664.4582	560,785.4872	55.00	BOF
97	526,663.5133	560,783.1795	55.00	BOF
98	526,664.8818	560,777.4927	55.00	BOF
99	526,668.7407	560,774.1768	55.00	BOF
100	526,670.0170	560,768.2789	55.00	BOF
101	526,667.0103	560,761.8033	55.00	BOF
102	526,674.2759	560,743.0042	55.00	BOF

BASELINE OF CONSTRUCTION CONTROL COORDINATES				
	STATION	NORTHING	EASTING	
1	POB STA. 0+00.00	525,792.9321	560,614.1035	
2	PC STA. 0+57.18	525,850.0294	560,617.1823	
	PI STA. 0+77.37	525,870.1948	560,618.2697	
4	PT STA. 0+97.43	525,890.1669	560,615.2797	
5	PC STA. 3+21.82	526,112.0872	560,582.0570	
	PI STA. 3+36.93	526,127.0277	560,579.8203	
7	PT STA. 3+52.04	526,246.8476	561,482.2257	
8	PC STA. 3+79.05	526,168.8713	560,574.9696	
	PI STA. 4+03.07	526,192.7239	560,572.2044	
10	PT STA. 4+27.04	526,227.6230	560,571.6918	
11	PC STA. 6+30.90	526,420.5393	560,567.3397	
	PI STA. 6+50.59	526,440.2236	560,566.9194	
13	PT STA. 6+70.25	526,459.8106	560,564.9204	
14	PC STA. 6+78.03	526,467.5473	560,564.1309	
	PI STA. 8+09.90	526,598.7327	560,550.7428	
16	PCC STA. 9+23.39	526,690.0021	560,645.9203	
	PI STA. 9+61.49	526,716.3713	560,673.4186	
18	PT STA. 9+74.13	526,681.2578	560,688.2015	
19	POE STA. 10+39.48	526,621.0265	560,713.5590	
20	POB STA. 100+00.00	526,673.6420	560,838.5348	
21	PC STA. 100+65.22	526,733.7533	560,813.2279	
	PI STA. 101+16.09	526,780.6389	560,793.4889	
23	PT STA. 101+22.61	526,769.4814	560,843.1216	
24	PC STA. 101+36.02	526,766.5395	560,856.2079	
	PI STA. 101+82.30	526,756.3897	560,901.3580	
26	PCC STA. 102+27.88	526,733.3506	560,941.4921	
	PI STA. 102+69.30	526,712.7320	560,977.4099	
28	PCC STA. 103+09.62	526,679.8437	561,002.5808	
	PI STA. 103+48.26	526,649.1660	561,026.0599	
30	PT STA. 103+79.56	526,613.6329	561,010.9012	
31	PC STA. 104+64.43	526,535.5741	560,977.6007	
	PI STA. 104+67.02	526,533.1867	560,976.5823	
33	PT STA. 104+69.60	526,531.0455	560,975.1151	

BASELINE OF CONSTRUCTION CONTROL COORDINATES				
	STATION	NORTHING	EASTING	
34	PC STA. 105+15.03	526,493.5711	560,949.4376	
	PI STA. 105+43.17	526,470.3588	560,933.5326	
36	PT STA. 105+71.26	526,445.7377	560,919.9095	
37	PC STA. 106+23.62	526,399.9264	560,894.5618	
	PI STA. 107+52.13	526,287.4845	560,832.3470	
39	PT STA. 108+78.40	526,161.1192	560,808.9878	
40	PC STA. 109+01.56	526,138.3440	560,804.7777	
	PI STA. 109+52.46	526,088.2912	560,795.5253	
42	PT STA. 110+03.34	526,037.8308	560,788.8440	
43	POE STA. 111+68.23	525,874.3678	560,767.2005	

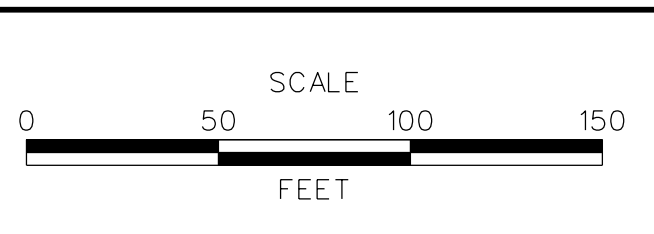
GRADING CONTROL POINTS				
	NORTHING	EASTING	ELEVATION	NOTE
1	525,984.4542	560,700.2714	51.65	BOP
2	525,984.2023	560,670.5665	51.65	BOP
3	525,992.2699	560,669.3588	51.65	BOP
4	526,016.6311	560,652.0070	51.65	BOP
5	526,020.9489	560,643.7448	51.65	BOP
6	526,031.5792	560,636.1731	51.65	BOP
7	526,118.2464	560,623.1985	51.65	BOP
8	526,146.8246	560,619.4039	51.65	BOP
9	526,173.6617	560,616.2928	51.65	BOP
10	526,217.6189	560,613.2823	51.65	BOP
11	526,300.6057	560,611.5102	51.65	BOP
12	526,339.8797	560,659.5773	51.65	BOP
13	526,332.8688	560,718.9784	51.65	BOP
14	526,281.5257	560,756.0137	51.65	BOP
15	526,175.8065	560,729.5339	51.65	BOP
16	526,153.0314	560,725.3238	51.65	BOP
17	526,048.4366	560,708.7431	51.65	BOP
18	526,342.1900	560,609.2219	52.00	BOP
19	526,381.7014	560,659.4891	52.00	BOP
20	526,377.9307	560,769.4527	52.00	BOP

GRADING CONTROL POINTS				
	NORTHING	EASTING	ELEVATION	NOTE
21	526,323.8966	560,814.2325	52.00	BOP
22	526,168.4265	560,769.4575	52.00	BOP
23	526,145.6513	560,765.2475	52.00	BOP
24	526,043.1075	560,748.9918	52.00	BOP
25	525,931.2062	560,734.1754	52.00	BOP
26	525,918.2438	560,720.7387	52.00	BOP
27	525,913.7530	560,673.9638	52.00	BOP
28	525,934.9450	560,658.8993	52.00	BOP
29	525,955.3313	560,668.2625	52.00	BOP
30	525,973.1988	560,670.7982	52.00	BOP
31	526,448.8554	560,602.2204	53.00	BOP
32	526,487.8557	560,659.4398	53.00	BOP
33	526,484.8837	560,779.3389	53.00	BOP
34	526,506.4127	560,830.4758	53.00	BOP
35	526,450.1811	560,880.9963	53.00	BOP
36	525,909.2129	560,735.2983	53.00	BOP
37	525,896.2504	560,721.8616	53.00	BOP
38	525,890.9006	560,666.1387	53.00	BOP
39	525,903.6111	560,649.8704	53.00	BOP
40	525,915.2244	560,648.1319	53.00	BOP
41	525,923.7058	560,649.3355	53.00	BOP
42	525,957.0008	560,664.6276	53.00	BOP
43	526,421.2566	560,600.9321	53.65	BOP
44	526,463.2220	560,598.3468	53.65	BOP
45	526,470.9586	560,597.5573	53.65	BOP
46	526,612.6104	560,627.6480	53.65	BOP
47	526,609.2922	560,682.0429	53.65	BOP
48	526,604.3026	560,684.1435	53.65	BOP
49	526,583.8110	560,734.4350	53.65	BOP
50	526,632.7015	560,850.5629	53.65	BOP
51	526,682.9928	560,871.0544	53.65	BOP
52	526,695.0468	560,865.9796	53.65	BOP
53	526,720.5630	560,891.1240	53.65	BOP

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ADDENDUMS / REVISIONS	



**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

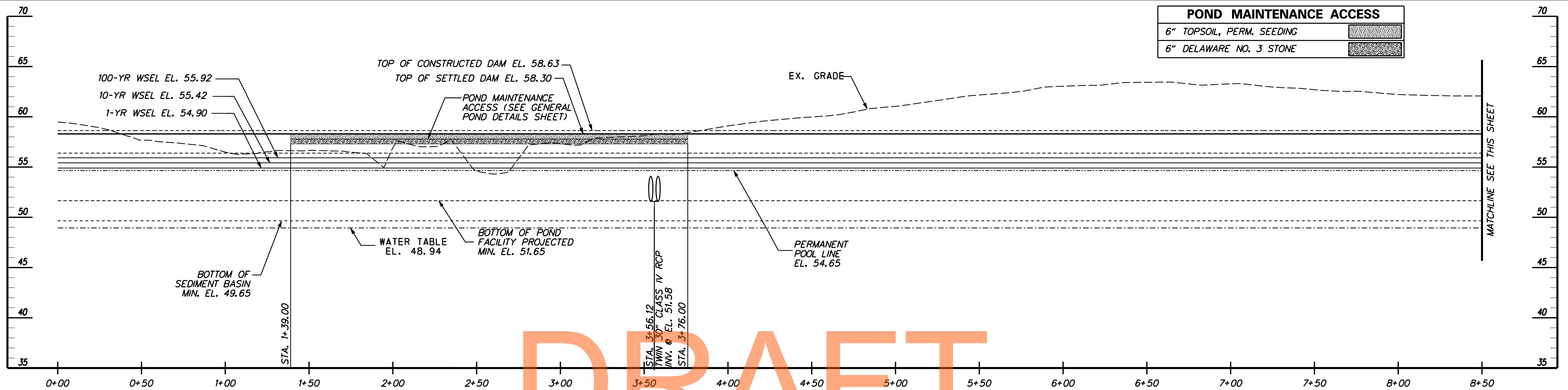
CONTRACT T200811301	BRIDGE NO.	DESIGNED BY: DSM/ACF
COUNTY NEW CASTLE	CHECKED BY: JZS	

**DETAILS FOR SWM
POND
BMP NO. 616**

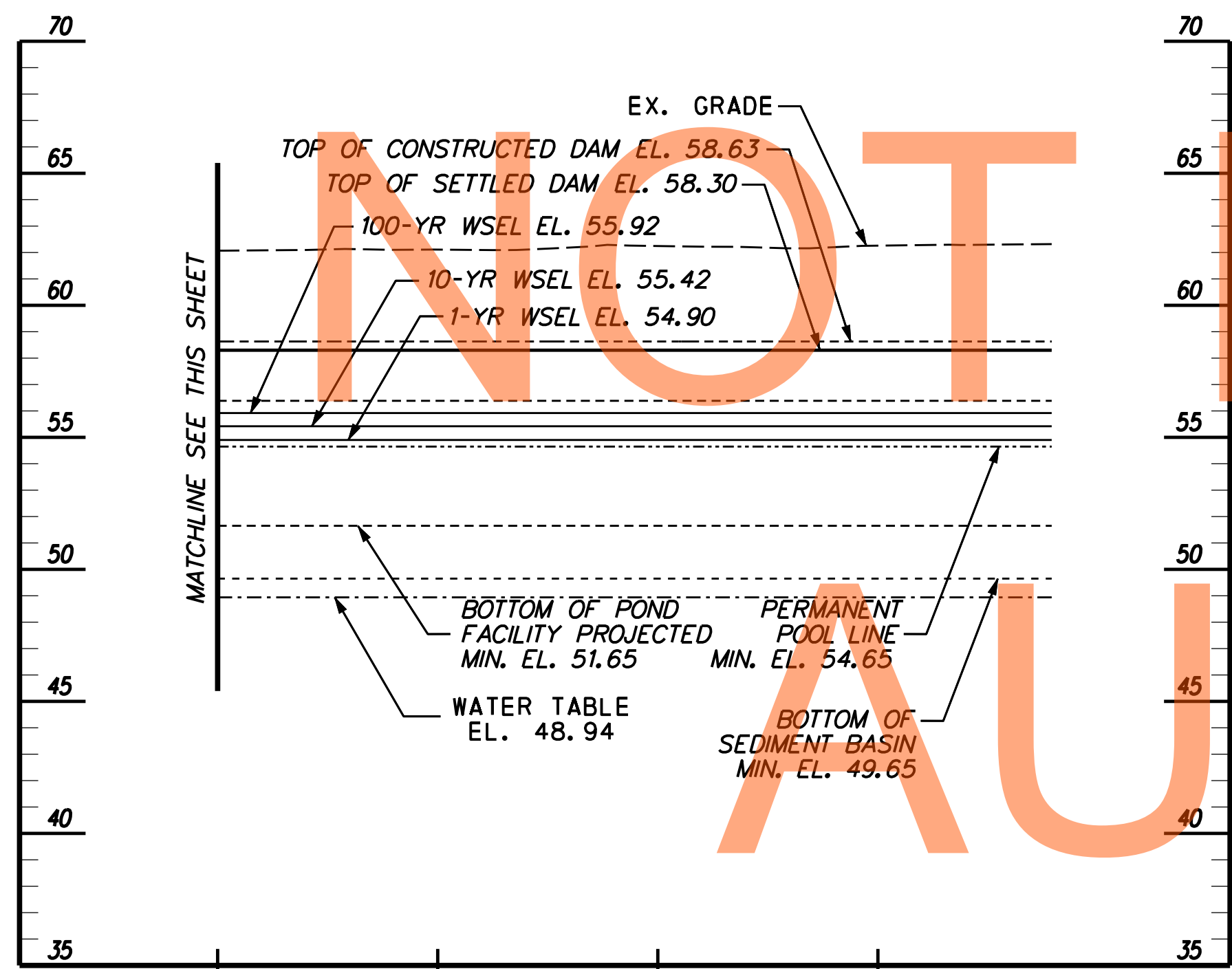
SHEET NO. 415
TOTAL SHTS. 850

SW-78

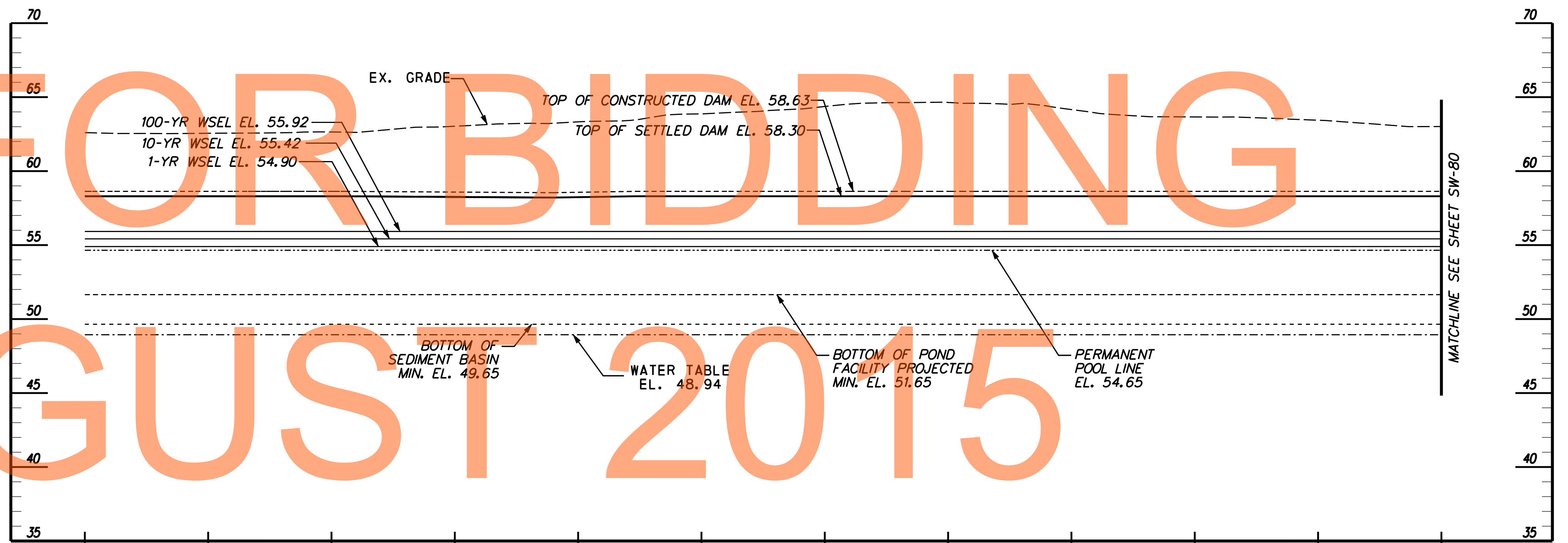
POND MAINTENANCE ACCESS	
6" TOPSOIL, PERM. SEEDING	
6" DELAWARE NO. 3 STONE	



PROFILE ALONG \bar{C} OF EMBANKMENT, WARWICK ROAD
 SCALE: HORIZ. 1"=30'
 VERT. 1"=5'



PROFILE ALONG \bar{C} OF EMBANKMENT, WARWICK ROAD
 SCALE: HORIZ. 1"=30'
 VERT. 1"=5'



PROFILE ALONG \bar{C} OF EMBANKMENT, RAMP E
 SCALE: HORIZ. 1"=30'
 VERT. 1"=5'

DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 616 - (STA. 246+00 S)

SW-79



ADDENDUMS / REVISIONS

SCALE: AS SHOWN

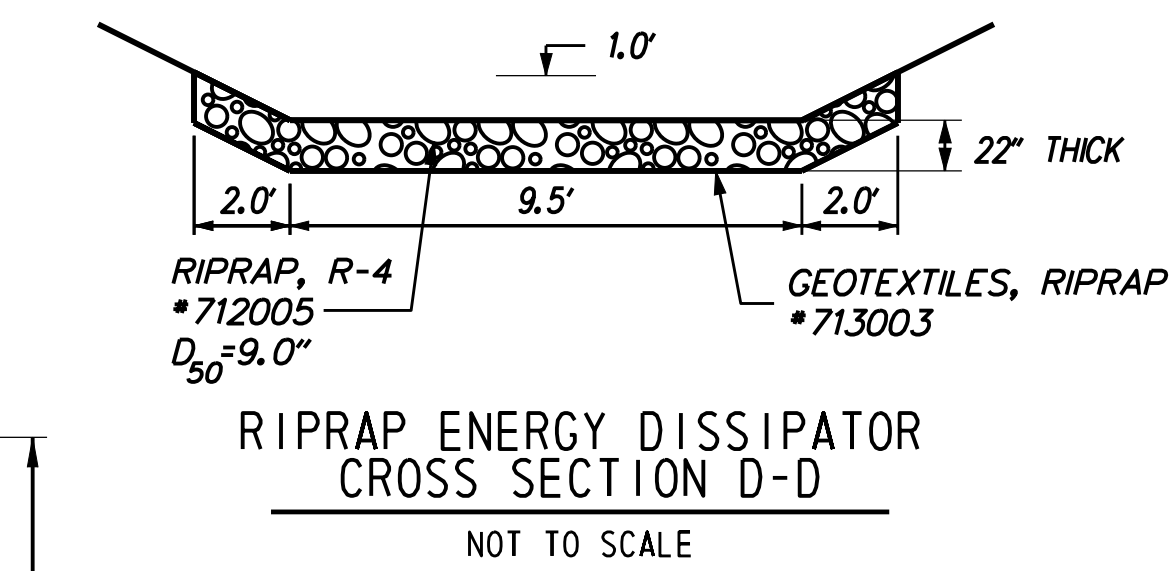
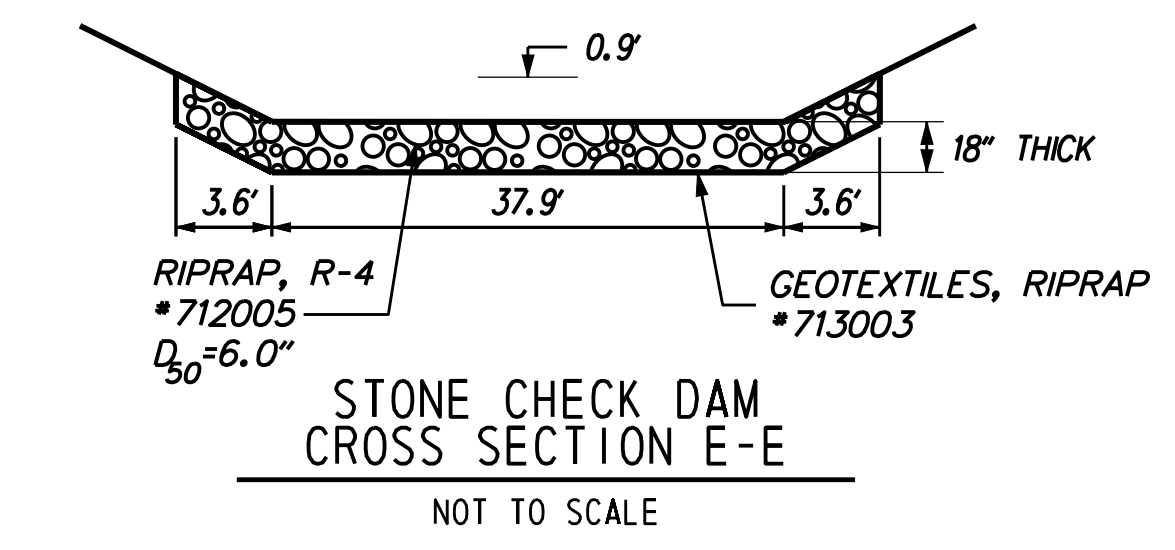
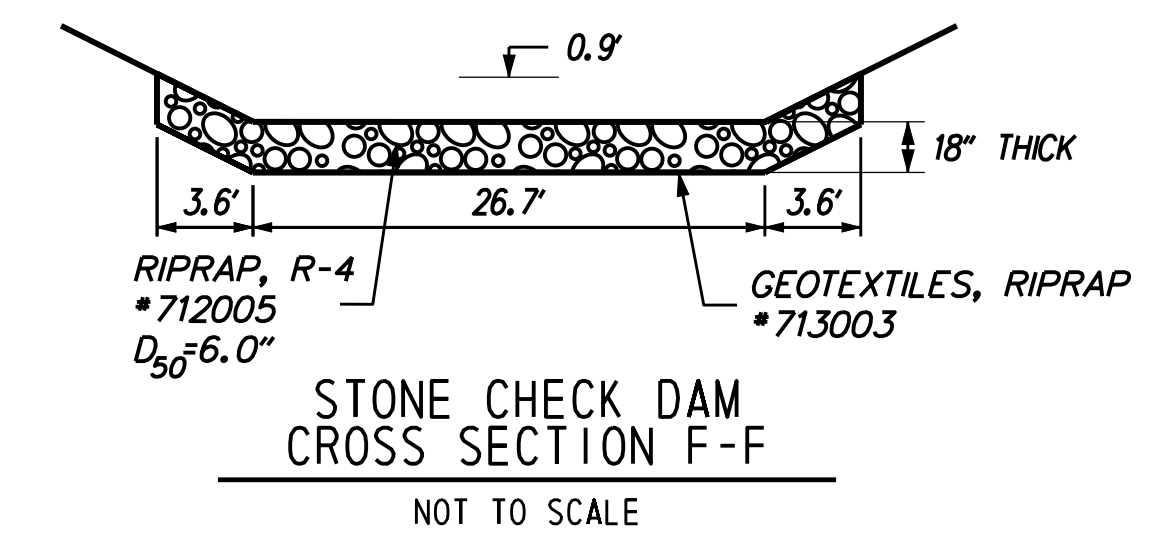
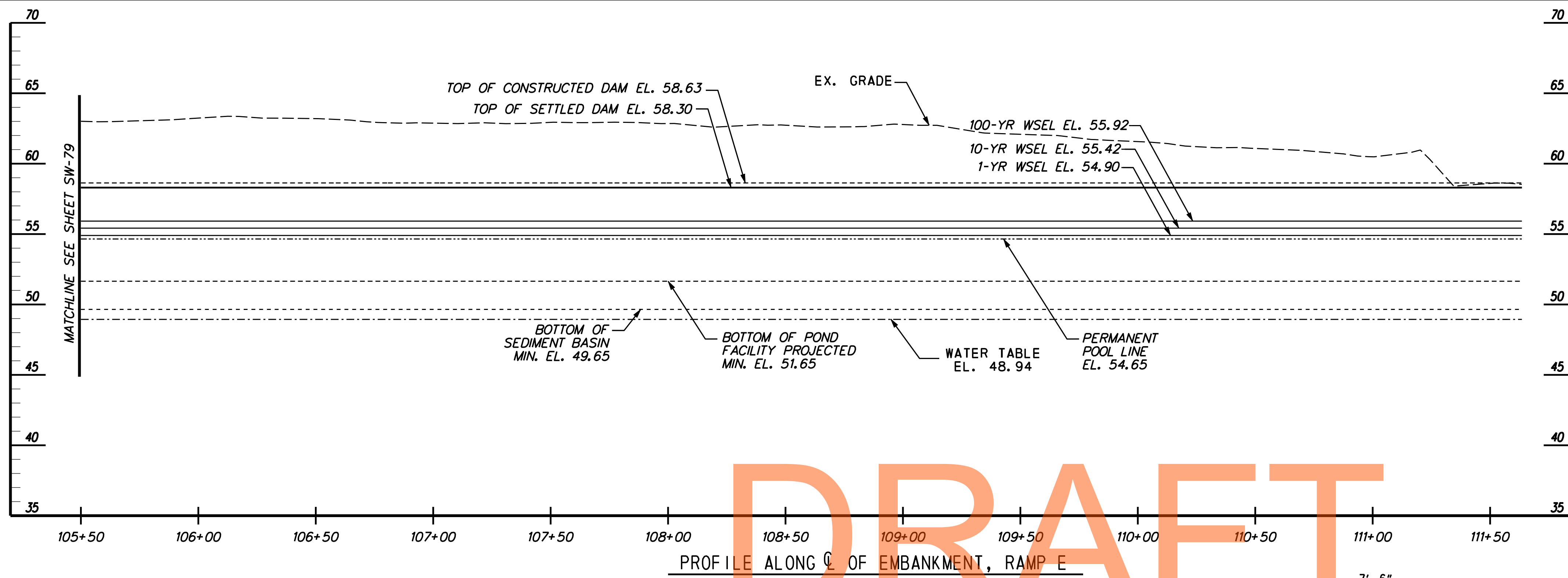
**US 301
 MARYLAND STATE LINE
 TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO.	
COUNTY NEW CASTLE	DESIGNED BY: CHECKED BY:	DSM/ACF JZS

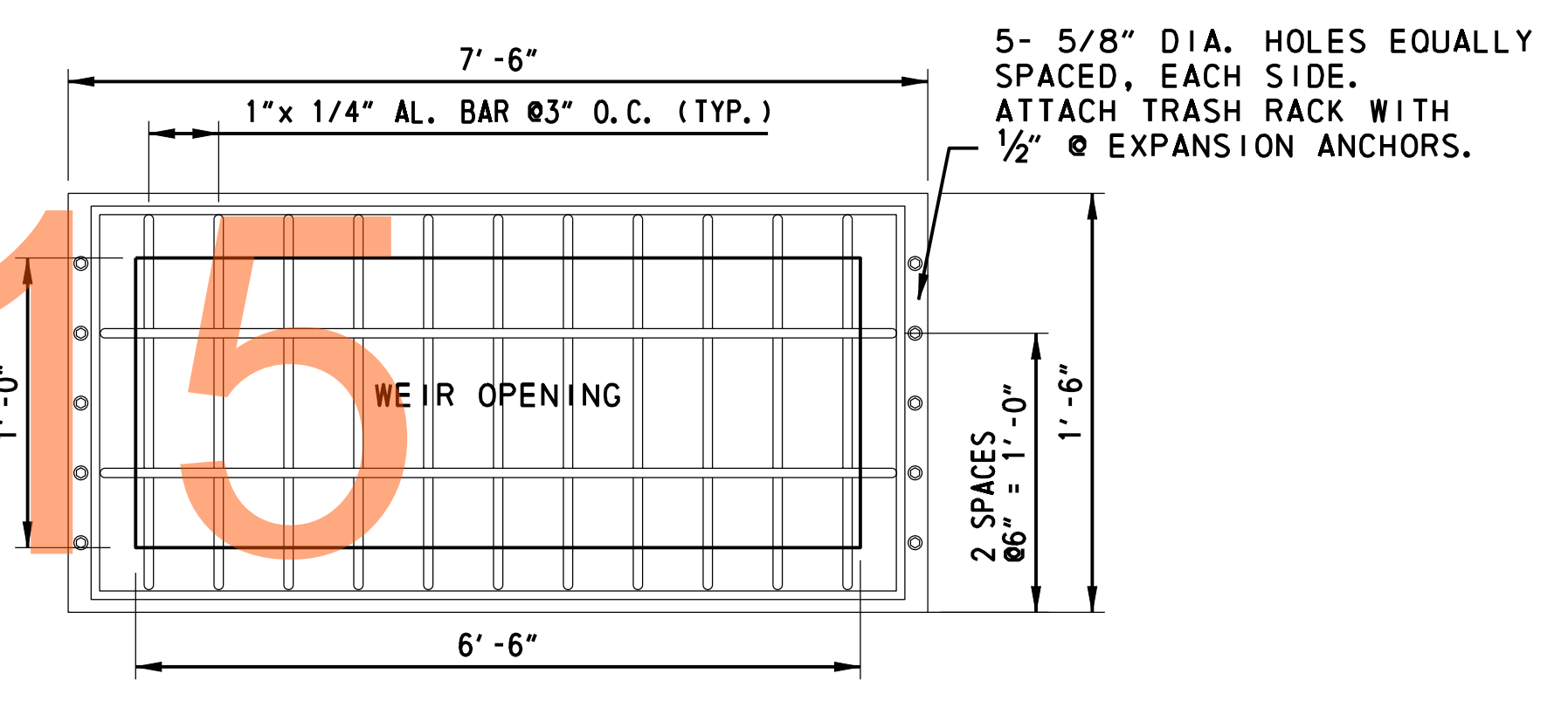
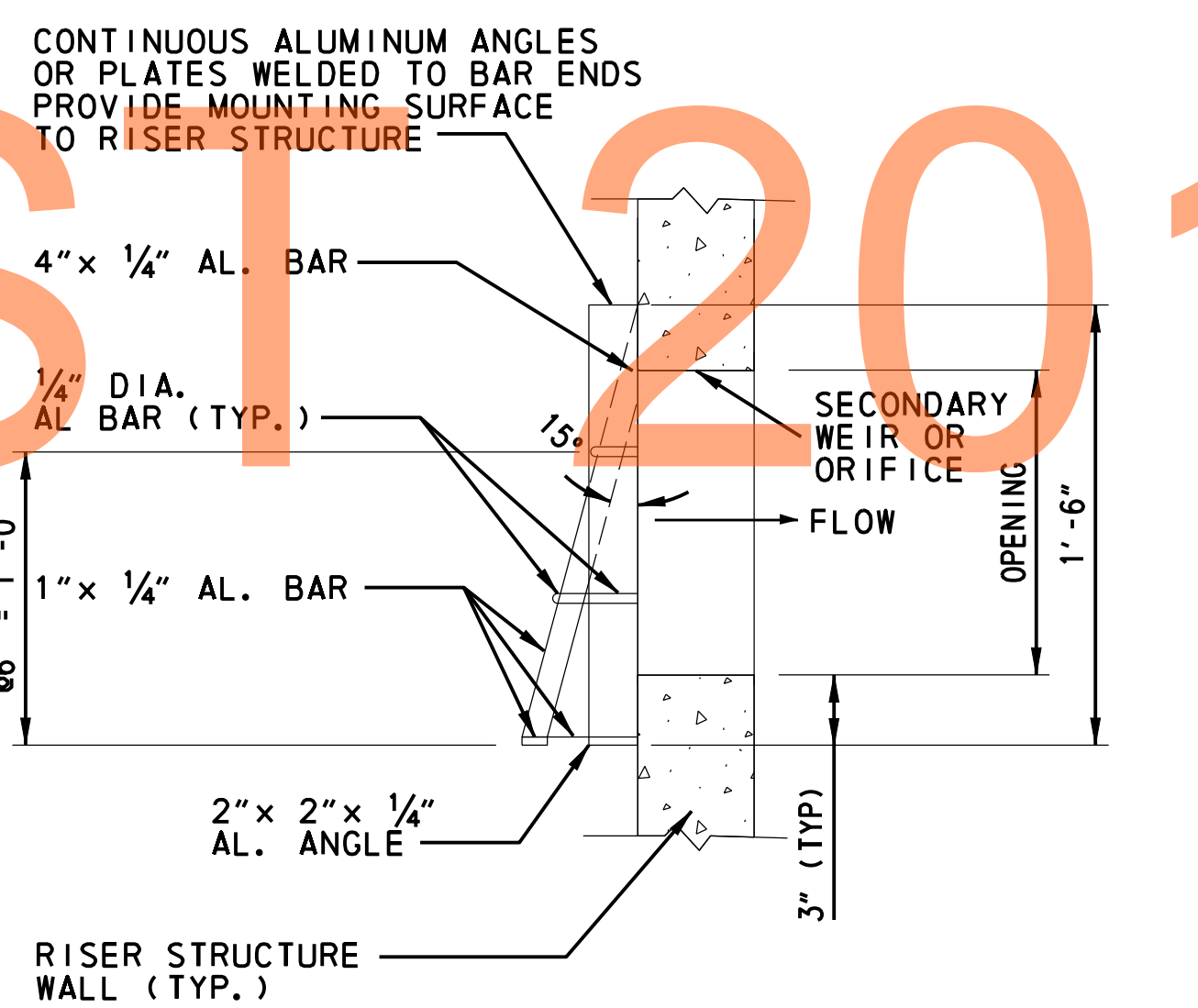
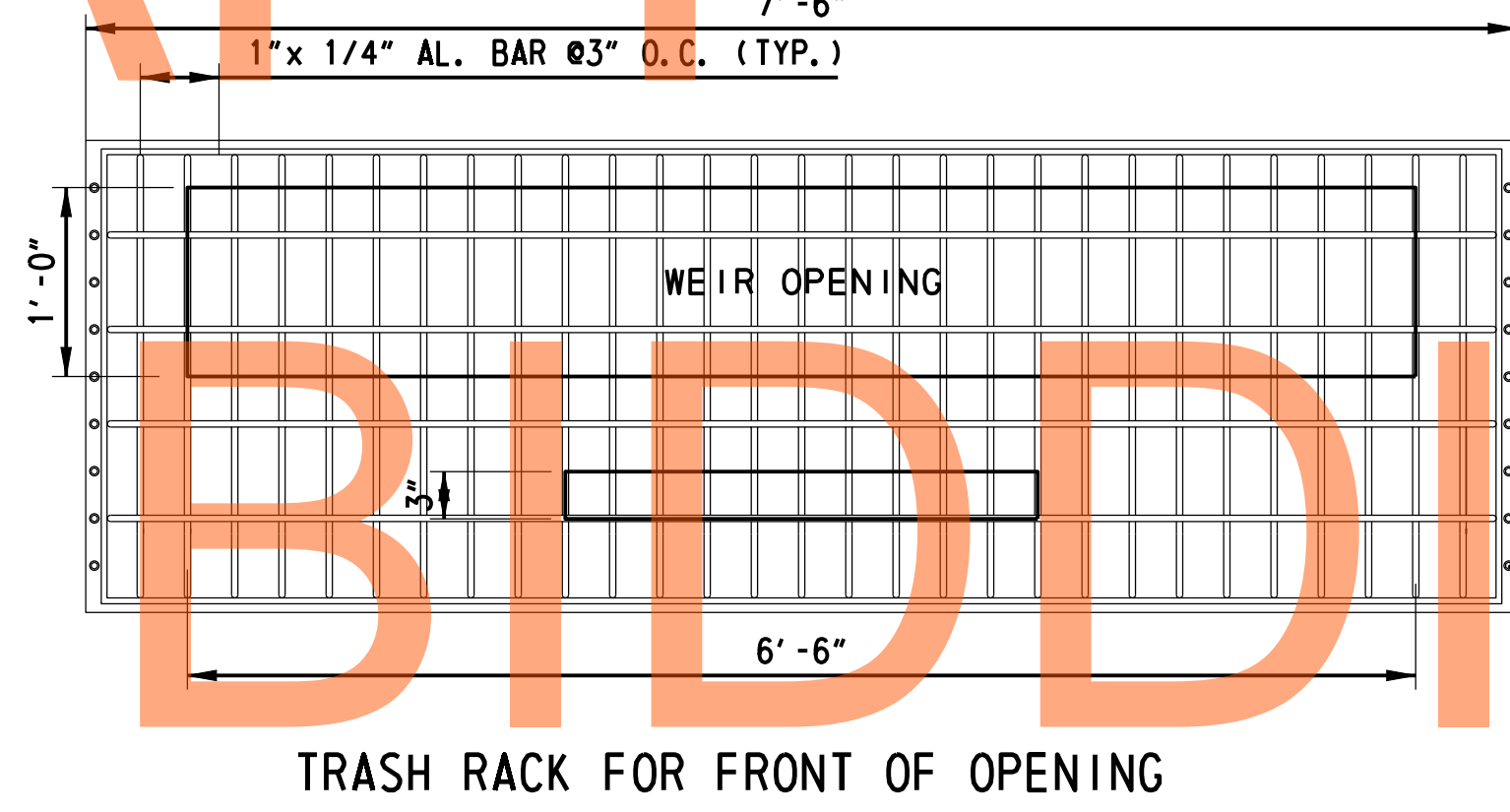
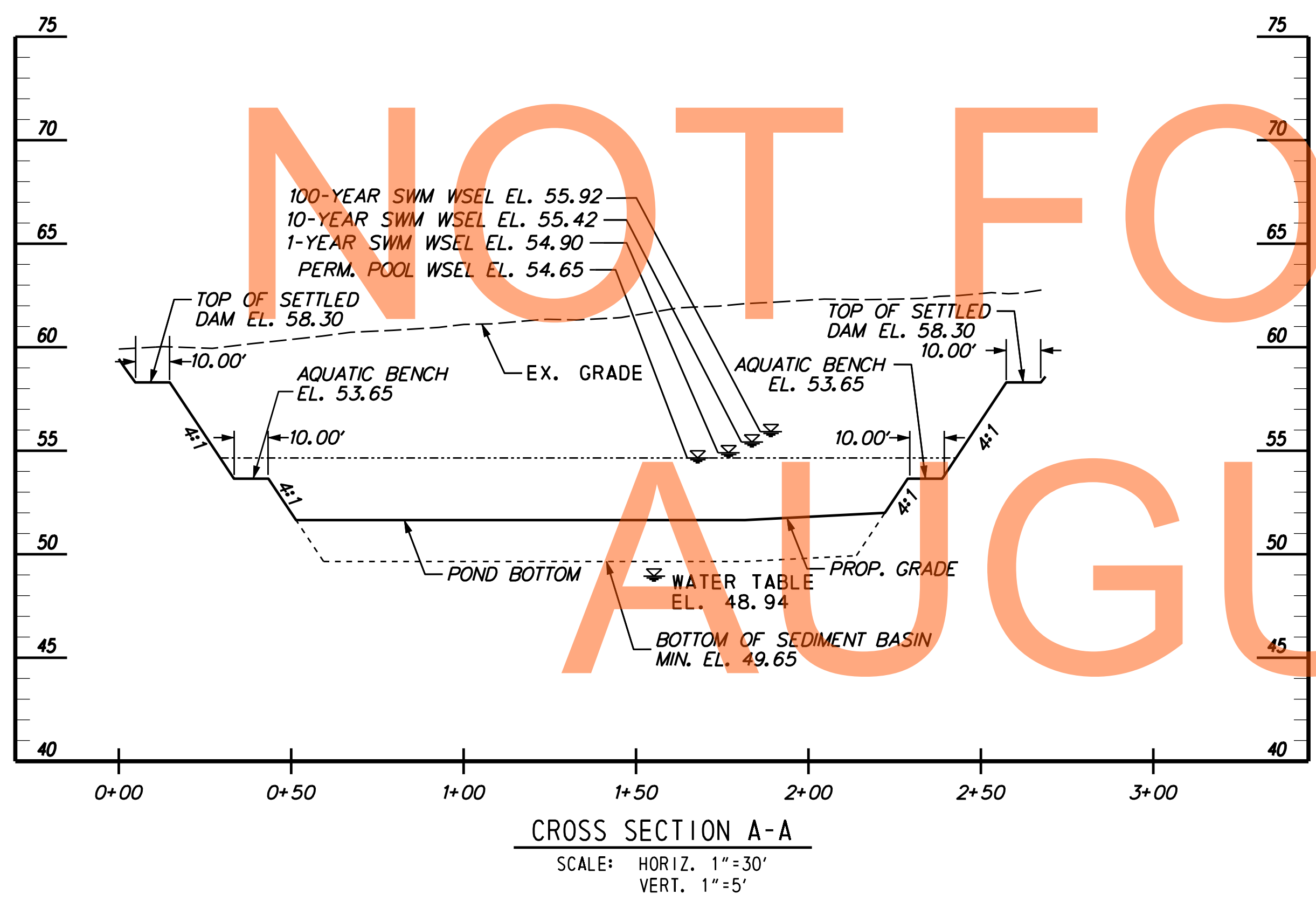
**DETAILS FOR SWM
 POND
 BMP NO. 616**

SHEET NO. 416
TOTAL SHTS. 850

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DRAFT



- NOTES FOR WEIR TRASH RACK:**
1. EXPANSION ANCHORS SHALL CONFORM TO ASTM A510 AND SHALL HAVE A MINIMUM EMBEDMENT DEPTH OF 4" UNLESS NOTED OTHERWISE.
 2. EXPANSION ANCHORS SHALL BE ZINC PLATED IN CONFORMANCE WITH ASTM B633, TYPE III FE/ZN 5.
 3. ALUMINUM ANGLES SHALL CONFORM TO ASTM B308 ALLOY 6061-T6. REMAINING ALUMINUM SHALL CONFORM TO ASTM B211 ALLOY 606-T6.

TYPICAL CONFIGURATIONS AND DETAILS FOR WEIR TRASH RACKS
NOT TO SCALE

DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 616 - (STA. 246+00 S)

SW-80



ADDENDUMS / REVISIONS

SCALE: AS SHOWN

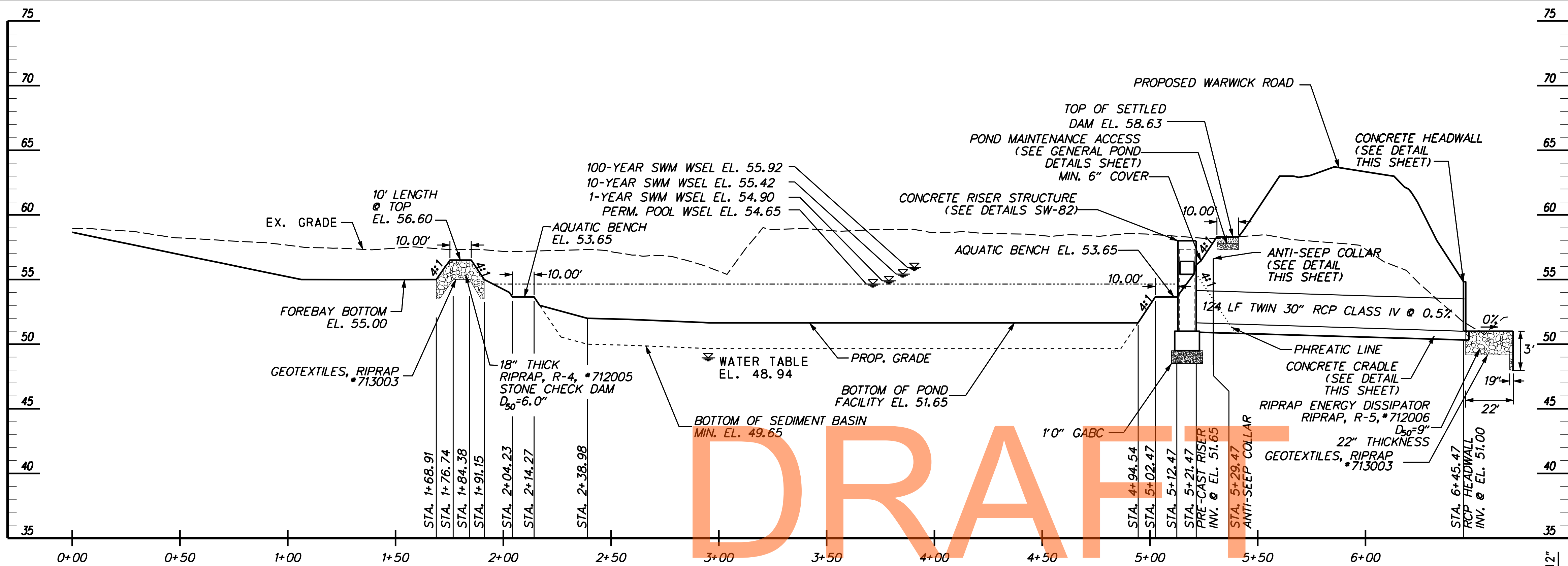
**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

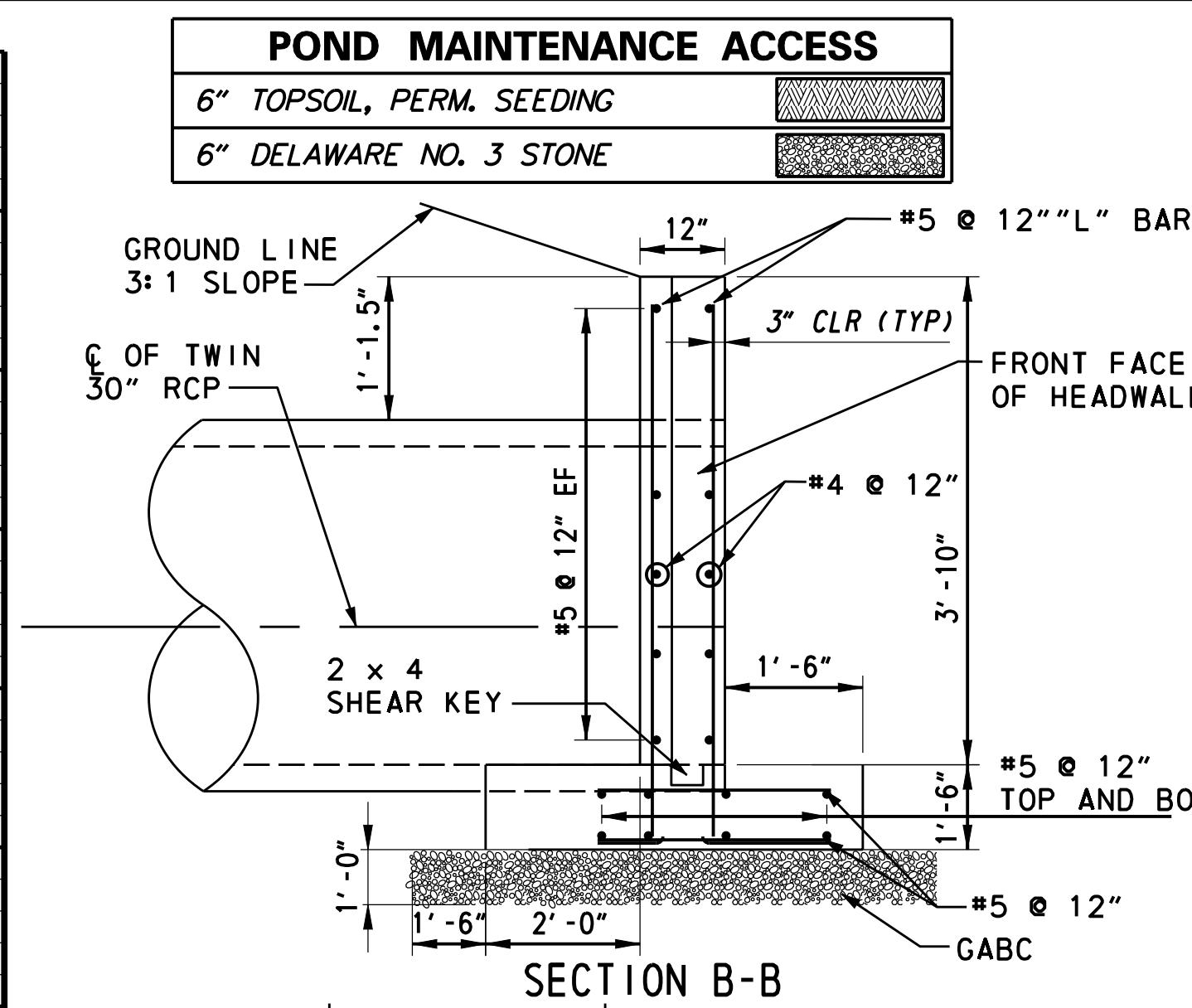
**DETAILS FOR SWM
POND
BMP NO. 616**

SHEET NO. 417
TOTAL SHTS. 850

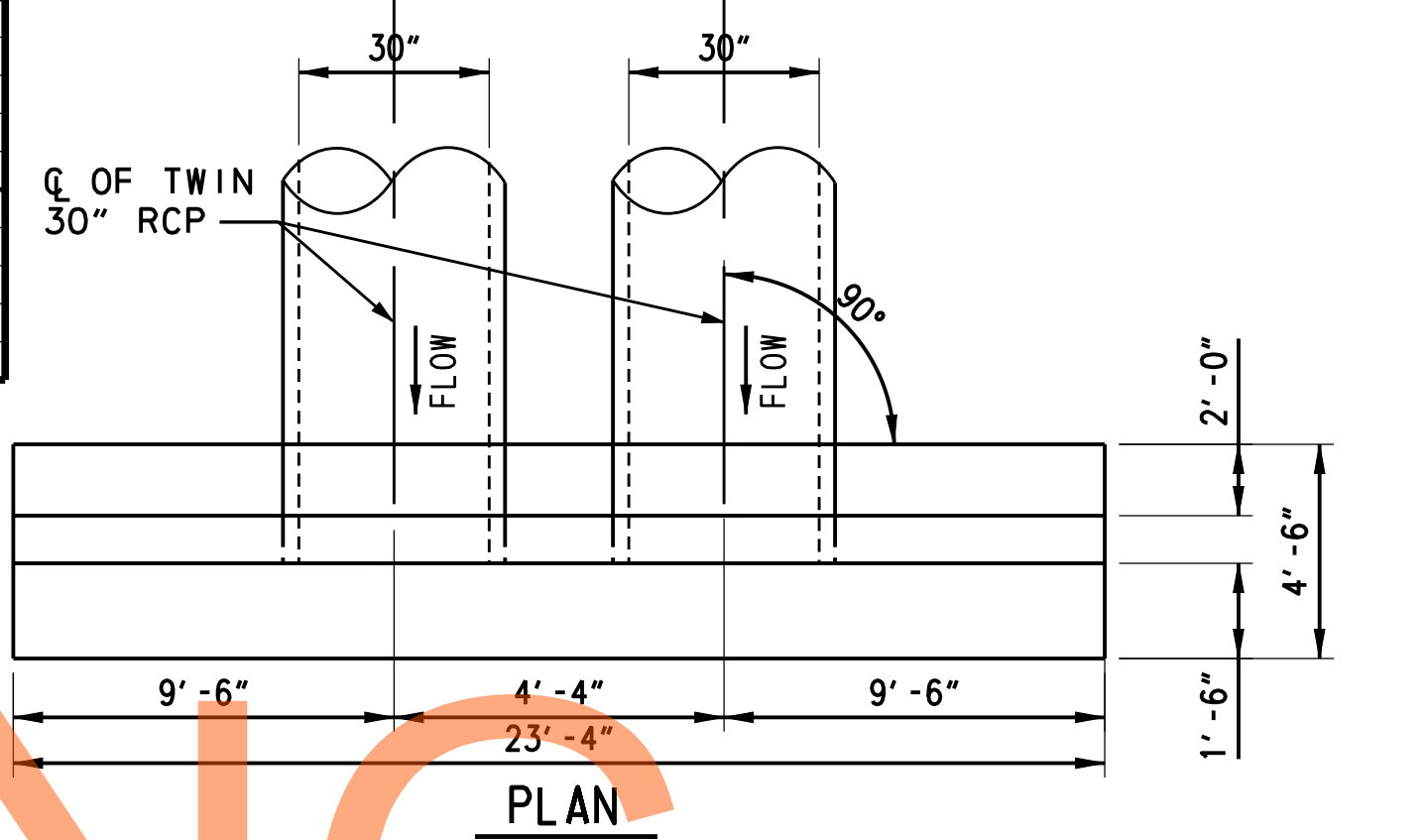
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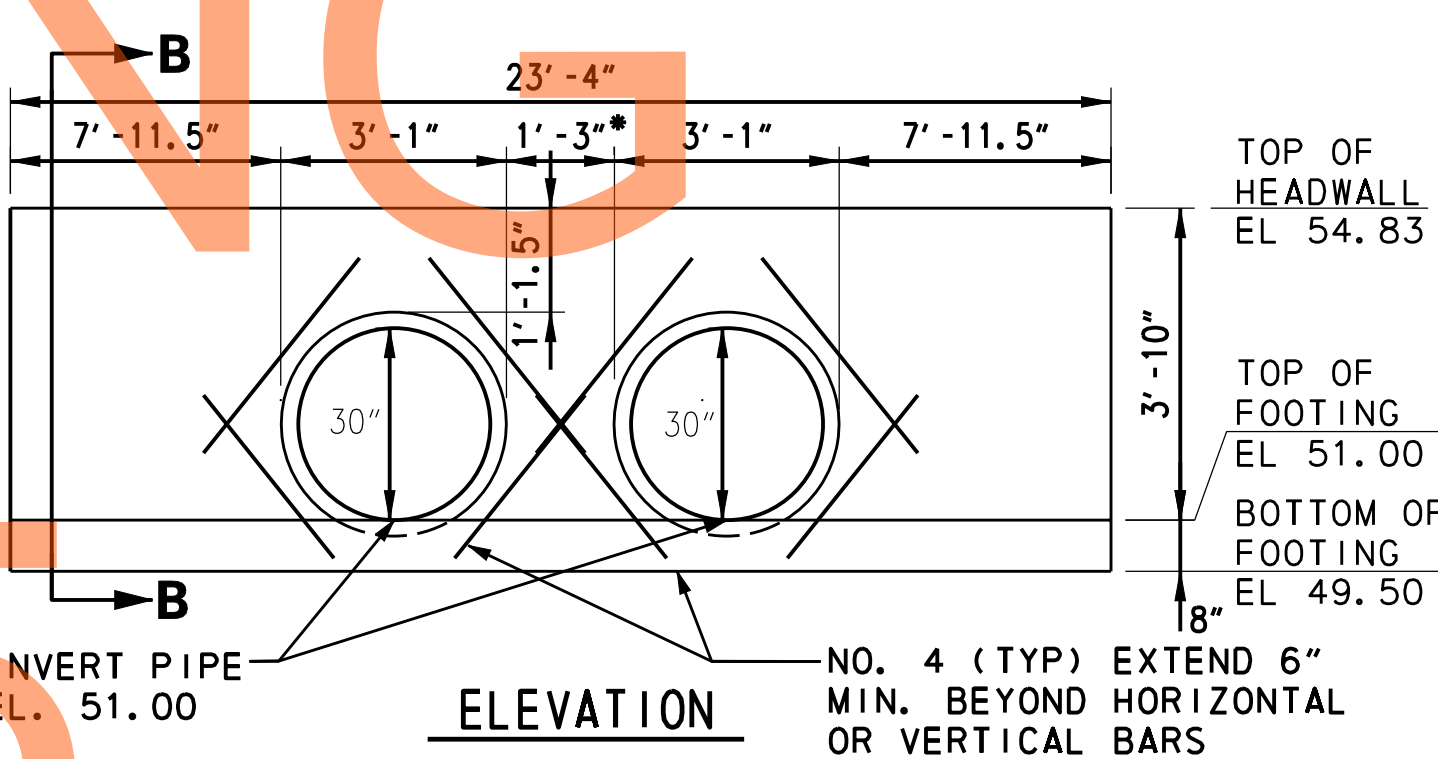
CROSS SECTION B-B
SCALE: HORIZ. 1"=30'
VERT. 1"=5'



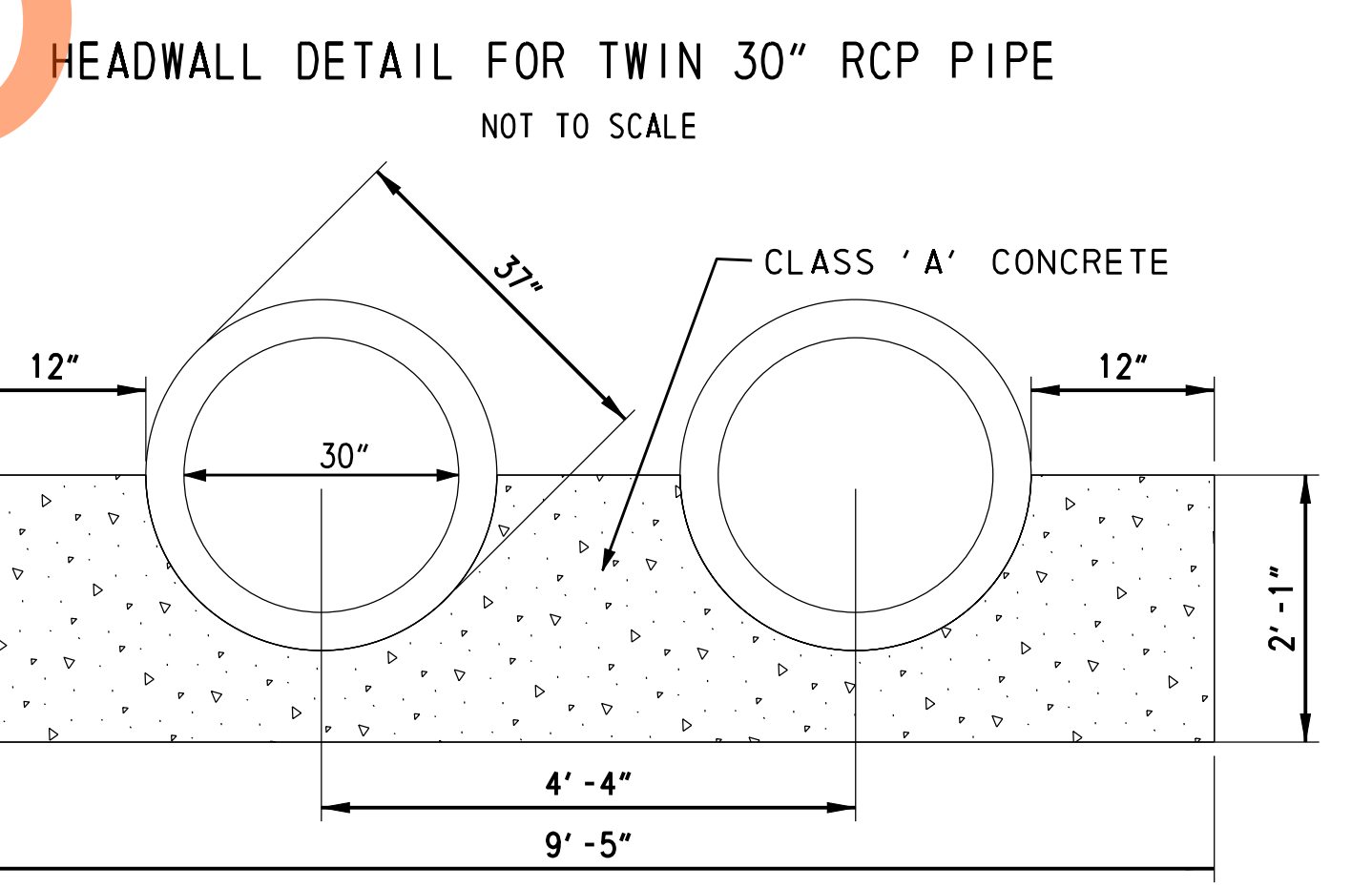
SECTION B-B



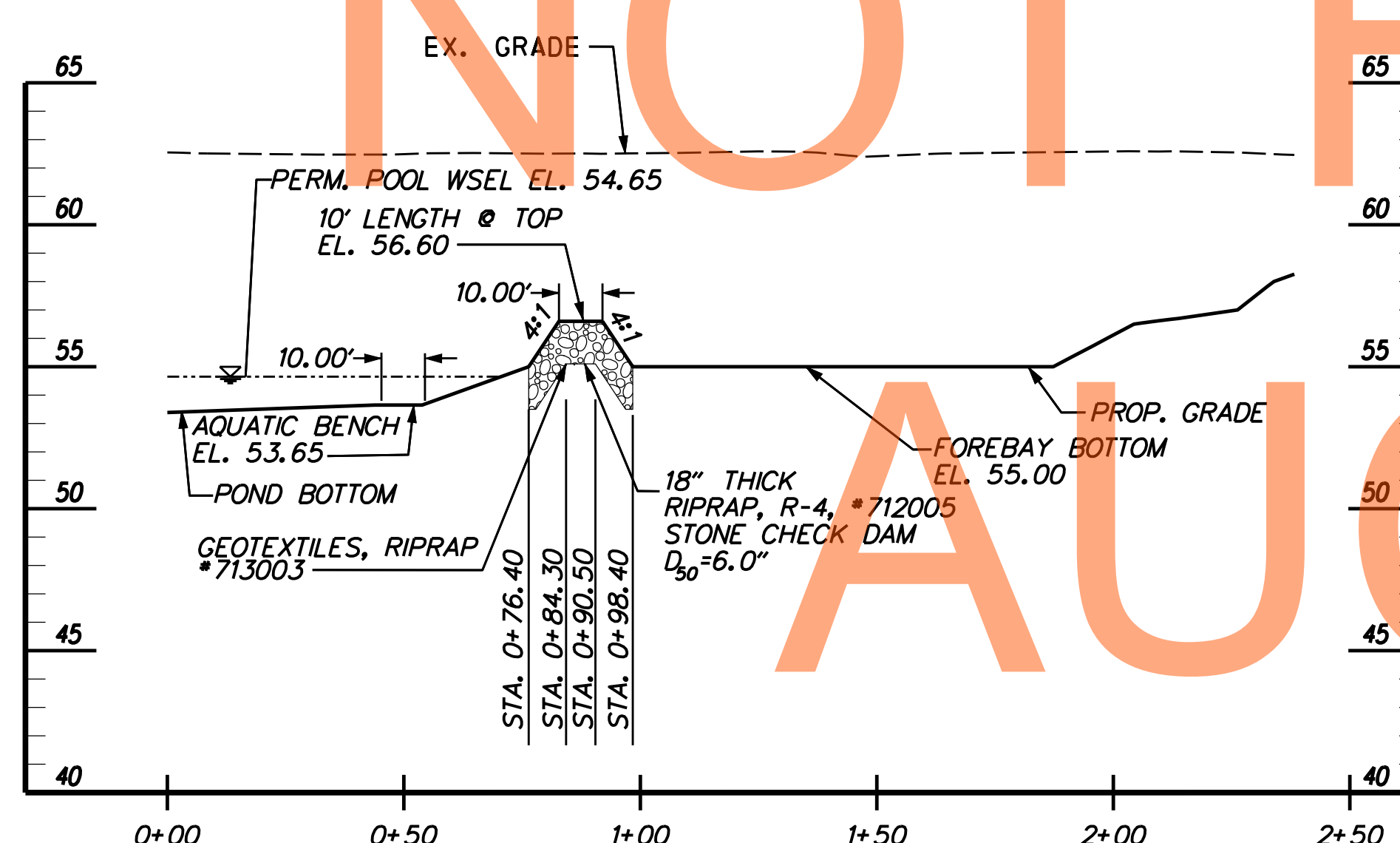
PLAN



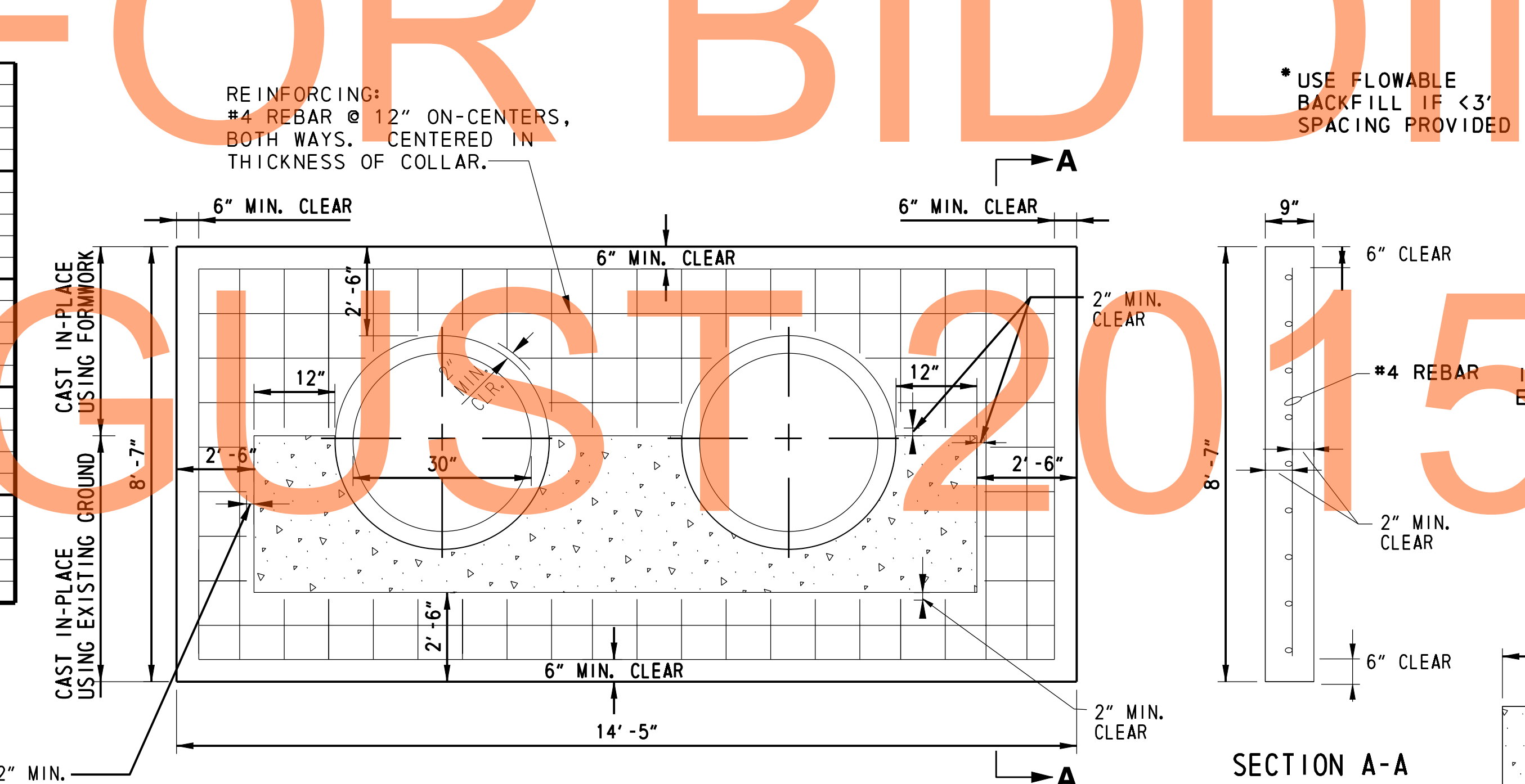
ELEVATION



CONCRETE CRADLE
NOT TO SCALE



CROSS SECTION C-C
SCALE: HORIZ. 1"=30'
VERT. 1"=5'



ELEVATION

CONCRETE ANTI-SEEP COLLAR
NOT TO SCALE

SECTION A-A

NOTES:
1) CAST ANTI-SEEP COLLAR IN TWO PARTS.

DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 616 - (STA. 246+00 S)

SW-81



ADDENDUMS / REVISIONS	

SCALE: AS SHOWN

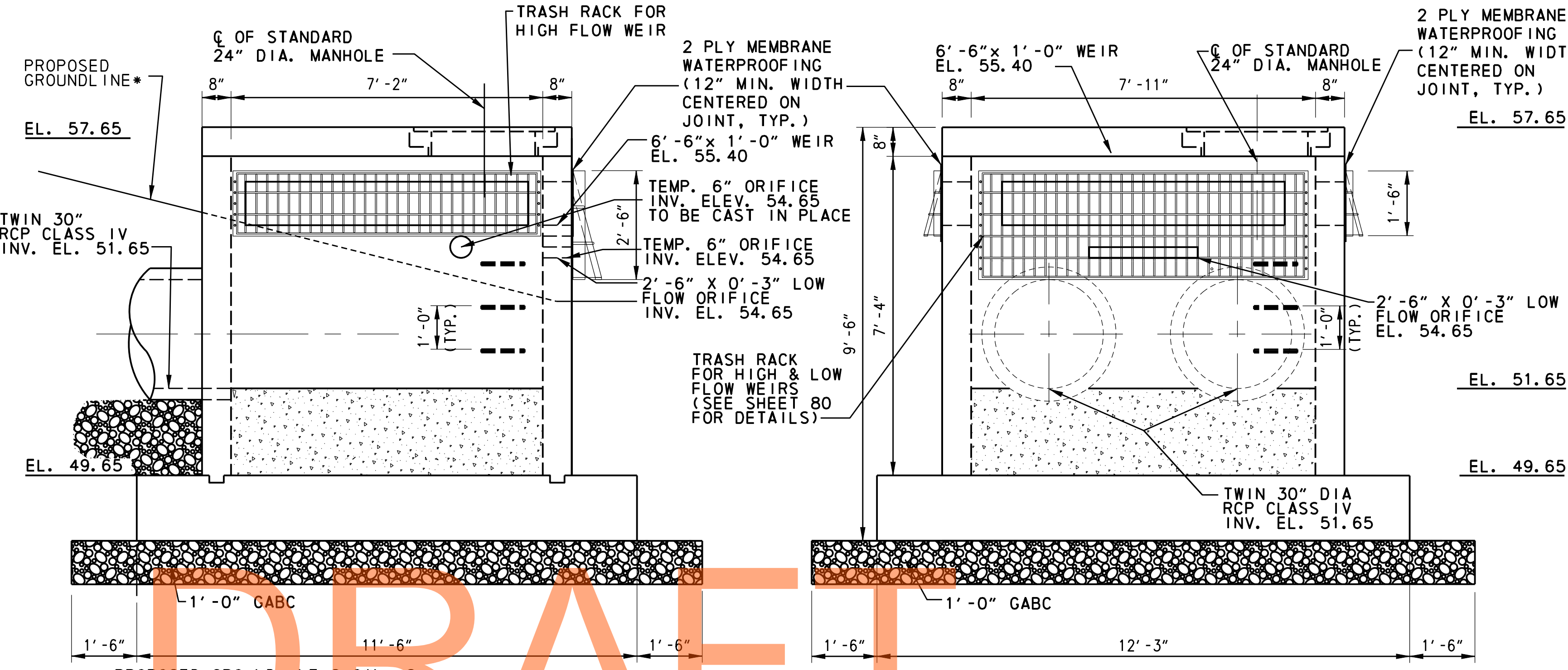
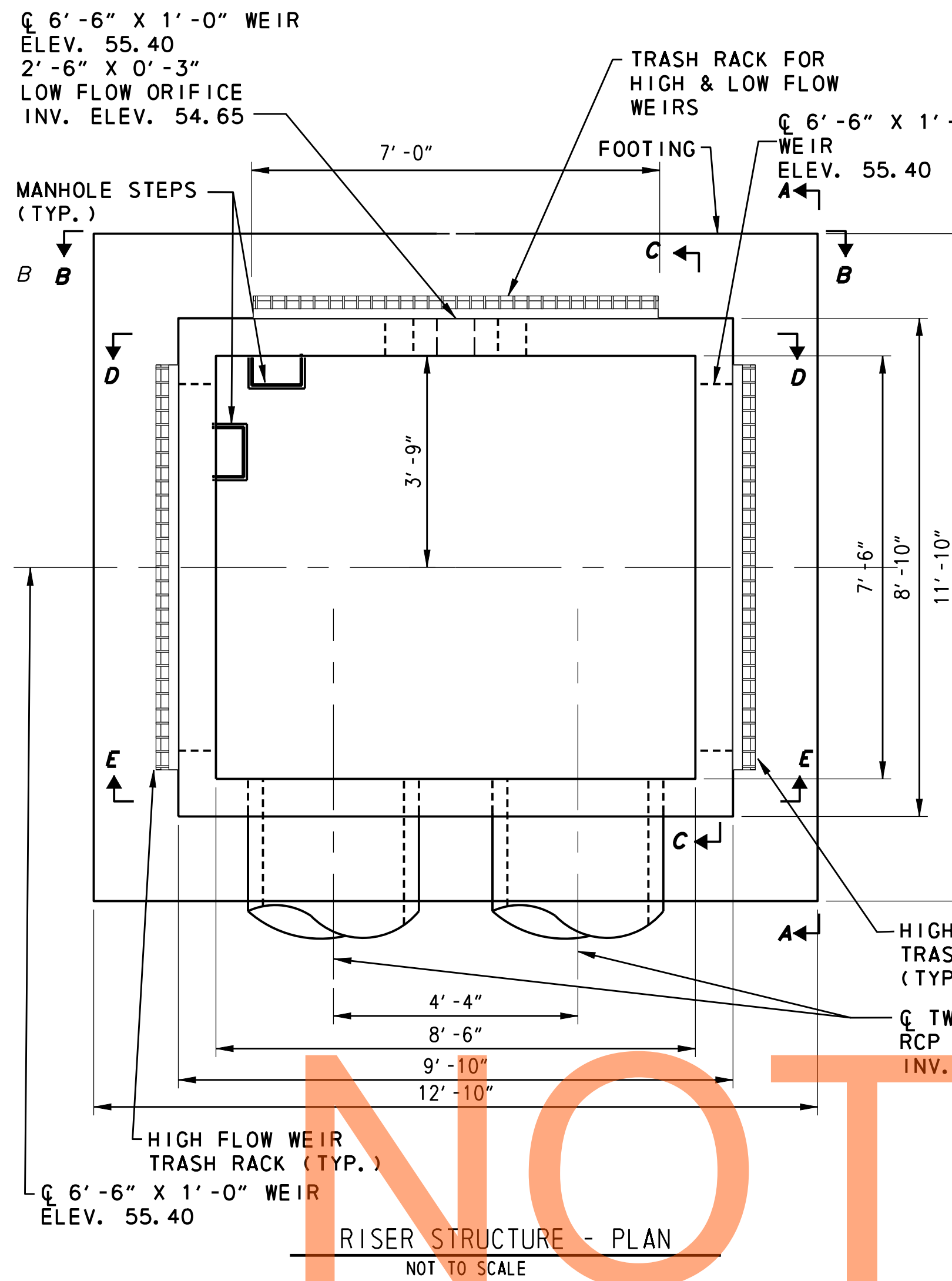
US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

DETAILS FOR SWM
POND
BMP NO. 616

SHEET NO. 418
TOTAL SHTS. 850

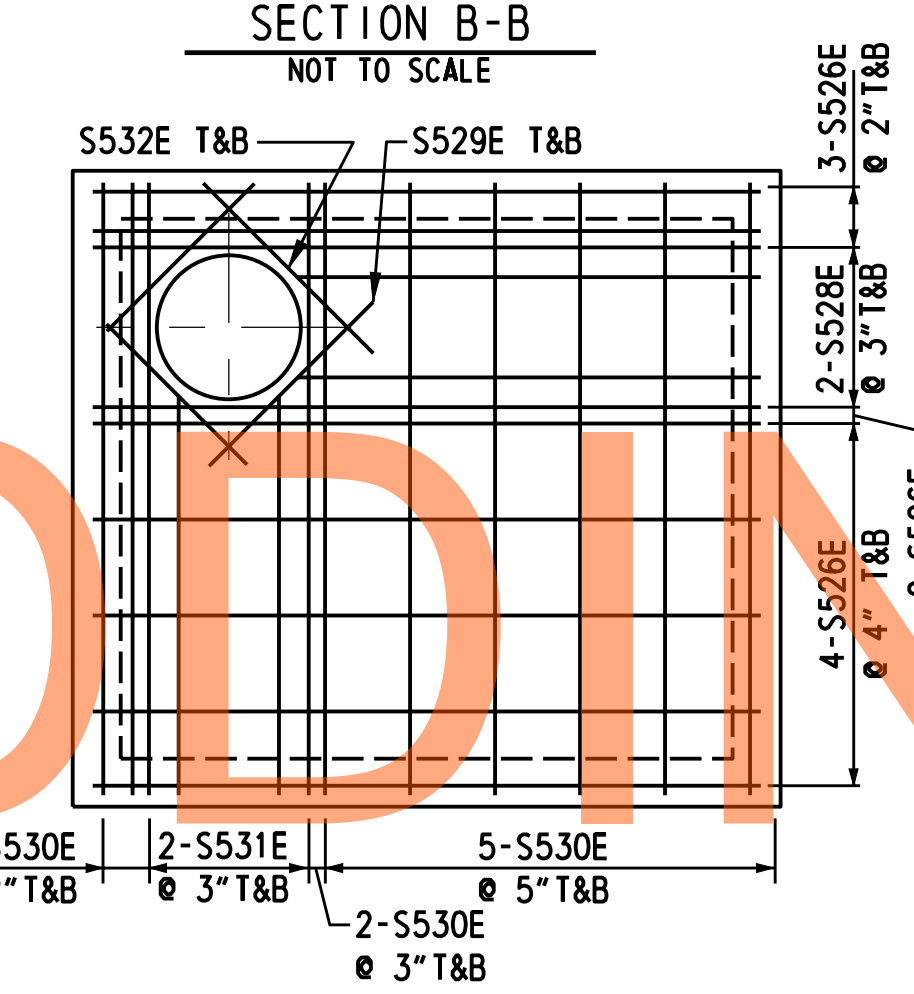
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MARK	BAR SIZE	SHAPE	REBAR TYPE
D503E	3	C	A
D504F	3	D	B
E517E	3	A	C
F501E	4	A	D
F502E	4	A	E
S526E	3	A	A
S528E	3	A	B
S529E	3	B	C
S530E	3	A	D
S531E	3	A	E
S532E	3	A	A
W505E	3	A	B
W506E	3	A	C
W507E	3	A	D
W508E	3	A	E
W509E	3	B	A
W510E	3	C	B
W511E	3	B	C
W512E	3	A	D
W513E	3	B	E
W514E	3	A	A
W515E	3	B	B
W516E	3	A	C
W518E	3	A	D
W519E	3	A	E
W520E	3	A	A
W512E	3	A	B
W522E	3	A	C
W523E	3	C	D
W524E	3	D	E
W525E	3	A	A
W526E	3	E	B

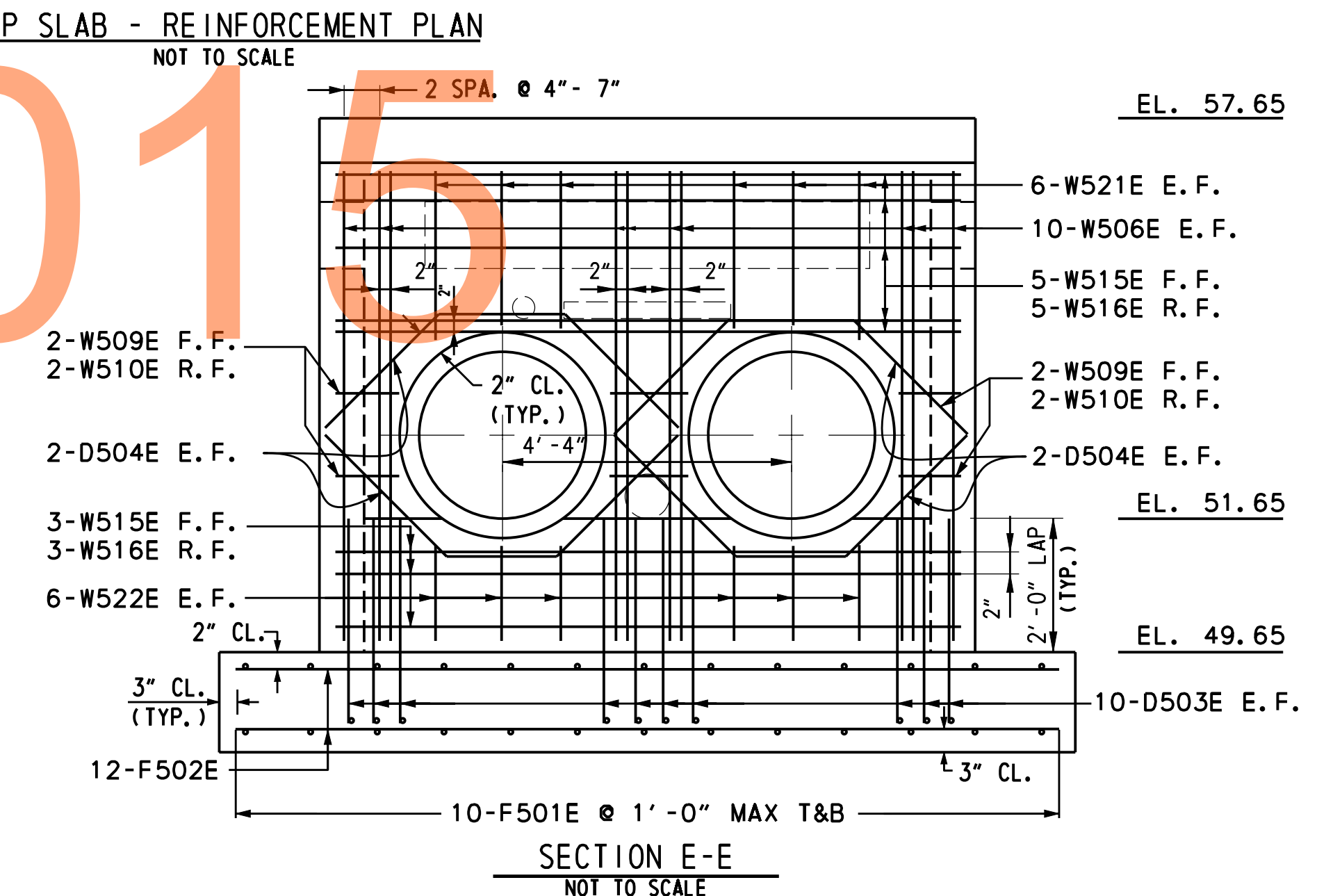
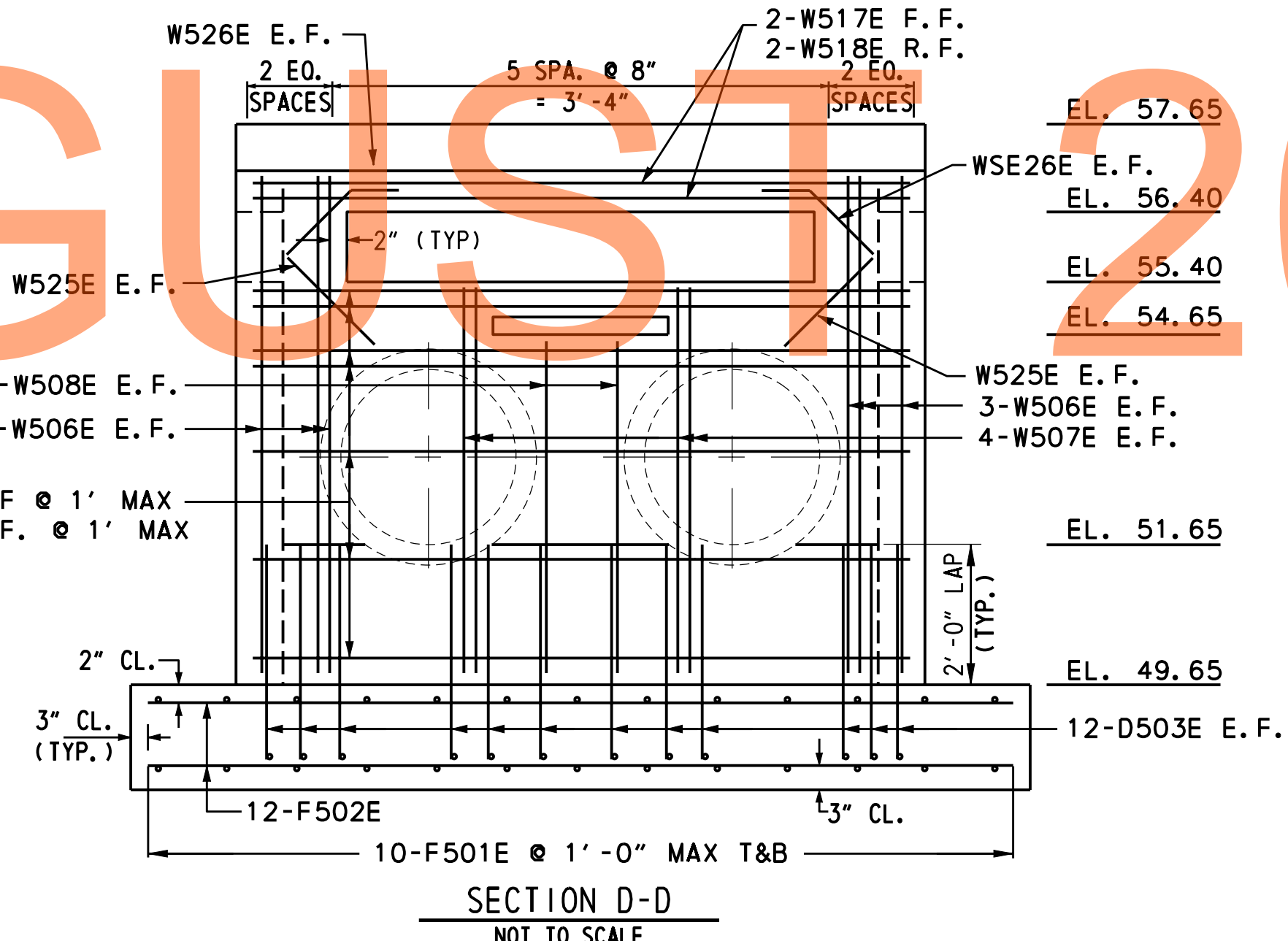
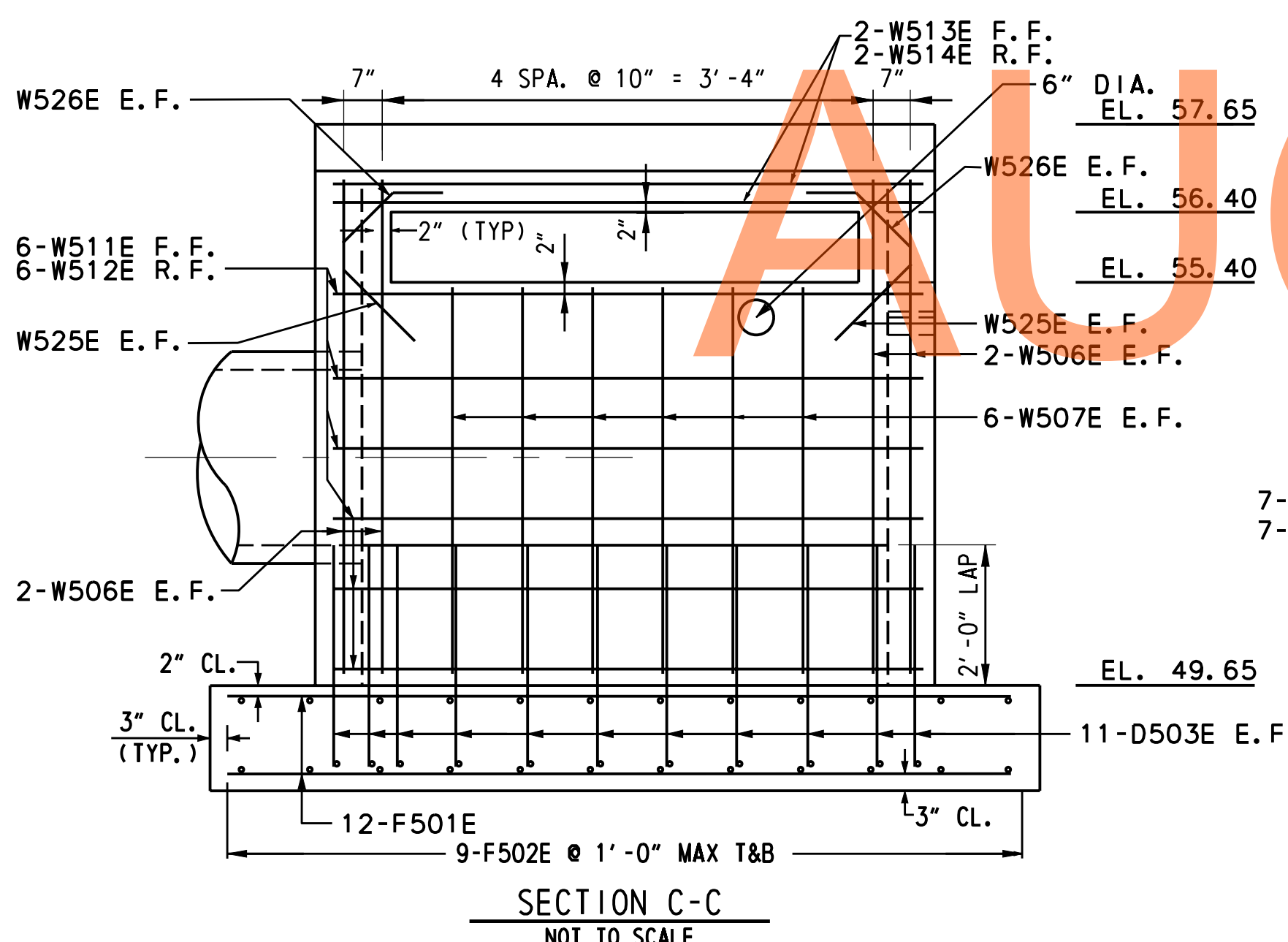
*PROPOSED GROUNDLINE SHOWN IS BEYOND PRINCIPAL SPILLWAY PROVIDED MIN. 1' OF COVER OVER PRINCIPAL SPILLWAY PIPE.

1. SEE DELDOT STANDARD CONSTRUCTION DETAILS D-6(2001)-3 FOR MANHOLE FRAME AND COVER DETAILS.
2. SEE GENERAL POND DETAILS SHEET FOR MANHOLE STEP DETAILS.
3. TOP SLAB, TRASH RACKS, AND MANHOLE STEPS NOT SHOWN IN SECTION FOR CLARITY.
4. E. F. = EACH FACE
F. F. = FRONT FACE
R. F. = REAR FACE
T&B = TOP AND BOTTOM



SKIMMER DEWATERING NOTES:

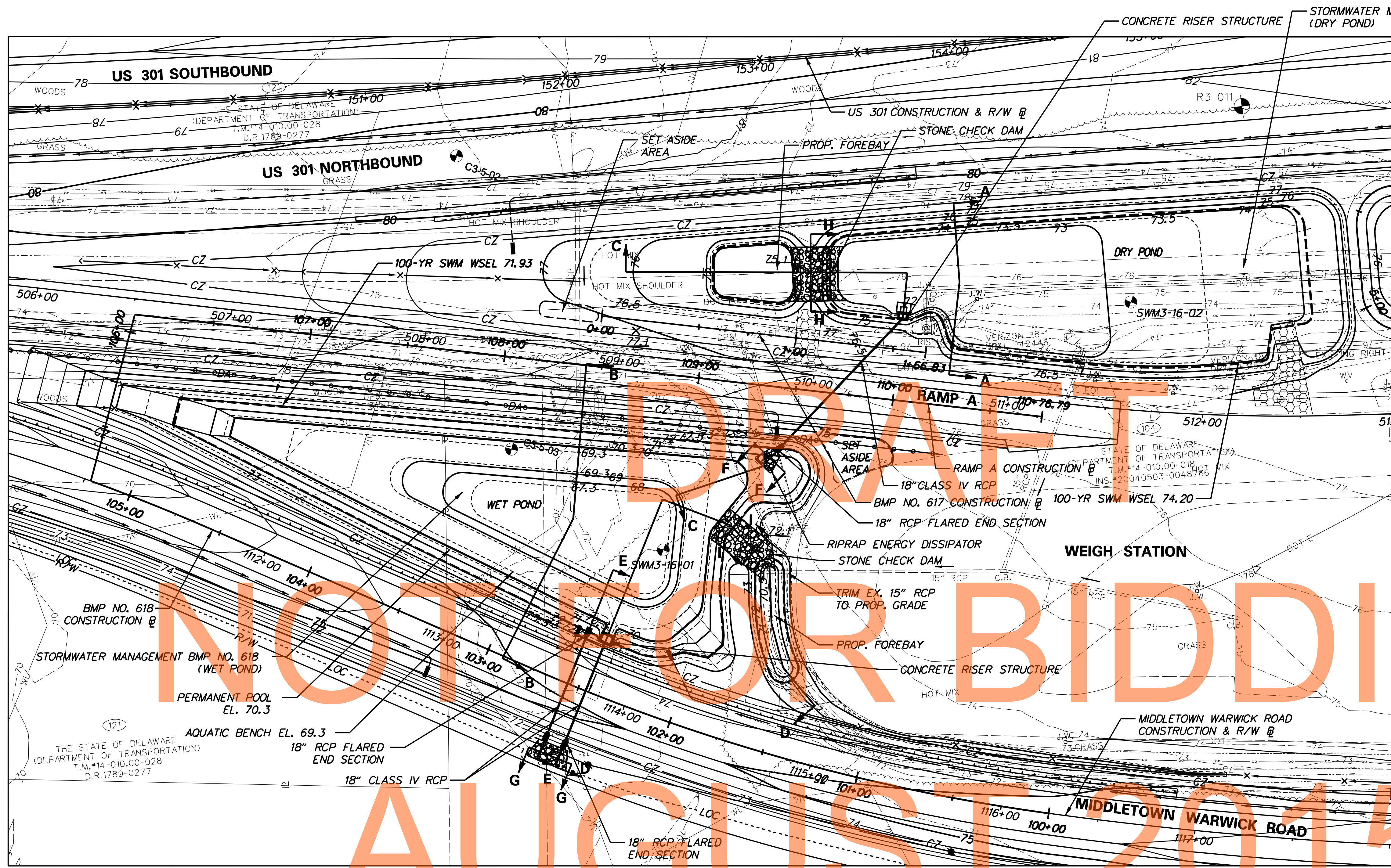
1. WHILE BMP IS FUNCTIONING AS A SEDIMENT BASIN, PERMANENT OPENINGS OF RISER STRUCTURE EXCEPT TEMPORARY ORIFICE SHALL BE BLOCKED TO THE ELEVATION SHOWN ON THE TEMPORARY SEDIMENT BASIN DETAILS. COST INCIDENTAL TO ITEM 275000- SKIMMER DEWATERING DEVICE.
2. FLEXIBLE DRAIN PIPE OF SKIMMER DEWATERING DEVICE TO ATTACH TO TEMPORARY ORIFICE THROUGH FLANGE WITH RUBBER GASKET AND BE MADE WATERTIGHT AROUND PERIMETER OF FLEXIBLE PIPE. DEVICE TO ATTACH TO STRUCTURE WITH CONCRETE SCREWS OR OTHER SUITABLE ATTACHMENT AS APPROVED BY THE ENGINEER. FOLLOWING POND CONVERSION, SKIMMER DEWATERING DEVICE AND ALL TEMPORARY MATERIALS USED TO BLOCK OPENINGS SHALL BE REMOVED. TEMPORARY ORIFICE FOR SKIMMER SHALL BE GROUDED FLUSH. COST OF SKIMMER ATTACHMENT AND REMOVAL SHALL BE INCIDENTAL TO ITEM 275000- SKIMMER DEWATERING DEVICE.



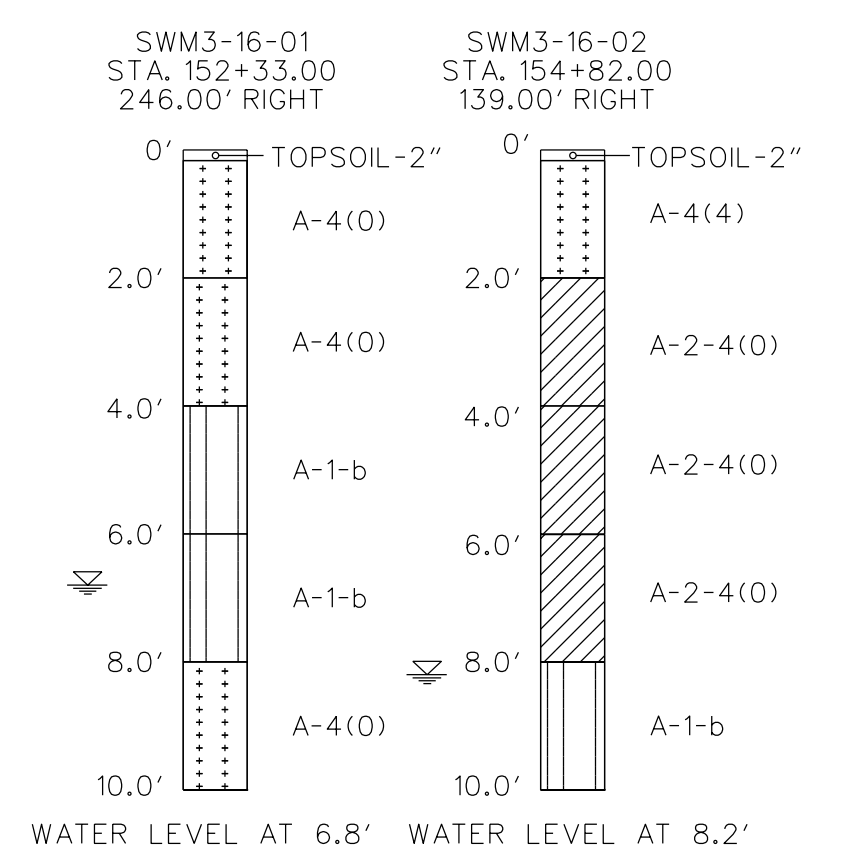
DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 616 - (STA. 246+00 S)

SW-82

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LEGEND	
EXISTING CONTOUR	--- 68 ---
PROPOSED CONTOUR	--- 65 ---
POND MAINTENANCE ACCESS	



**PLAN - STORMWATER MANAGEMENT POND - BMP NO. 617 - (STA. 156+00 N) AND
STORMWATER MANAGEMENT POND - BMP NO. 618 - (WEIGH STATION SOUTH)
(US 301 STA. 150+04 TO STA. 156+01)
TYPES: DRY POND AND WET POND**

NOTE: SEE SHEETS SW-84 TO SW-90 FOR STORMWATER MANAGEMENT POND BMP NO. 617 & 618 DETAILS.

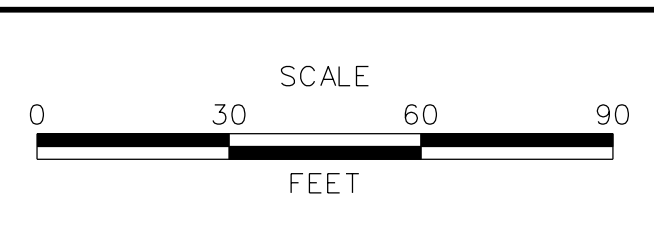
FACILITY DESIGN SUMMARY FOR STORMWATER MANAGEMENT BMP NO. 617 & 618				
DESIGN STORM	FACILITY INFLOW (CFS)	FACILITY DISCHARGE (CFS)	WATER SURFACE ELEVATION (FT.)	STORAGE VOLUME (AC. FT.)
1-YEAR	1.17/4.33	0.17/0.46	72.73/70.83	0.024/0.205
10-YEAR	4.33/10.08	0.25/2.57	73.40/71.32	0.136/0.420
100-YEAR	10.20/18.99	0.32/7.17	74.20/71.93	0.394/0.713

HAZARD CLASSIFICATION: CLASS 'A' AS PER POND CODE 378
 PERMANENT POOL VOLUME: 618 - 0.560 AC. FT.
 DRAINAGE AREA TO FACILITY: 617 - 1.746 ACRES, 618 - 3.148 ACRES
 MANAGEMENT PROVIDED BY FACILITY: WATER QUALITY BY EXTENDED DETENTION FOR 1-YEAR STORM (618 ONLY) AND WATER QUANTITY FOR 10 AND 100-YEAR STORMS.

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ADDENDUMS / REVISIONS



**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

**STORMWATER
MANAGEMENT PLAN**

SW-83

SHEET NO. 420
TOTAL SHTS. 850

BMP 617

POND CONSTRUCTION SEQUENCE AND NOTES

- PRIOR TO DISTURBANCE OF THE SITE UPSTREAM OF THE BASIN, INSTALL FENCE AROUND THE BASIN AREA TO PREVENT CONSTRUCTION EQUIPMENT AND STOCKPILED MATERIALS FROM ENTERING THE BASIN AREA AND COMPACTING THE SUBGRADE SOILS.
 - CONSTRUCT BASIN AFTER ALL AREAS DRAINING TO THE BASIN HAVE BEEN PERMANENTLY STABILIZED AND THE ENGINEER HAS APPROVED THE CONSTRUCTION. IF BASIN CONSTRUCTION CANNOT BE DELAYED UNTIL ITS DRAINAGE AREA IS STABILIZED, DIVERSION BERMS OR OTHER SUITABLE MEASURES SHOULD BE PLACED AROUND THE BASINS PERIMETER DURING ALL PHASES OF CONSTRUCTION TO DIVERT ALL RUNOFF AND SEDIMENT AWAY FROM THE BASIN. THESE DIVERSION MEASURES SHOULD NOT BE REMOVED UNTIL ALL CONSTRUCTION WITHIN THE BASIN'S DRAINAGE AREA IS COMPLETED AND THE DRAINAGE AREA STABILIZED.
 - CONSTRUCT THE BASIN WITHOUT COMPACTING THE BASIN'S SUBGRADE SOILS. EXCAVATION SHALL BE PERFORMED BY CONSTRUCTION EQUIPMENT PLACED OUTSIDE THE BASIN, WHERE POSSIBLE. ALL EXCAVATION SHALL BE PERFORMED WITH THE LIGHTEST PRACTICAL EXCAVATION EQUIPMENT.
 - CONSTRUCT POND OUTLET STRUCTURE, RIPRAP ENERGY DISSIPATOR AT THE END OF PRINCIPAL SPILLWAY AND PARTIAL EMBANKMENT AS NEEDED TO INSTALL POND OUTLET STRUCTURE. DE-WATER FOUNDATION AS NEEDED IN ACCORDANCE WITH SECTION 111 AND USE SUMP PIT FOR PUMPING.
 - EXCAVATE THE POND AND COMPLETE THE EMBANKMENT, GRADES AND DETAILS SHOWN IN THE CONSTRUCTION PLANS.
 - DURING EXCAVATION, THE CONTRACTOR SHALL SALVAGE AND STOCKPILE SOILS CLASSIFIED AS CH, CL, CH AND GM PER THE UNIFIED SOIL CLASSIFICATION SYSTEM TO BE USED TO CONSTRUCT EMBANKMENT. THE ABOVE CLASSIFIED SOILS MAY BE OBTAINED FROM ELSEWHERE WITHIN THE PROJECT LIMITS, IF NECESSARY.
 - DURING EXCAVATION, THE CONTRACTOR SHALL SALVAGE AND STOCKPILE SOILS CLASSIFIED AS SW AND SP PER THE UNIFIED SOIL CLASSIFICATION SYSTEM TO BE USED TO FILL THE BASIN BOTTOM WHERE OVEREXCAVATED FOR REMOVAL OF UNSUITABLE SOIL. THE ABOVE CLASSIFIED SOILS MAY BE OBTAINED FROM ELSEWHERE WITHIN THE PROJECT LIMITS, IF NECESSARY.
 - STABILIZE BASIN EMBANKMENT AND BOTTOM WITH PERMANENT SEEDING.
 - REMOVE EROSION AND SEDIMENT CONTROLS, WATER DIVERSION PRACTICES AND FENCE UPON FINAL STABILIZATION AND APPROVAL FROM INSPECTOR.
- NOTE: SEE CONSTRUCTION SEQUENCE PLANS FOR LOCATION OF EROSION AND SEDIMENT CONTROL MEASURES.

AS-BUILT DRAWINGS OF STORMWATER MANAGEMENT FACILITIES

THE CONTRACTOR SHALL PROVIDE 'AS-BUILT' DRAWINGS OF ALL STORMWATER MANAGEMENT FACILITIES, SUCH AS PONDS, INFILTRATION BASINS, BIOFILTRATION SWALES, ETC. 'AS-BUILT' DRAWINGS SHALL SHOW THE ACTUAL FINISH GROUND CONTOURS, OUTLET STRUCTURES DIMENSIONS AND ELEVATIONS, ETC. AS THEY EXIST AT THE COMPLETION OF THE PROJECT. THESE DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER OR LAND SURVEYOR.

BMP 618

POND CONSTRUCTION SEQUENCE AND NOTES

THE STORMWATER MANAGEMENT POND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE STANDARD SPECIFICATIONS:

- SECTION 910 STORMWATER MANAGEMENT FACILITIES
 - STORMWATER MANAGEMENT POND
 - POND OUTLET STRUCTURE, CONCRETE
 - CLAY BORROW

- INSTALL STABILIZED CONSTRUCTION ENTRANCE.
- CLEAR AND GRUB FOR INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS SHEETS.
- INSTALL PERIMETER SEDIMENT CONTROLS AS SHOWN ON EROSION AND & SEDIMENT CONTROL SHEETS.
- CLEAR AND GRUB REMAINING AREA FOR POND CONSTRUCTION.
- CONSTRUCT POND OUTLET STRUCTURE, RIPRAP ENERGY DISSIPATOR AT END OF PRINCIPAL SPILLWAY AND PARTIAL EMBANKMENT AS NEEDED TO INSTALL POND OUTLET STRUCTURE. INSTALL SKIMMER DEWATERING DEVICE. DE-WATER FOUNDATION AS NEEDED IN ACCORDANCE WITH SECTION 111 AND USE SUMP PIT FOR PUMPING. (SEE E&S DETAILS FOR SKIMMER DEWATERING DEVICE INSTALLATION).
- EXCAVATE THE POND AND COMPLETE THE EMBANKMENT TO LINES, GRADES AND DETAILS SHOWN IN THE CONSTRUCTION PLANS. DURING EXCAVATION, THE CONTRACTOR SHALL SALVAGE AND STOCKPILE SOILS TO BE USED TO CONSTRUCT EMBANKMENT. THE SOILS REQUIRED FOR THE EMBANKMENT MAY BE OBTAINED FROM ELSEWHERE WITHIN THE PROJECT LIMITS. EXCAVATE POND BOTTOM TO ELEVATION 66.30 DURING CONSTRUCTION.
- REMOVE ACCUMULATED SEDIMENT TO ELEVATION 67.30 AND DISPOSE SEDIMENT AT A LOCATION APPROVED BY THE ENGINEER.
- STABILIZE ALL BARE AREAS.

NOTE: SEE CONSTRUCTION SEQUENCE PLANS FOR LOCATION OF EROSION AND SEDIMENT CONTROL MEASURES.

ITEM 712005, RIPRAP, R-4	
STATION/OFFSET	AREA
STA. 153+04, 124.2' RT. TO STA. 153+38, 98.8' RT.	76 SY
STA. 152+63, 233.4' RT. TO STA. 152+87, 258.9' RT.	67 SY

ITEM 712006, RIPRAP, R-5	
STATION/OFFSET	AREA
STA. 152+84, 202.8' RT. TO STA. 152+97, 202.6' RT.	10 SY
STA. 151+57, 345.0' RT. TO STA. 151+76, 345.0' RT.	21 SY

ITEM 713003, GEOTEXTILES, RIPRAP	
STATION/OFFSET	AREA
STA. 153+04, 124.2' RT. TO STA. 153+38, 98.8' RT.	89 SY
STA. 152+63, 233.4' RT. TO STA. 152+87, 258.9' RT.	79 SY
STA. 152+84, 202.8' RT. TO STA. 152+97, 202.6' RT.	15 SY
STA. 151+57, 345.0' RT. TO STA. 151+76, 345.0' RT.	28 SY

ITEM 302011, DELAWARE NO. 3 STONE	
STATION/OFFSET	WEIGHT
STA 155+41, 197.3' RT. TO STA 155+70, 203.7' RT.	21 TON
STA 152+97, 155.1' RT. TO STA 153+28, 161.2' RT.	11 TON

ITEM 713002, GEOTEXTILES, SEPARATION	
STATION/OFFSET	AREA
STA 155+41, 197.3' RT. TO STA 155+70, 203.7' RT.	103 SY
STA 152+97, 155.1' RT. TO STA 153+28, 161.2' RT.	57 SY

ITEM 272501, POND OUTLET STRUCTURE, SPECIAL	
ITEM	QUANTITY
CONCRETE RISER STRUCTURE	2 EA
18" CLASS IV RCP	192 LF
18" RCP FLARED END SECTION	4 EA
ANTI-SEEP COLLARS	1 EA
CONCRETE CRADLES	26 CY
DELAWARE NO. 57 STONE	14 TON

NOT FOR BIDDING
AUGUST 2015

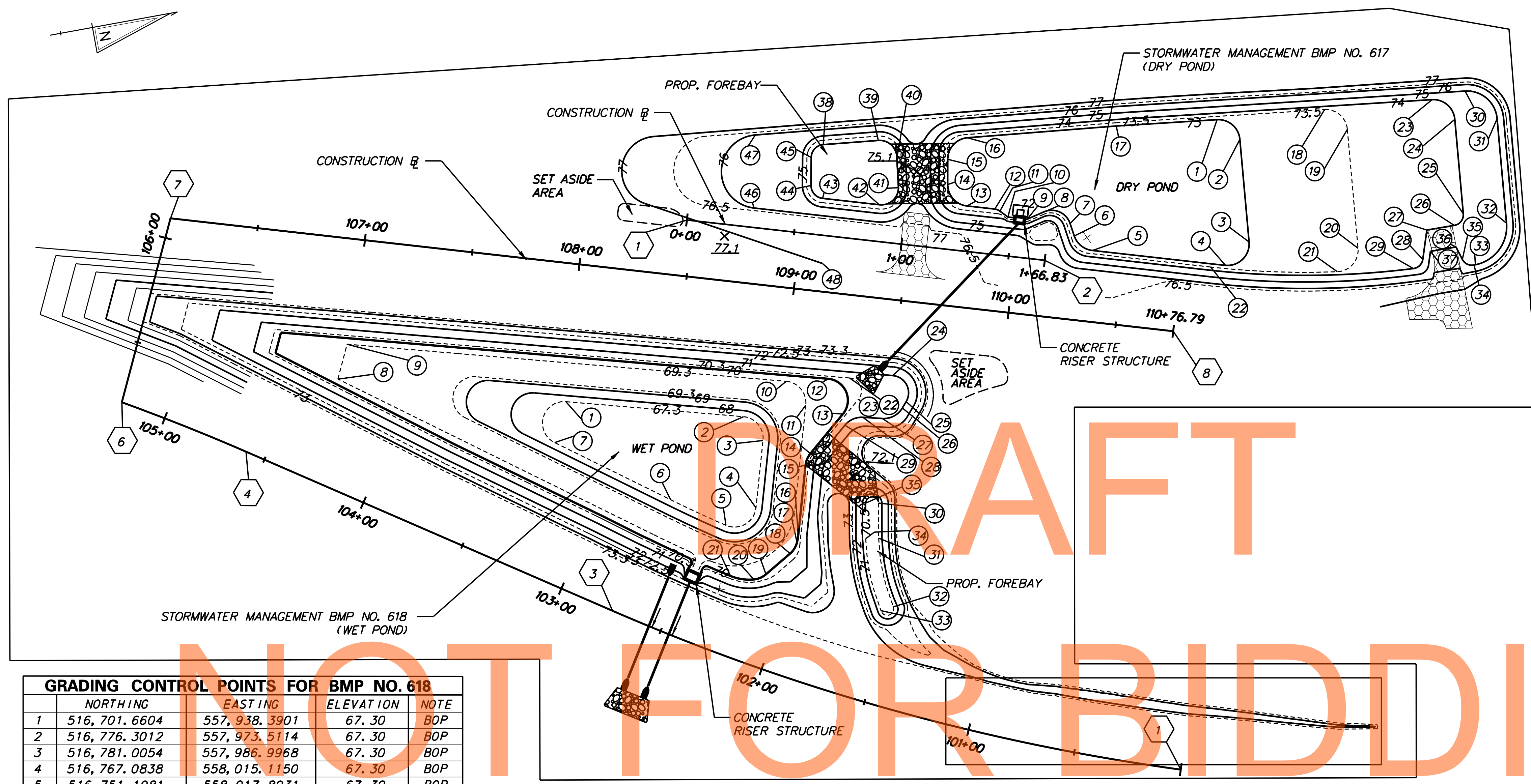
NOTES - STORMWATER MANAGEMENT POND - BMP NO. 617 - (STA. 156+00 N) AND STORMWATER MANAGEMENT POND - BMP NO. 618 - (WEIGH STATION SOUTH)

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 DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT	BRIDGE NO.	STORMWATER MANAGEMENT PLAN	SHEET NO.
			T200811301	DESIGNED BY: DSM/ACF		421
			COUNTY	CHECKED BY: JZS	TOTAL SHTS.	850
			NEW CASTLE			

SW-84

LEGEND	
PROPOSED CONTOUR	— 65 —
POND MAINTENANCE ACCESS	
BASILINE OF CONSTRUCTION CONTROL COORDINATES	⑧
GRADING CONTROL POINTS	⑧
BOTTOM OF POND	BOP
BOTTOM OF FOREBAY	BOF



GRADING CONTROL POINTS FOR BMP NO. 617

	NORTHING	EASTING	ELEVATION	NOTE
1	517,029.8790	557,920.8271	73.00	BOP
2	517,036.6442	557,933.0300	73.00	BOP
3	517,024.0953	557,979.1100	73.00	BOP
4	517,010.0947	557,985.4856	73.00	BOP
5	516,954.6339	557,957.5445	73.00	BOP
6	516,949.1465	557,948.3037	73.00	BOP
7	516,949.3366	557,942.2616	73.00	BOP
8	516,939.8375	557,932.9927	73.00	BOP
9	516,931.3584	557,933.4678	73.00	BOP
10	516,923.3896	557,929.4437	73.00	BOP
11	516,920.8374	557,925.5445	73.00	BOP
12	516,918.9077	557,923.8196	73.00	BOP
13	516,907.3439	557,917.9801	73.00	BOP
14	516,902.4821	557,905.5589	73.00	BOP
15	516,906.5700	557,894.5994	73.00	BOP
16	516,918.6717	557,888.4746	73.00	BOP
17	516,985.1025	557,907.3426	73.00	BOP
18	517,078.1667	557,933.8013	73.50	BOP
19	517,084.9319	557,946.0042	73.50	BOP
20	517,070.3898	557,999.4031	73.50	BOP
21	517,057.6262	558,006.2779	73.50	BOP
22	517,003.3781	557,983.8398	73.50	BOP
23	517,126.4544	557,946.7754	74.00	BOP
24	517,133.2196	557,958.9783	74.00	BOP
25	517,121.6604	558,001.4238	74.00	BOP
26	517,115.9028	558,005.0221	74.00	BOP
27	517,103.2148	558,002.6113	74.00	BOP
28	517,096.7413	558,014.6762	74.00	BOP
29	517,091.2135	558,017.1847	74.00	BOP
30	517,142.2384	557,948.3953	75.00	BOP
31	517,151.7097	557,965.4794	75.00	BOP
32	517,138.9102	558,012.4793	75.00	BOP
33	517,118.6822	558,025.5208	75.00	BOP
34	517,118.0593	558,025.4206	75.00	BOP
35	517,113.8880	558,021.0674	75.00	BOP
36	517,113.1372	558,014.6755	75.00	BOP
37	517,101.3482	558,012.4355	75.00	BOP
38	516,854.8535	557,868.1939	74.00	BOF
39	516,879.4450	557,875.2542	74.00	BOF
40	516,884.7329	557,885.7394	74.00	BOF
41	516,880.5231	557,899.2076	74.00	BOF
42	516,869.4920	557,903.3467	74.00	BOF
43	516,845.8903	557,891.4283	74.00	BOF
44	516,842.9863	557,883.9410	74.00	BOF
45	516,847.5892	557,871.8295	74.00	BOF
46	516,814.5735	557,884.5761	76.00	BOF
47	516,826.8812	557,853.0480	76.00	BOF
48	516,835.3830	557,919.7225	77.00	BOF

GRADING CONTROL POINTS FOR BMP NO. 618

	NORTHING	EASTING	ELEVATION	NOTE
1	516,701.6604	557,938.3901	67.30	BOP
2	516,776.3012	557,973.5114	67.30	BOP
3	516,781.0054	557,986.9968	67.30	BOP
4	516,767.0838	558,015.1150	67.30	BOP
5	516,751.1981	558,017.8931	67.30	BOP
6	516,731.3313	557,997.8785	67.30	BOP
7	516,690.1365	557,954.3087	67.30	BOP
8	516,606.2762	557,891.8136	69.30	BOP
9	516,615.9086	557,878.1476	69.30	BOP
10	516,800.5798	557,965.0422	69.30	BOP
11	516,805.2839	557,978.5277	69.30	BOP
12	516,819.2079	557,970.7130	70.00	BOP
13	516,819.9822	557,988.4031	70.00	BOP
14	516,799.4468	558,000.3604	70.00	BOP
15	516,795.5169	558,004.5651	70.00	BOP
16	516,780.9325	558,034.0220	70.00	BOP
17	516,779.3065	558,036.7953	70.00	BOP
18	516,774.5306	558,040.5195	70.00	BOP
19	516,760.6740	558,045.6509	70.00	BOP
20	516,754.6243	558,045.9355	70.00	BOP
21	516,745.0254	558,040.6502	70.00	BOP
22	516,828.6789	557,973.8432	70.30	BOP
23	516,829.1435	557,984.4573	70.30	BOP
24	516,847.8073	557,979.7494	71.00	BOP
25	516,849.4374	557,993.2039	71.00	BOP
26	516,846.7610	557,995.3724	71.00	BOP
27	516,836.4205	557,996.7478	71.00	BOP
28	516,828.1191	557,993.0758	71.00	BOP
29	516,819.0419	557,993.5793	71.00	BOP
30	516,821.1180	558,032.8281	70.50	BOF
31	516,815.4770	558,048.0714	70.50	BOF
32	516,810.7704	558,080.2629	70.50	BOF
33	516,804.7809	558,079.9470	70.50	BOF
34	516,809.7708	558,046.2030	70.50	BOF
35	516,815.4909	558,030.7457	70.50	BOF

PLAN - STORMWATER MANAGEMENT POND - BMP NO. 617 - (156+00 N) AND STORMWATER MANAGEMENT POND - BMP NO. 618 - (WEIGH STATION SOUTH)

BASILINE OF CONSTRUCTION CONTROL COORDINATES FOR BMP NO. 618

	STATION	NORTHING	EASTING
1	POB STA. 100+00.00	516,909.3273	558,197.3649
PI	STA. 101+37.95	516,787.6763	558,132.3180
3	PT STA. 102+74.17	516,688.1802	558,036.7639
4	PC STA. 104+59.27	516,554.6728	557,908.5463
PI	STA. 104+90.24	516,532.3365	557,887.0949
6	PT STA. 105+21.19	516,508.7156	557,867.0668
7	PI STA. 106+09.38	516,559.5196	557,794.9881
8	POE STA. 110+76.79	516,976.7511	558,005.6822

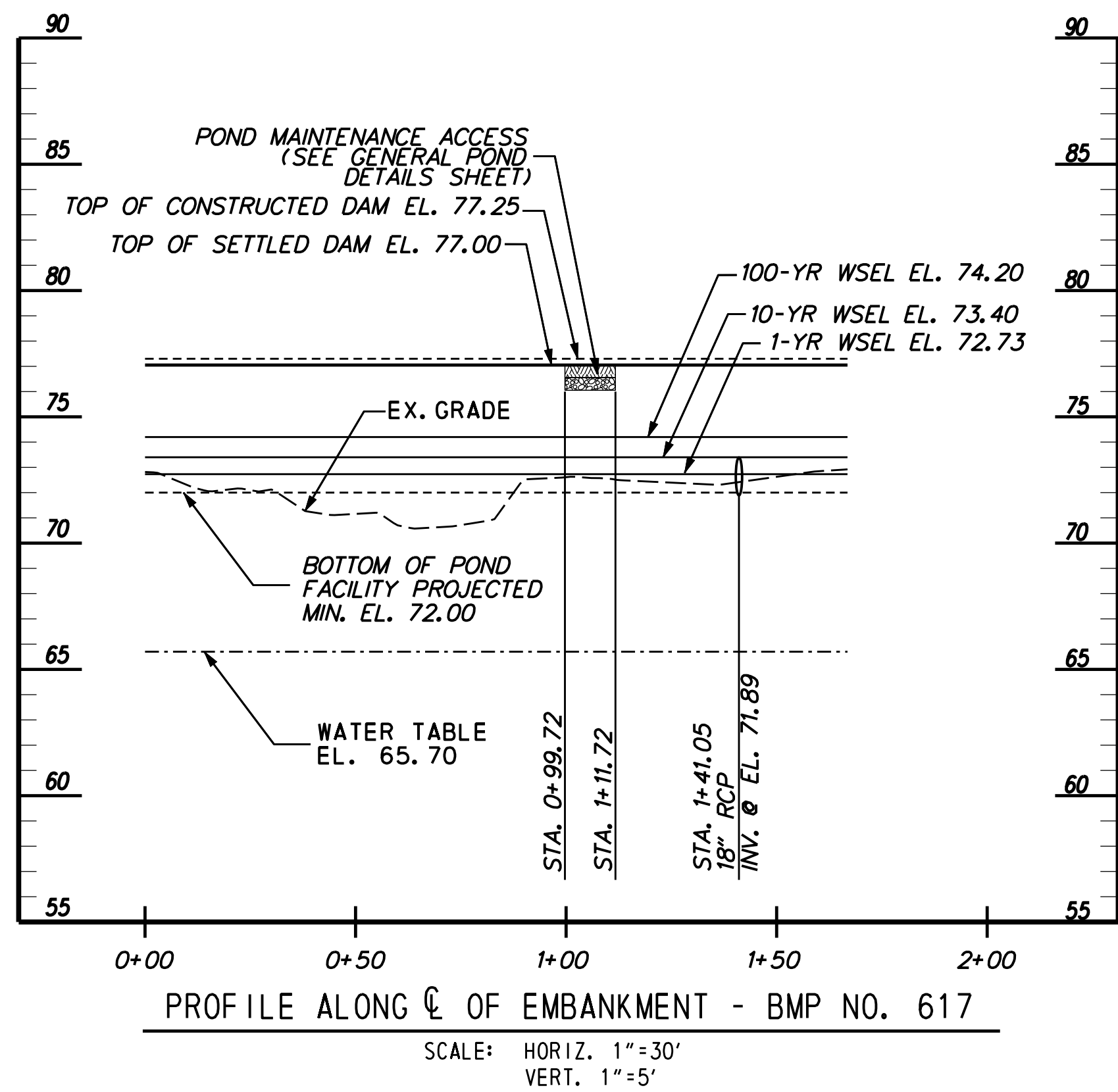
BASILINE OF CONSTRUCTION CONTROL COORDINATES FOR BMP NO. 617

	STATION	NORTHING	EASTING
1	POB STA. 0+00.00	516,783.4937	557,878.9638
2	POE STA. 1+66.83	516,932.4096	557,954.1635

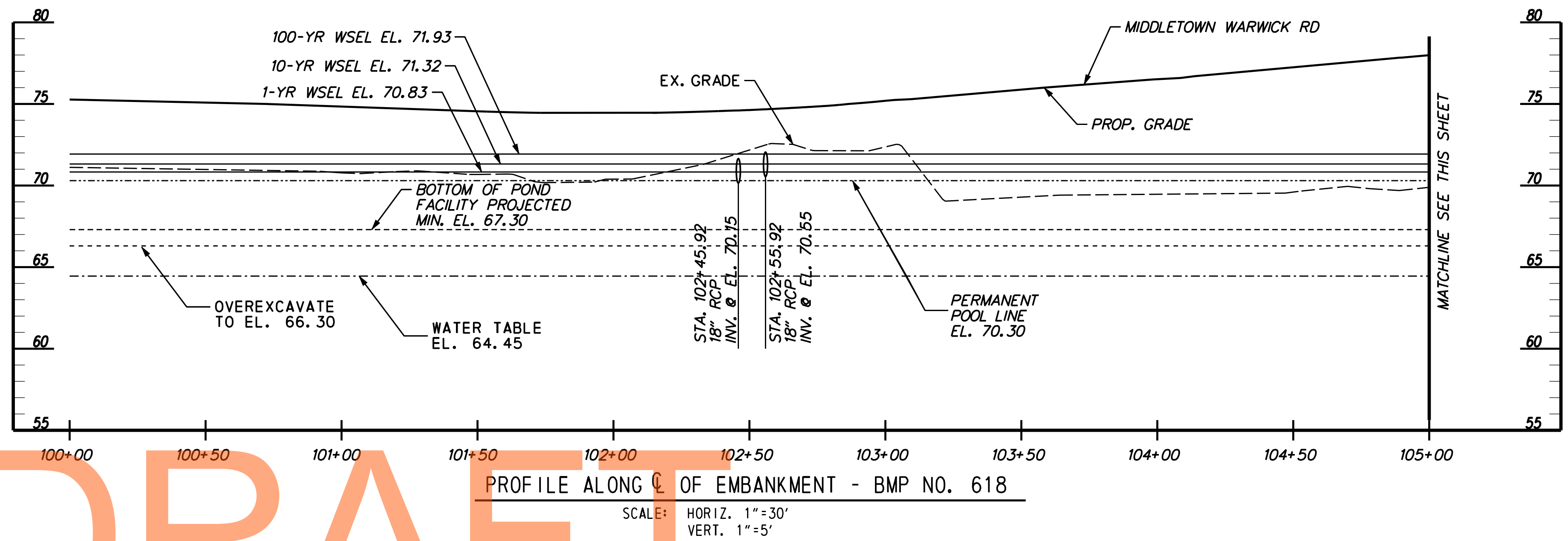
NOTES:

- THE SLOPED PORTION OF THE EMBANKMENT OF BMP NO.617 SHALL RECEIVE TOPSOILING, 6" DEPTH (ITEM 908010)
- BMP NO.618, BETWEEN ELEVATIONS 69.3 AND 73.3, INCLUDING THE BENCH AT ELEVATION 69.3 SHALL RECEIVE TOPSOILING, 6" DEPTH (ITEM 908010).
- THE ENTIRE AREA OF BMP NO.617 SHALL RECEIVE PERMANENT GRASS SEEDING - DRY GROUND (ITEM 908014).
- THE EMBANKMENT AREA OF BMP NO.618 ABOVE ELEVATION 71.3 SHALL RECEIVE PERMANENT GRASS SEEDING - DRY GROUND (ITEM 908014).
- BMP NO.618, BETWEEN ELEVATIONS 67.3 AND 71.3, NOT INCLUDING THE POND BOTTOM, SHALL RECEIVE PERMANENT GRASS SEEDING - WET GROUND (ITEM 908015).
- WET GROUND SEEDING AREA = 1,801 SY (BMP NO.618), DRY GROUND SEEDING AREA = 3,387 SY (BMP NO.617), 1,250 SY (BMP NO.618).

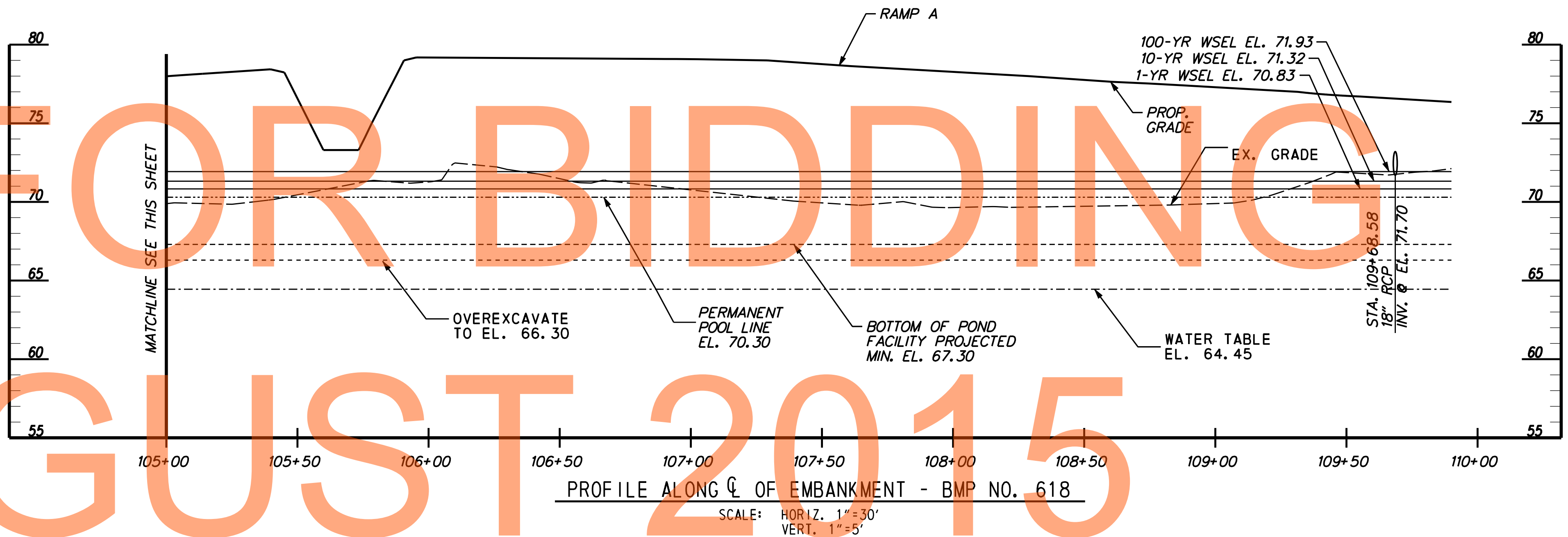
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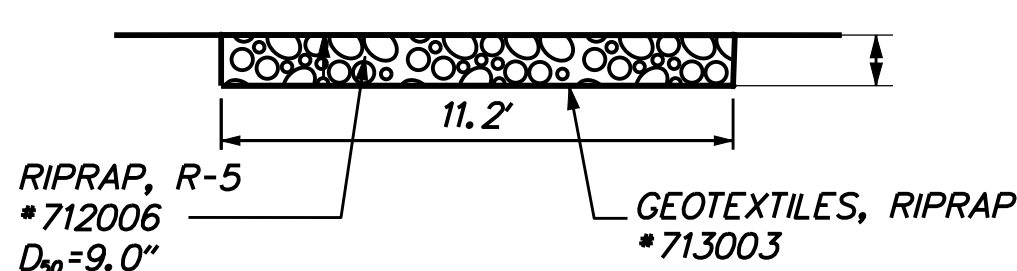
POND MAINTENANCE ACCESS	
6" TOPSOIL, PERM. SEEDING	
6" DELAWARE NO. 3 STONE	



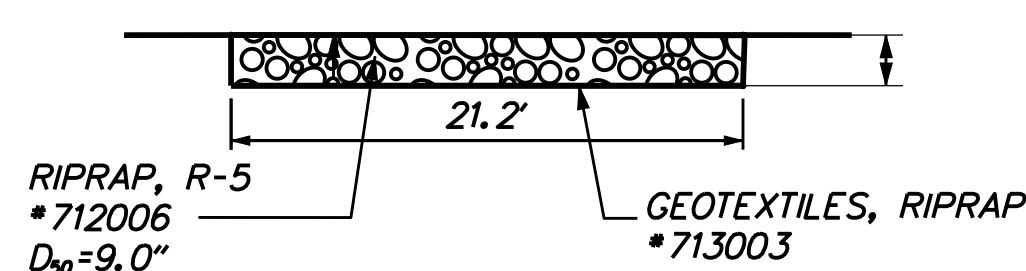
PROFILE ALONG \bar{C} OF EMBANKMENT - BMP NO. 618
 SCALE: HORIZ. 1"=30'
 VERT. 1"=5'



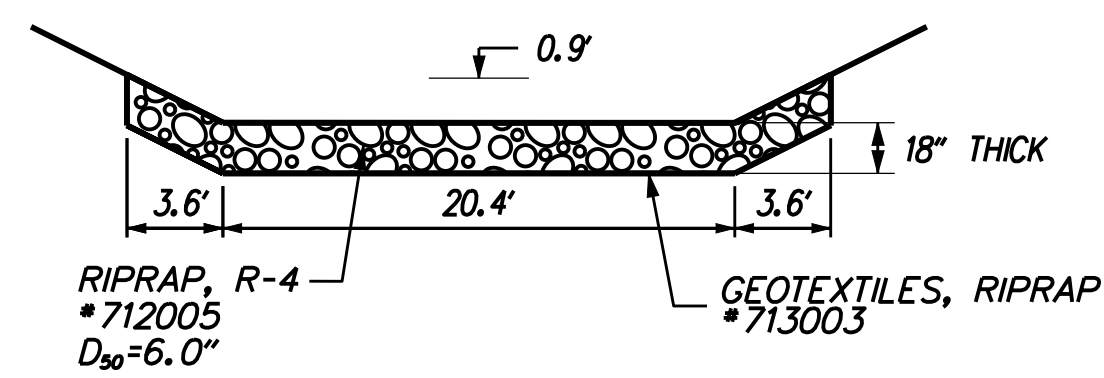
PROFILE ALONG \bar{C} OF EMBANKMENT - BMP NO. 618
 SCALE: HORIZ. 1"=30'
 VERT. 1"=5'



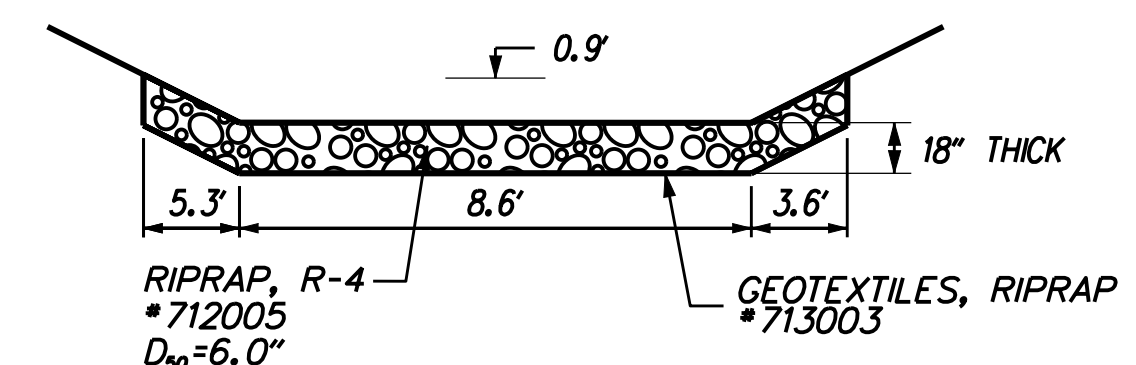
CROSS SECTION F-F - BMP NO. 618
 NOT TO SCALE



CROSS SECTION G-G - BMP NO. 618
 NOT TO SCALE



CROSS SECTION H-H - BMP NO. 618
 NOT TO SCALE



CROSS SECTION I-I - BMP NO. 618
 NOT TO SCALE

**DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 617 - (156+00 N)
 AND STORMWATER MANAGEMENT POND - BMP NO. 618 - (WEIGH STATION SOUTH)**

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ADDENDUMS / REVISIONS	

SCALE: AS SHOWN

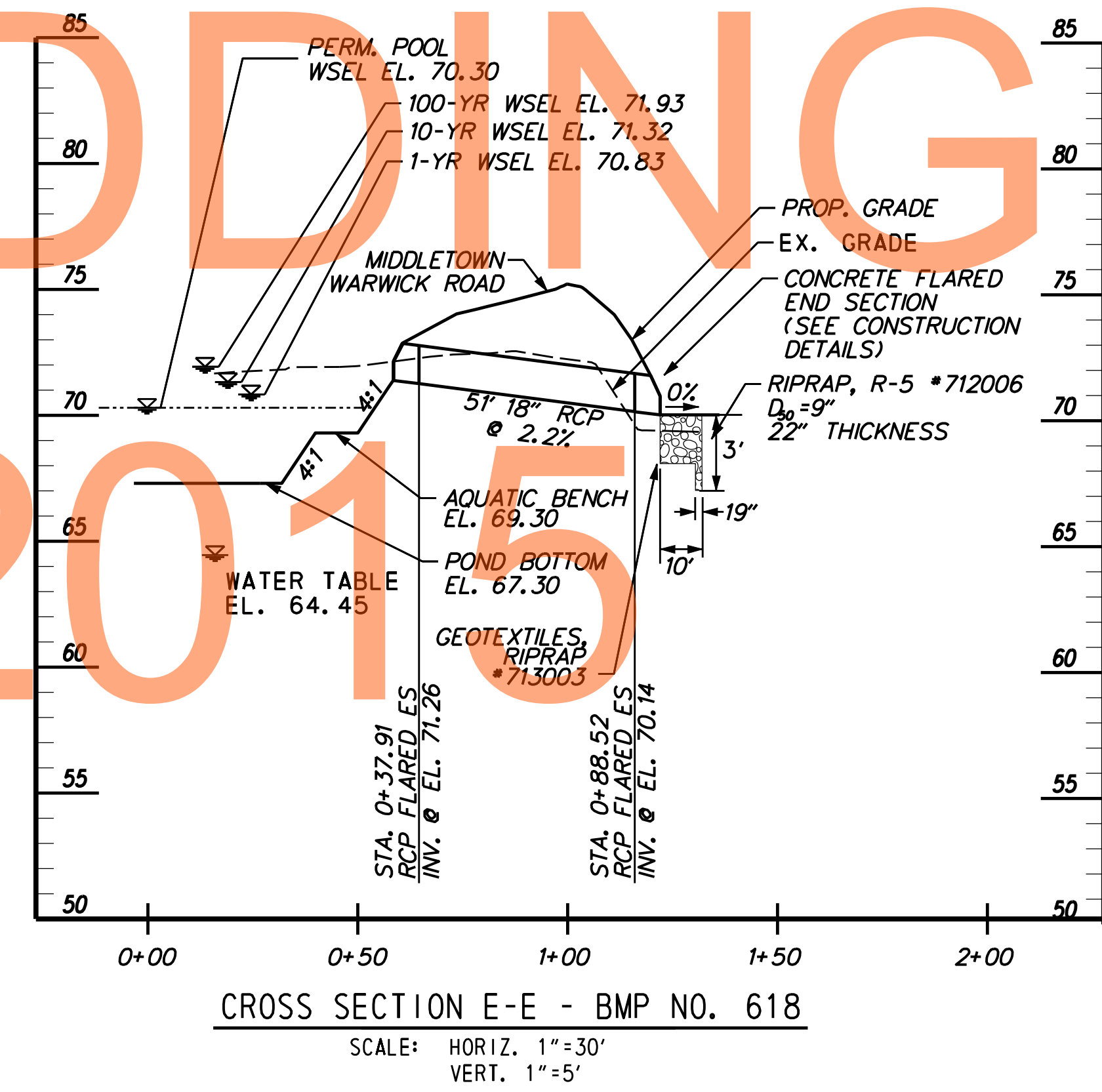
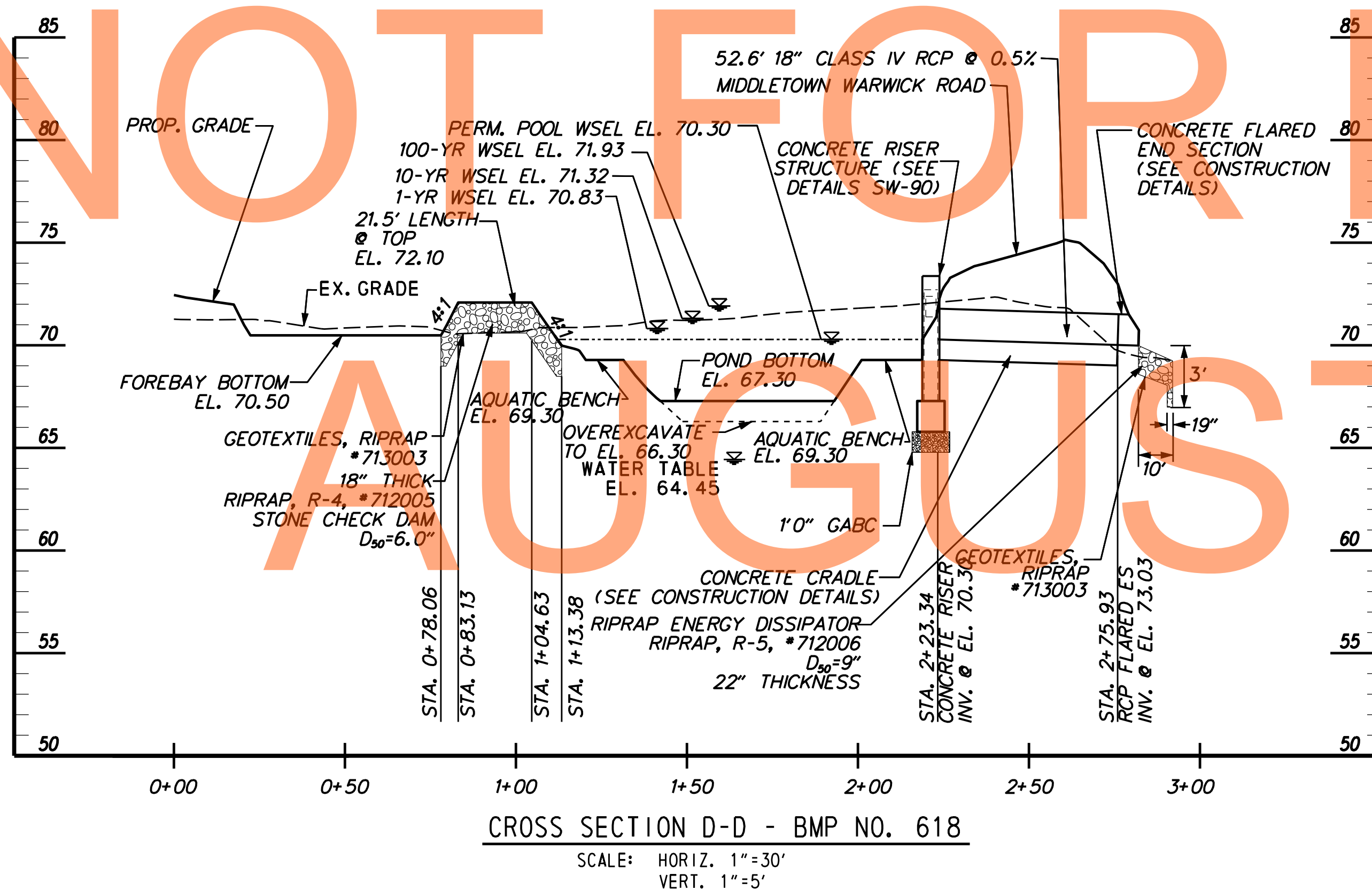
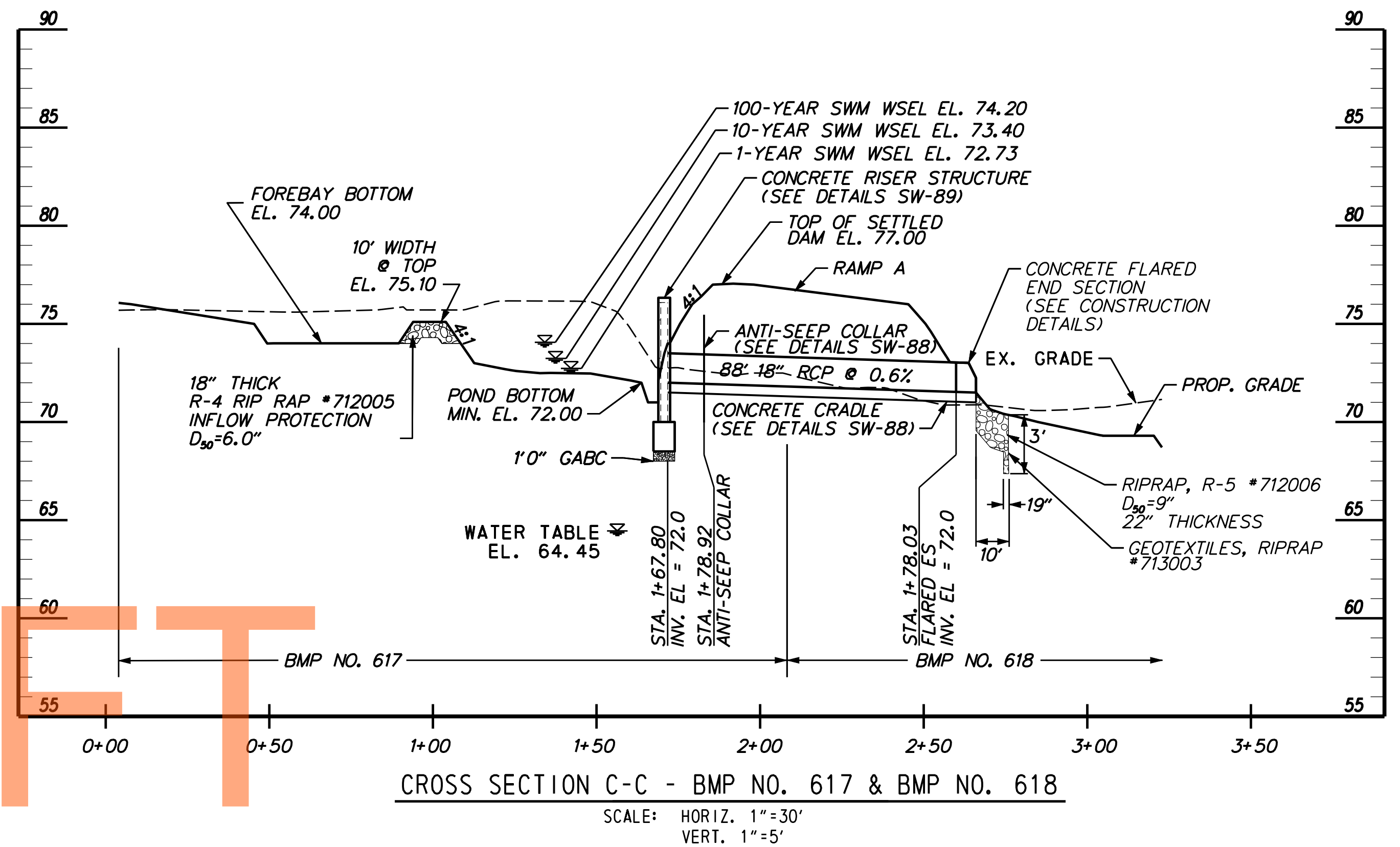
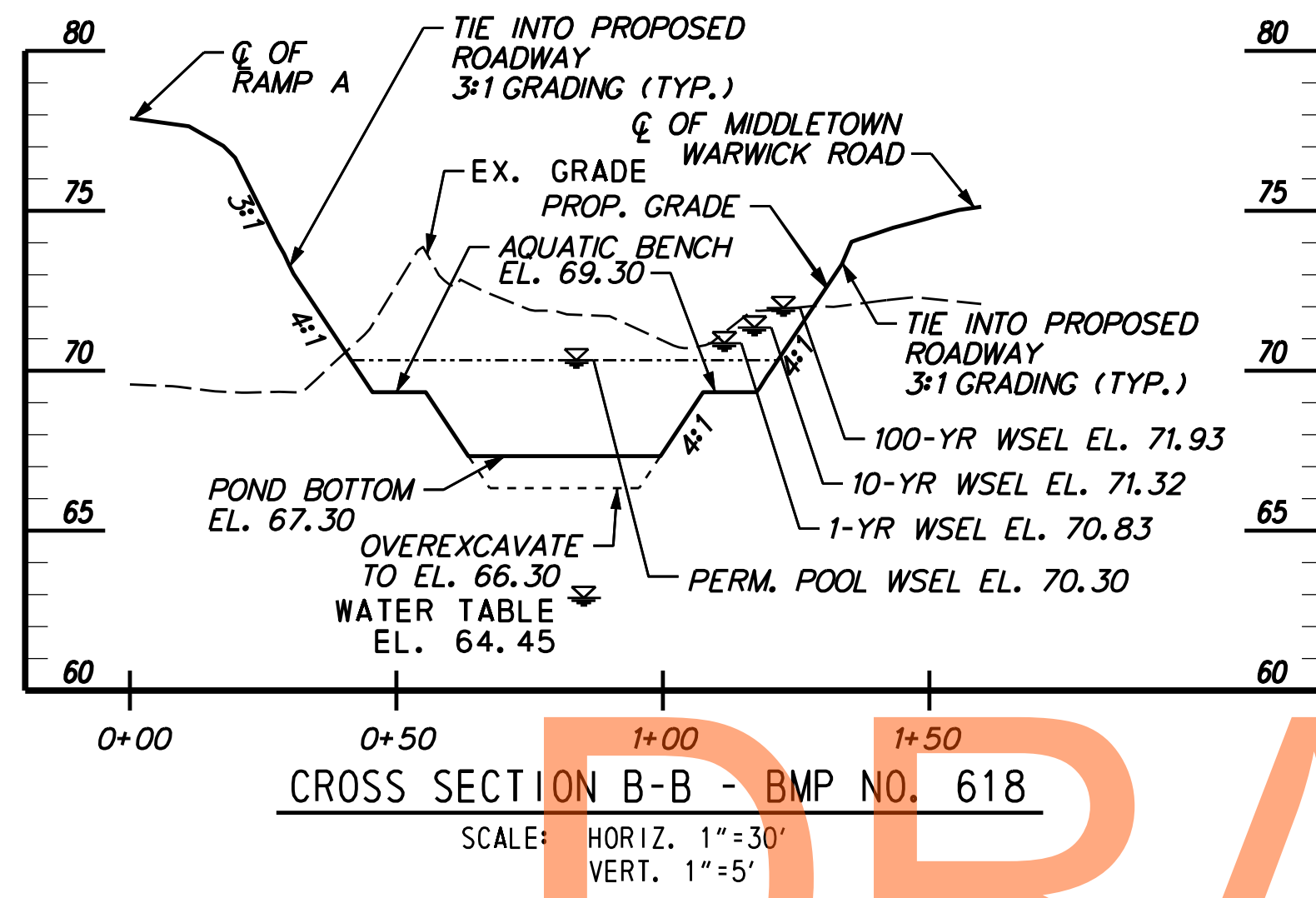
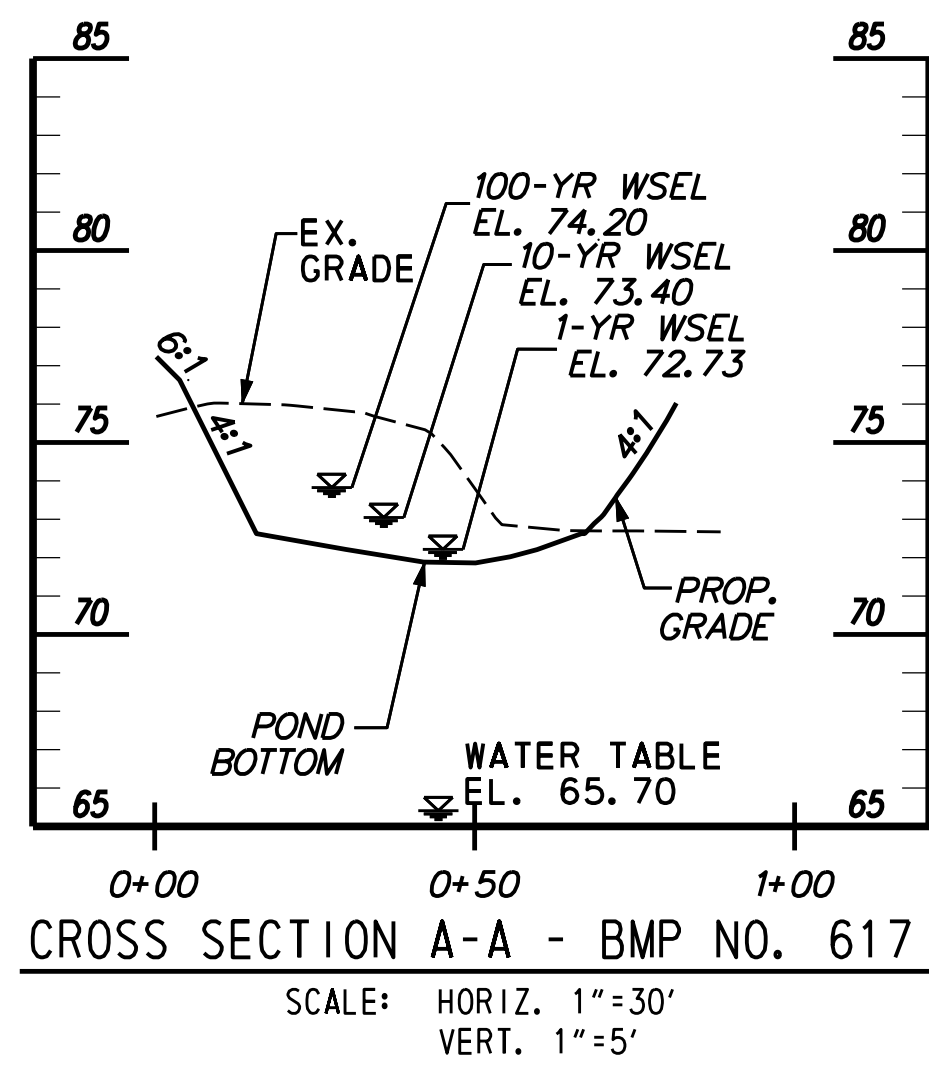
**US 301
 MARYLAND STATE LINE
 TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

**DETAILS FOR SWM
 POND
 BMP NO. 617 AND 618**

SW-86

SHEET NO. 423
TOTAL SHTS. 850



**DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 617 - (156+00 N)
AND STORMWATER MANAGEMENT POND - BMP NO. 618 - (WEIGH STATION SOUTH)**

SW-87



ADDENDUMS / REVISIONS

SCALE: AS SHOWN

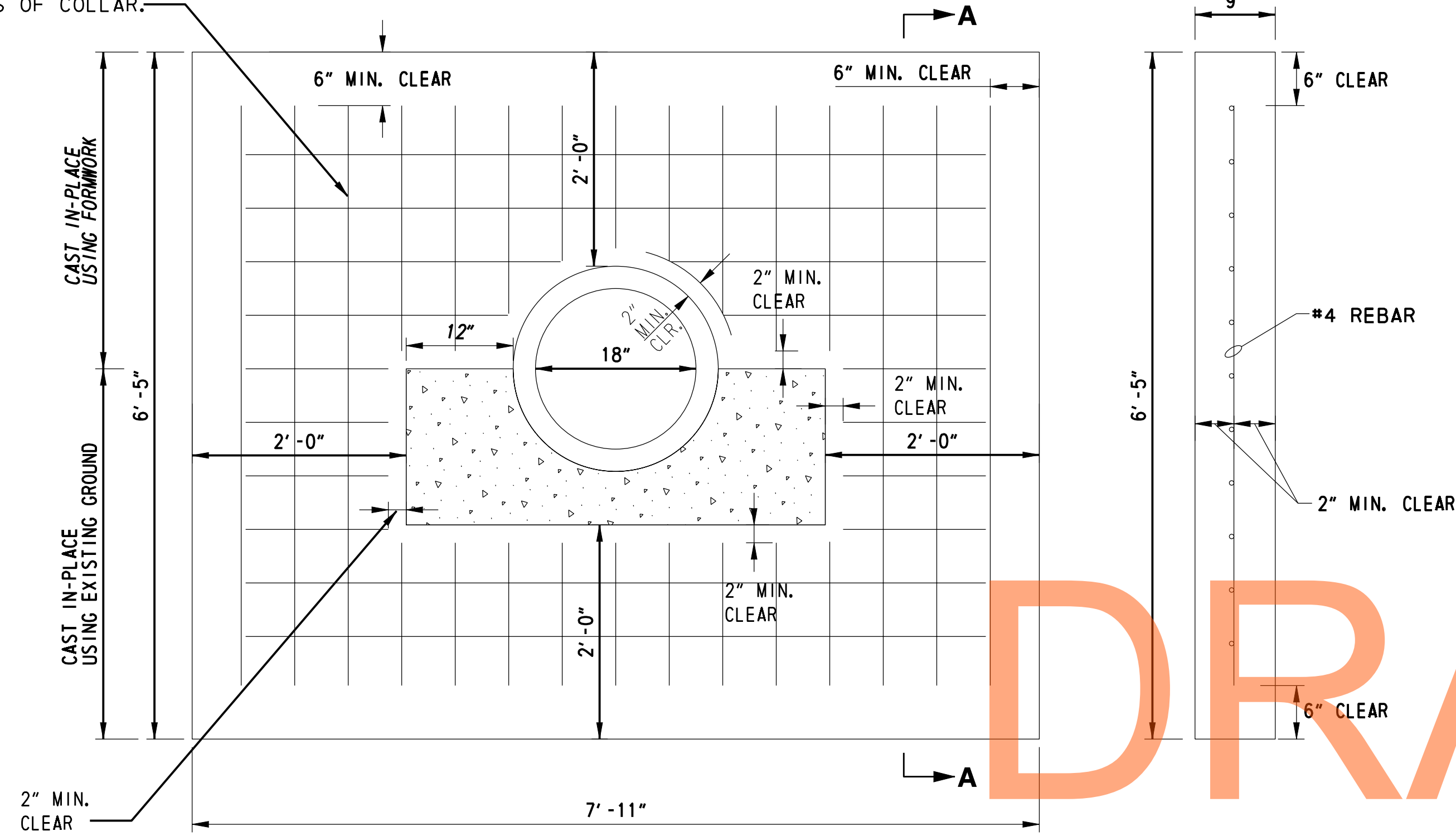
US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT T200811301	BRIDGE NO.	
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF	CHECKED BY: JZS

DETAILS FOR SWM
POND
BMP NO. 617 AND 618

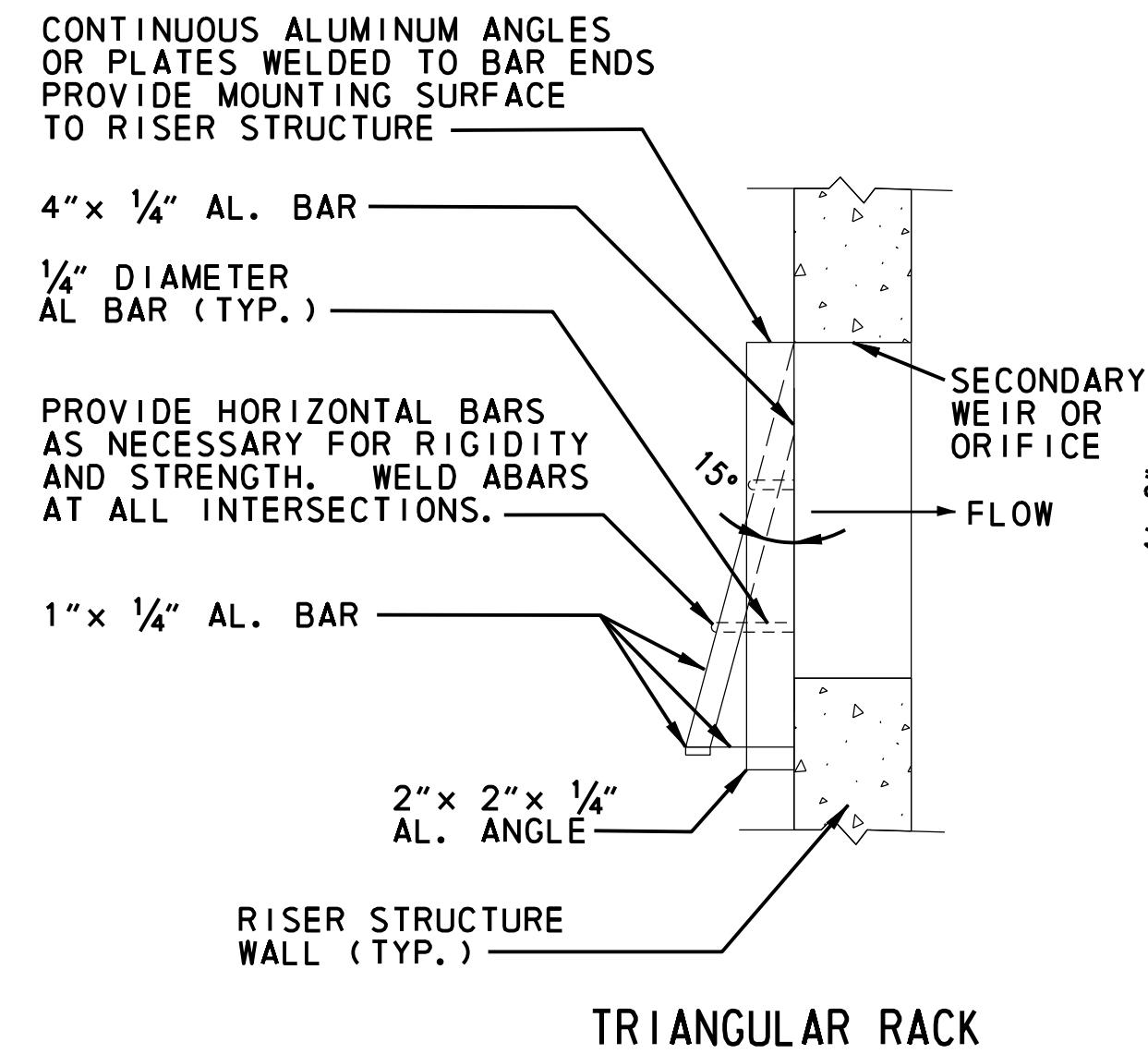
SHEET NO. 424
TOTAL SHTS. 850

REINFORCING:
#4 REBAR @ 12" ON-CENTERS,
BOTH WAYS. CENTERED IN
THICKNESS OF COLLAR.



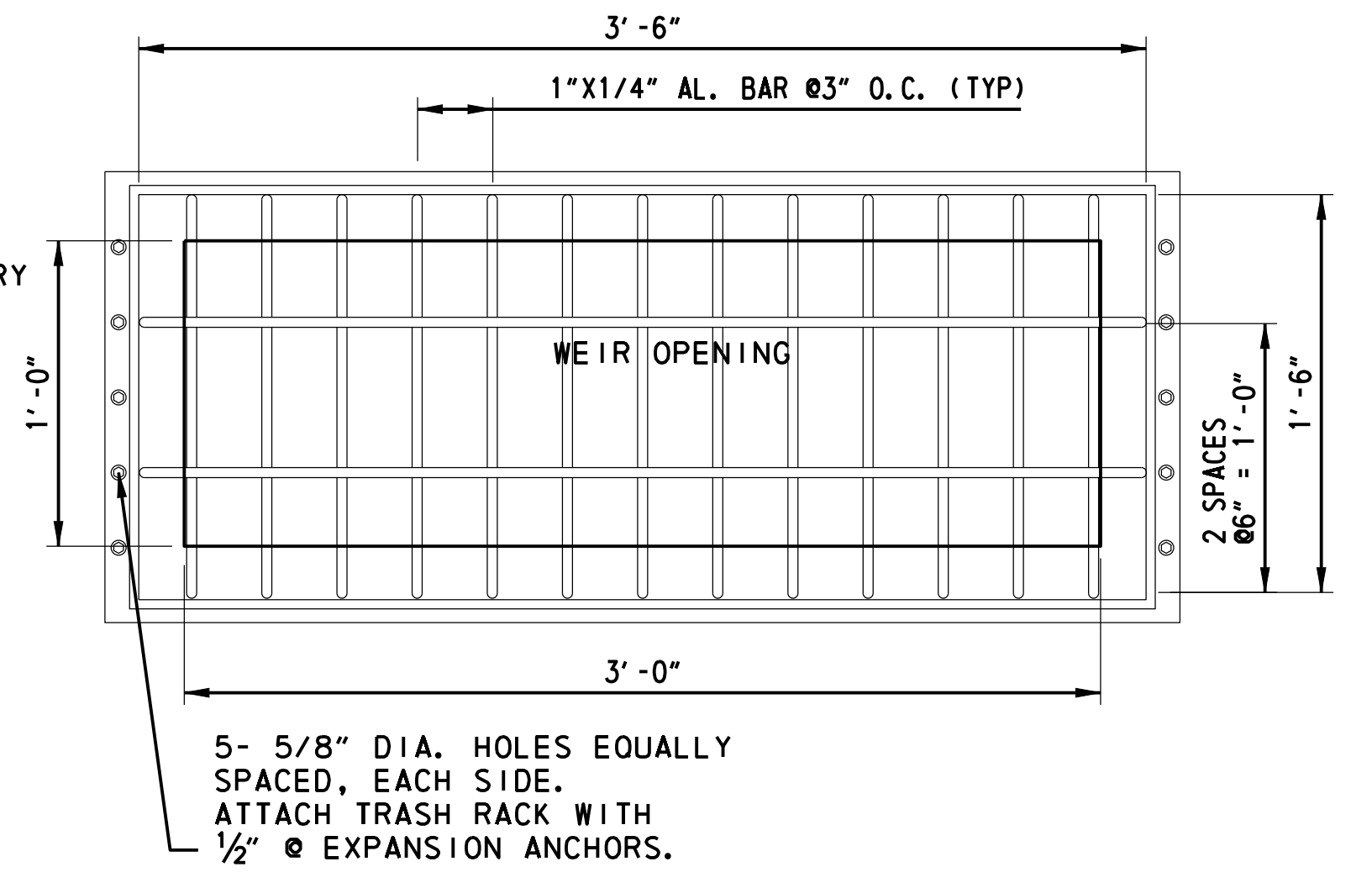
ELEVATION SECTION A-A

NOTES:
1) CAST ANTI-SEEP COLLAR IN TWO PARTS.

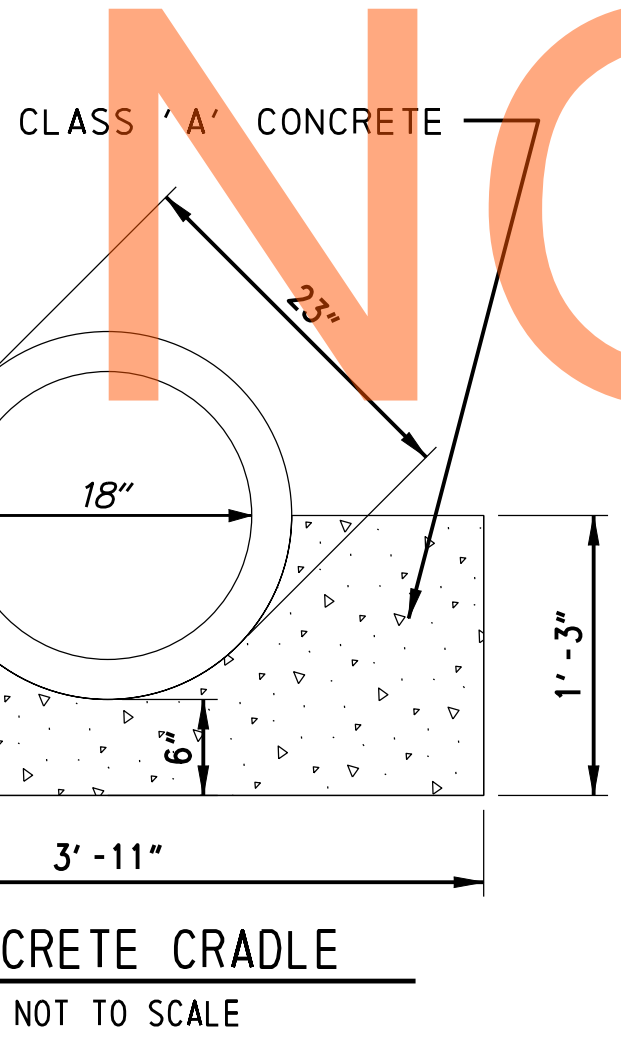


TRIANGULAR RACK

TYPICAL CONFIGURATIONS AND DETAILS
OF HIGH FLOW
WEIR TRASH RACKS FOR BMP NO. 617
NOT TO SCALE

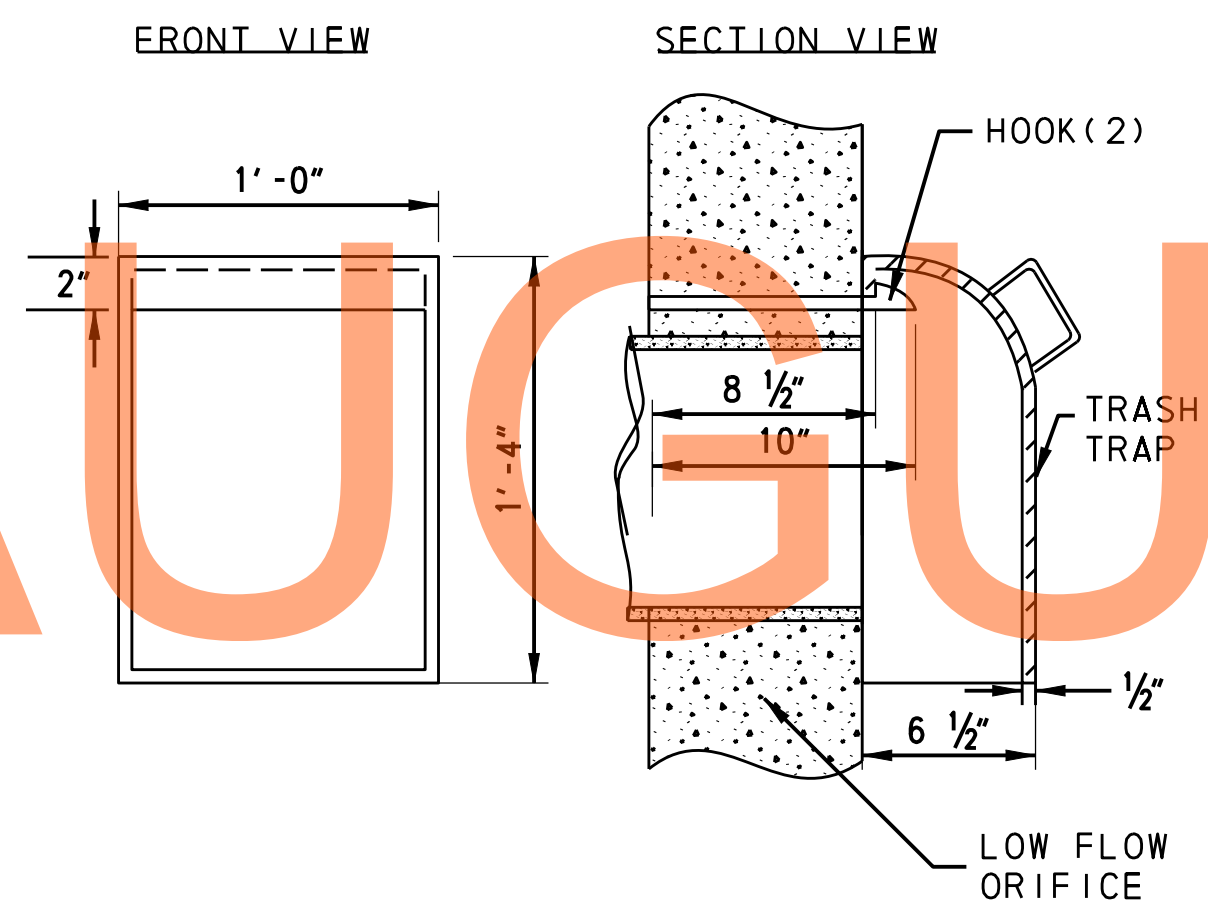


5- 5/8" DIA. HOLES EQUALLY
SPACED, EACH SIDE.
ATTACH TRASH RACK WITH
1/2" @ EXPANSION ANCHORS.



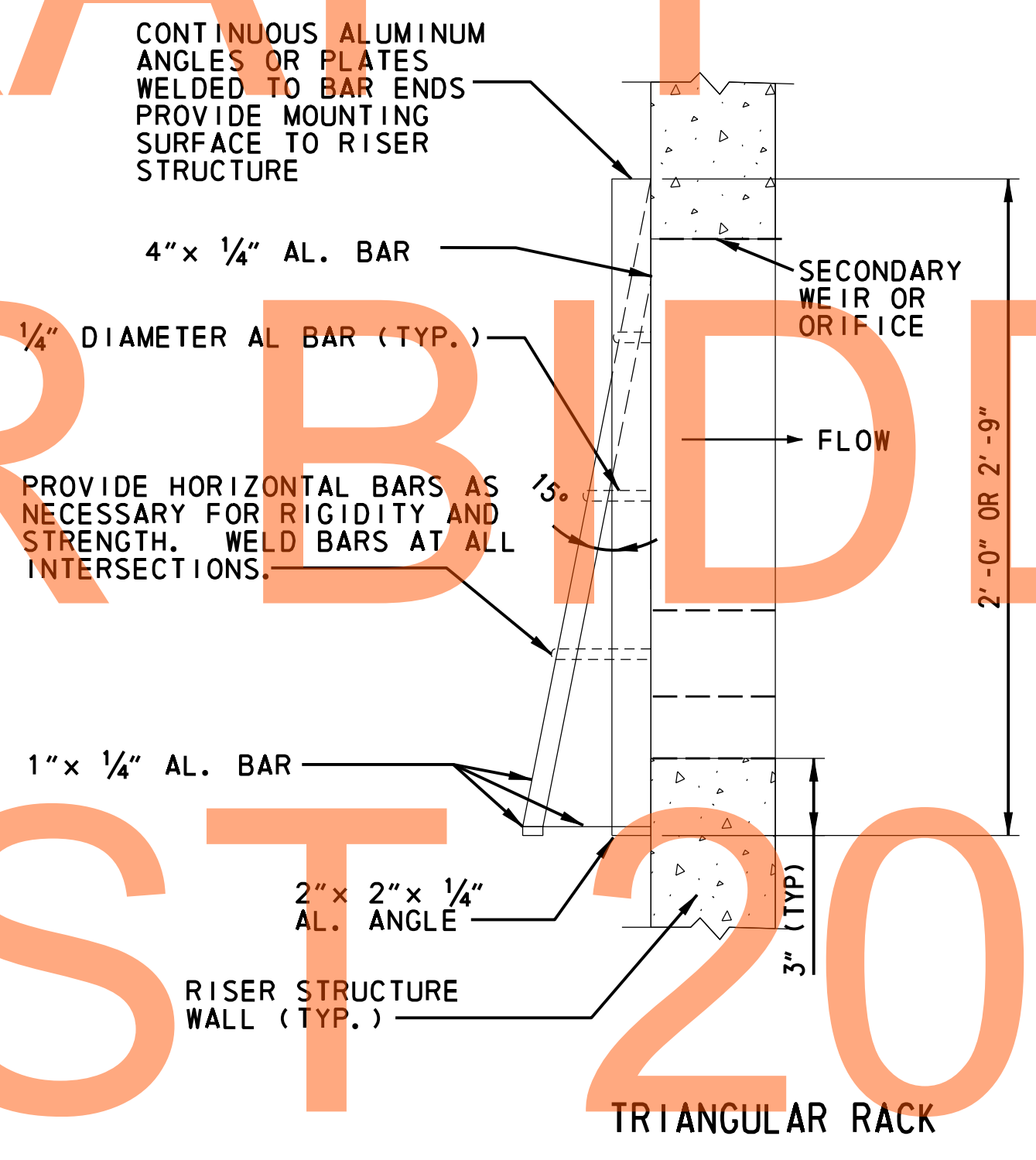
CONCRETE CRADLE
NOT TO SCALE

CONCRETE ANTI-SEEP COLLAR
NOT TO SCALE



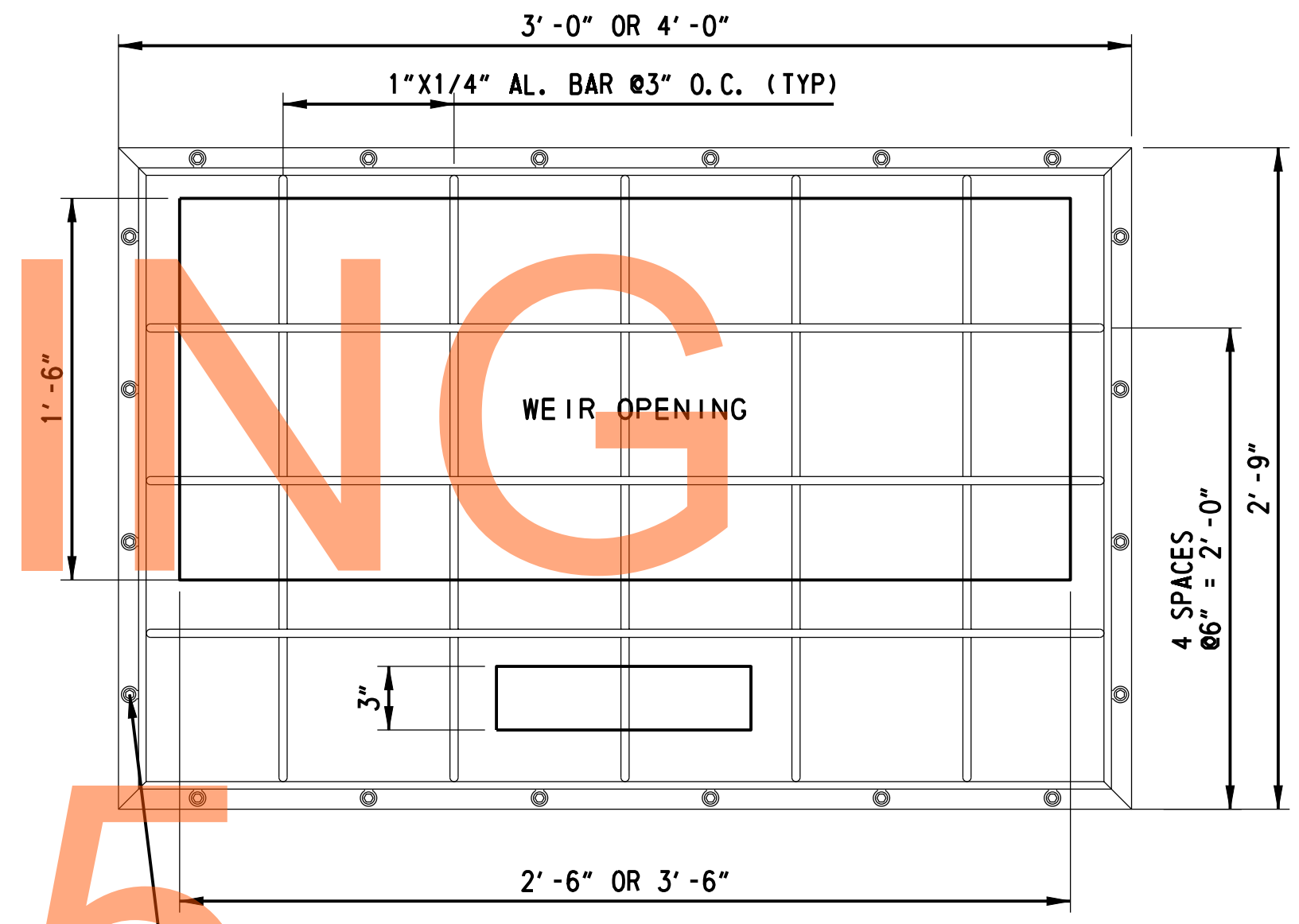
NOTES FOR ORIFICE TRASH TRAP:
LOCATE THE BOTTOM OF TRAP AT 6"
BELOW INVERT OF ORIFICE

TYPICAL CONFIGURATIONS AND DETAILS
FOR LOW FLOW ORIFICE TRASH TRAP
NOT TO SCALE



TRIANGULAR RACK

TYPICAL CONFIGURATIONS AND DETAILS
OF
WEIR TRASH RACKS FOR BMP NO. 618
NOT TO SCALE



10- 5/8" DIA. HOLES EQUALLY
SPACED, EACH SIDE.
ATTACH TRASH RACK WITH
1/2" @ EXPANSION ANCHORS.

DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 617 - (156+00 N)
AND STORMWATER MANAGEMENT POND - BMP NO. 618 - (WEIGH STATION SOUTH)

SW-88



ADDENDUMS / REVISIONS

SCALE: AS SHOWN

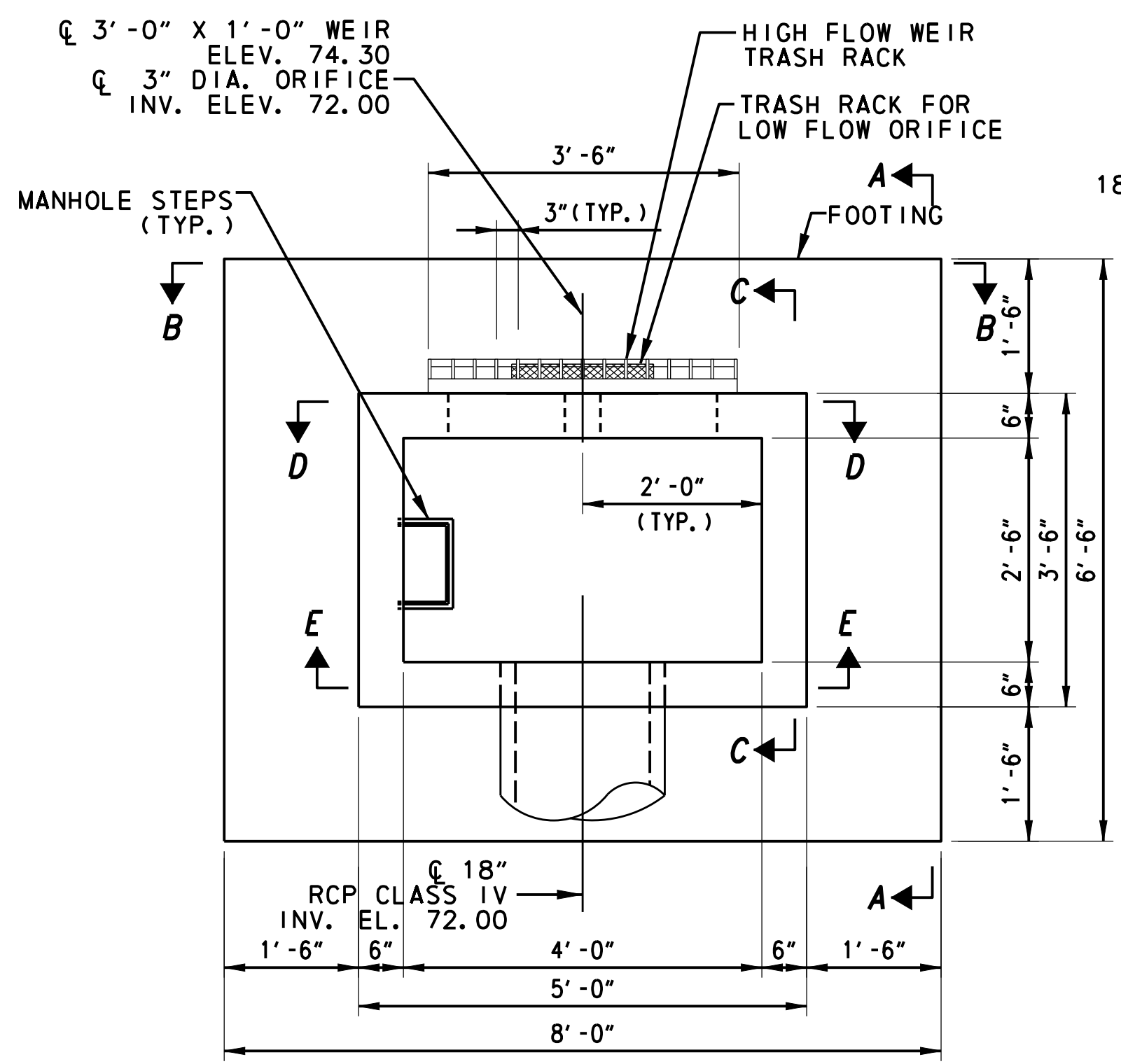
US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY:	DSM/ACF
COUNTY	CHECKED BY:	JZS
NEW CASTLE		

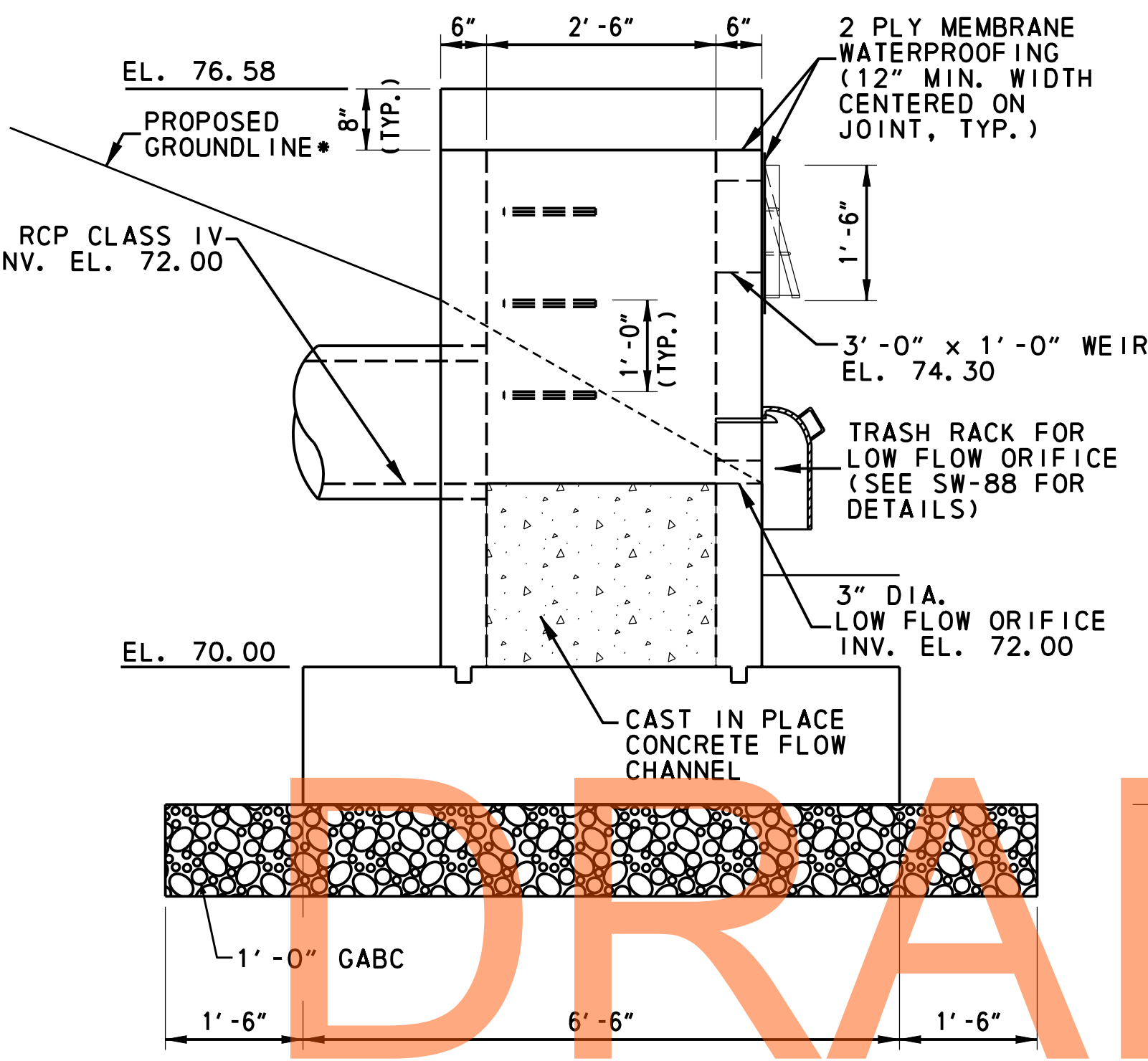
DETAILS FOR SWM
POND
BMP NO. 617 AND 618

SHEET NO.	425
TOTAL SHTS.	850

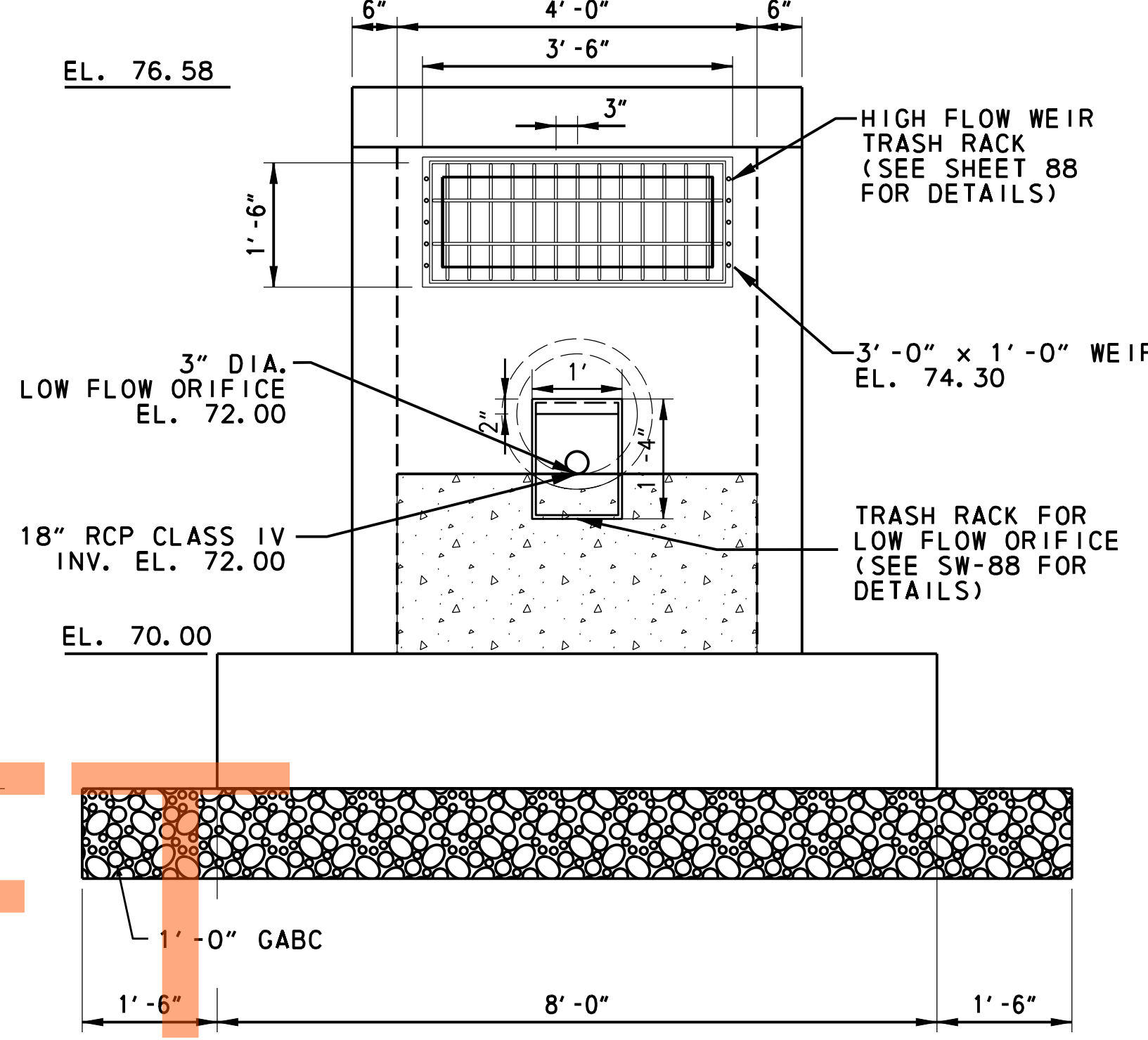
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CONCRETE RISER STRUCTURE - PLAN
NOT TO SCALE



VIEW A-A
NOT TO SCALE

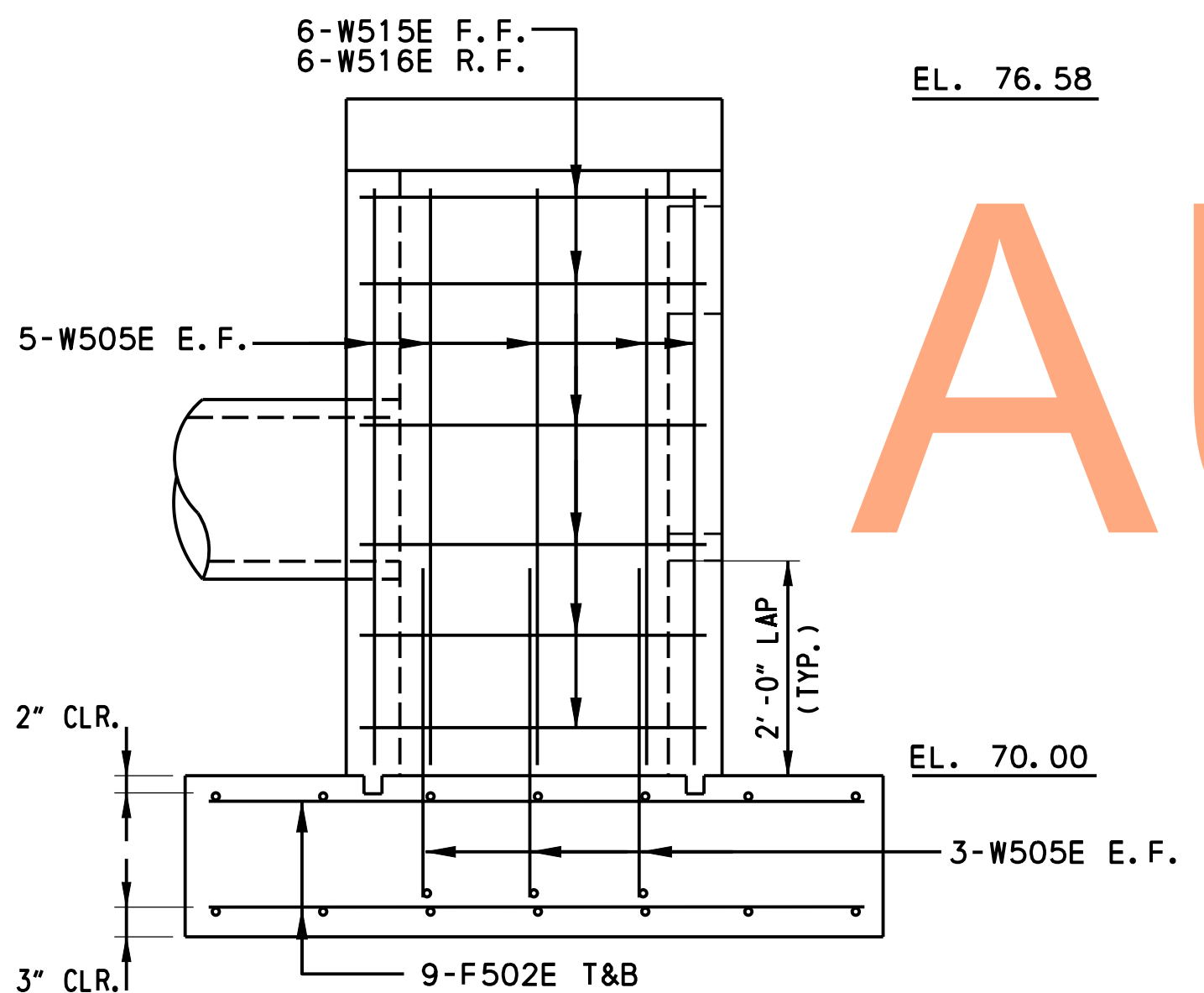


VIEW B-B
NOT TO SCALE

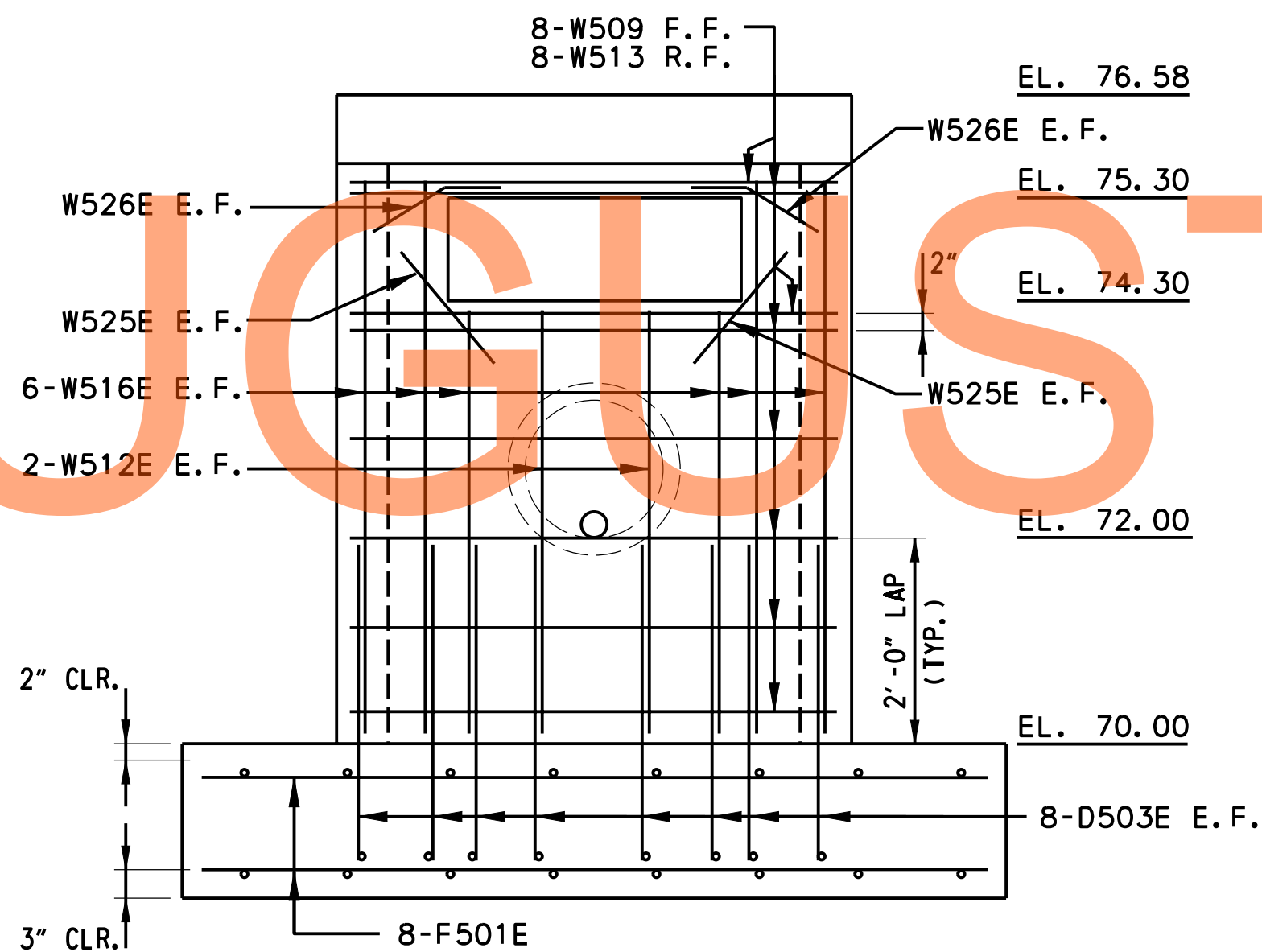
MARK	BAR SIZE	SHAPE	REBAR TYPE
D503E	3	C	A
D504F	3	D	B
E517E	3	A	C
F501E	4	A	D
F502E	4	A	E
S526E	3	A	A
S528E	3	A	B
S529E	3	B	C
S530E	3	A	D
S531E	3	A	E
S532E	3	A	A
W505E	3	A	B
W506E	3	A	C
W507E	3	A	D
W508E	3	A	E
W509E	3	B	A
W510E	3	C	B
W511E	3	B	C
W512E	3	A	D
W513E	3	B	E
W514E	3	A	A
W515E	3	B	B
W516E	3	A	C
W518E	3	A	D
W519E	3	A	E
W520E	3	A	A
W521E	3	A	B
W522E	3	A	C
W523E	3	C	D
W524E	3	D	E
W525E	3	A	A
W526E	3	E	B

- SEE DELDOT STANDARD CONSTRUCTION DETAILS D-6(2001)-3 FOR MANHOLE FRAME AND COVER DETAILS.
- SEE GENERAL POND DETAILS SHEET FOR MANHOLE STEP DETAILS.
- TOP SLAB, TRASH RACKS, AND MANHOLE STEPS NOT SHOWN IN SECTION FOR CLARITY.
- E.F. = EACH FACE
F.F. = FRONT FACE
R.F. = REAR FACE
T&B = TOP AND BOTTOM

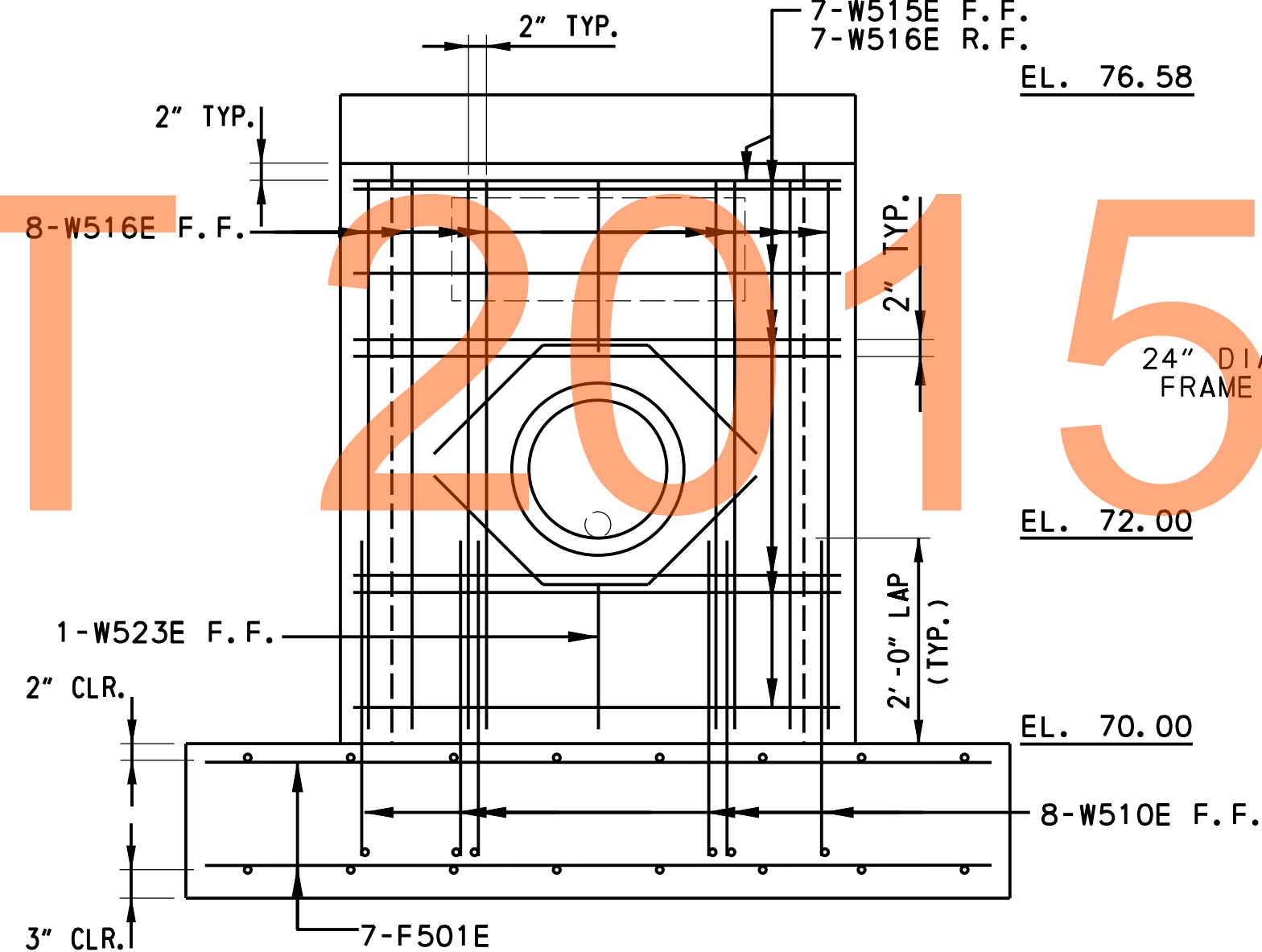
NOT FOR BIDDING



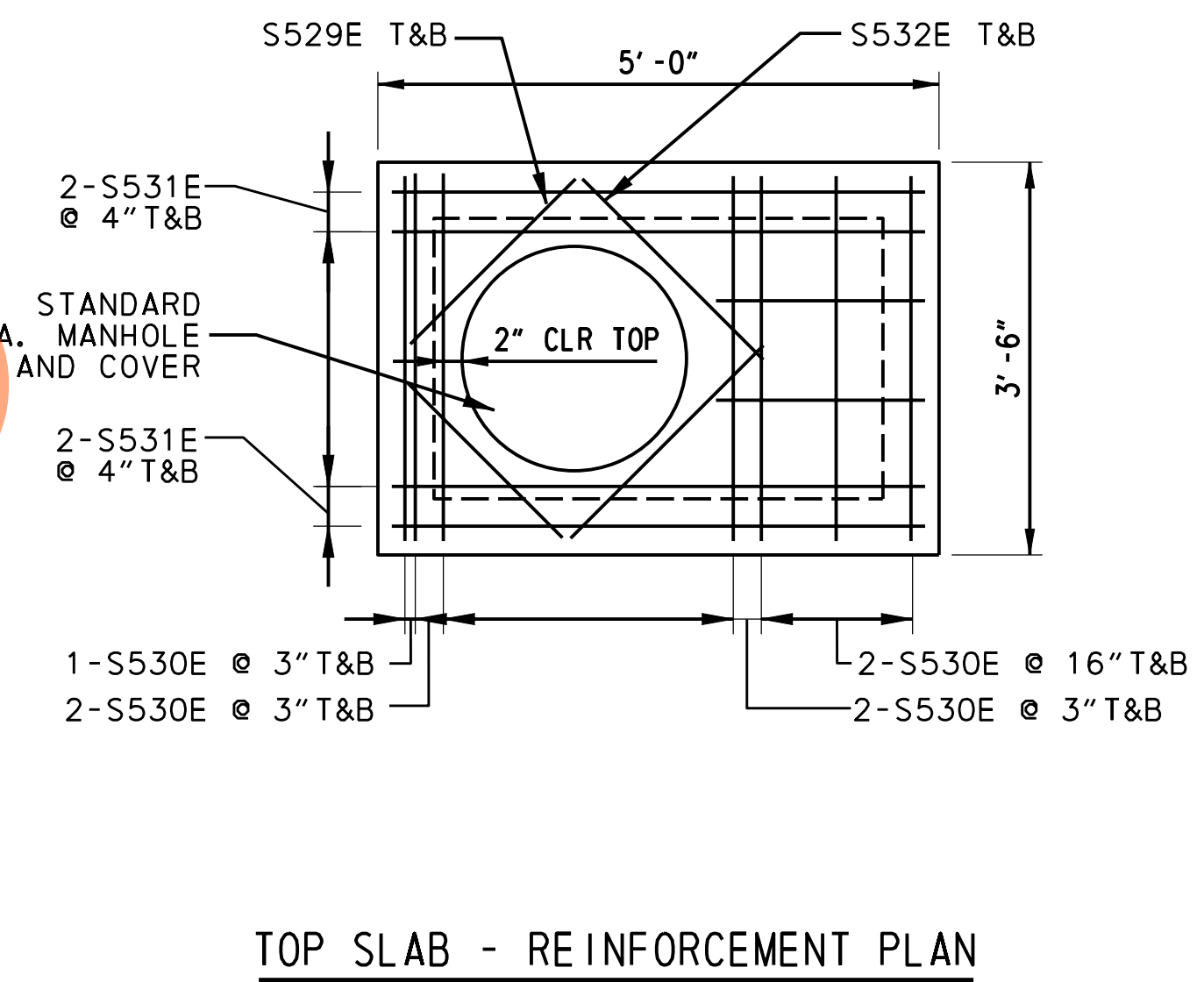
SECTION C-C
NOT TO SCALE



SECTION D-D
NOT TO SCALE



SECTION E-E
NOT TO SCALE



TOP SLAB - REINFORCEMENT PLAN
NOT TO SCALE

DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 617 - (STA. 156+00 N)

SW-89



ADDENDUMS / REVISIONS

SCALE: AS SHOWN

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

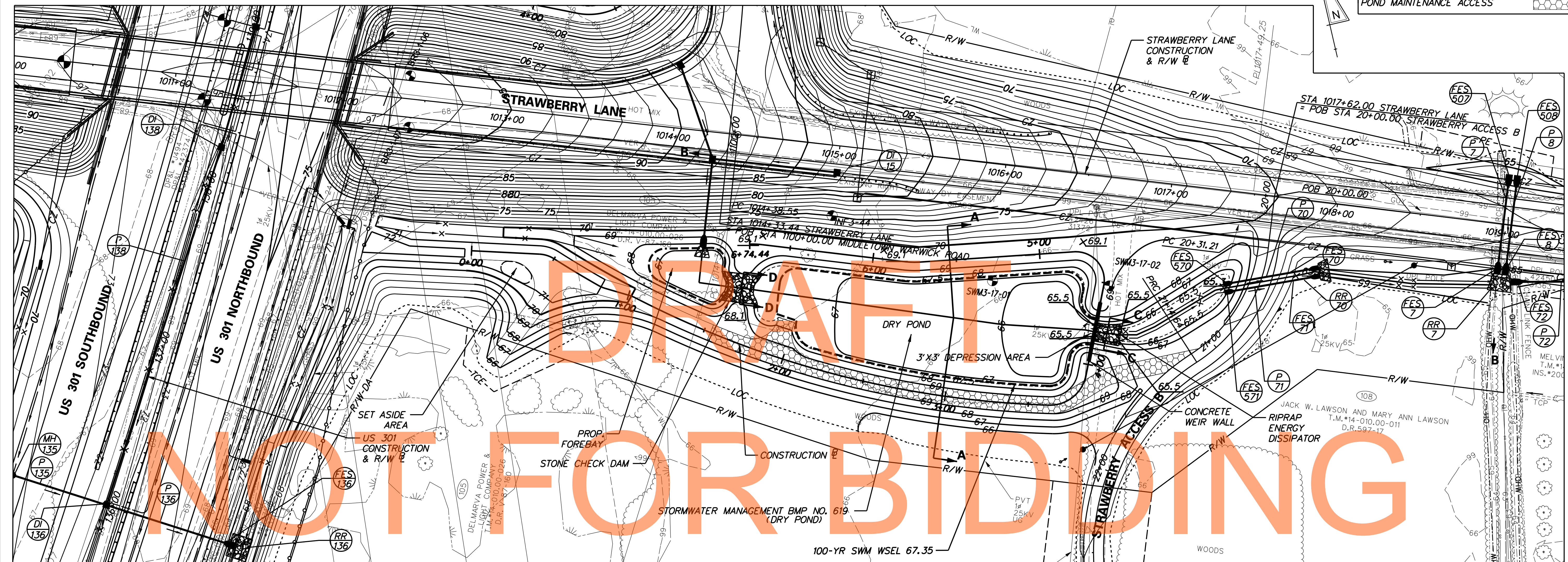
CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: RLA CHECKED BY: JZS

DETAILS FOR SWM
POND
BMP NO. 617 AND 618

SHEET NO. 426
TOTAL SHTS. 850

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LEGEND	
EXISTING CONTOUR	--- 68 ---
PROPOSED CONTOUR	--- 65 ---
POND MAINTENANCE ACCESS	



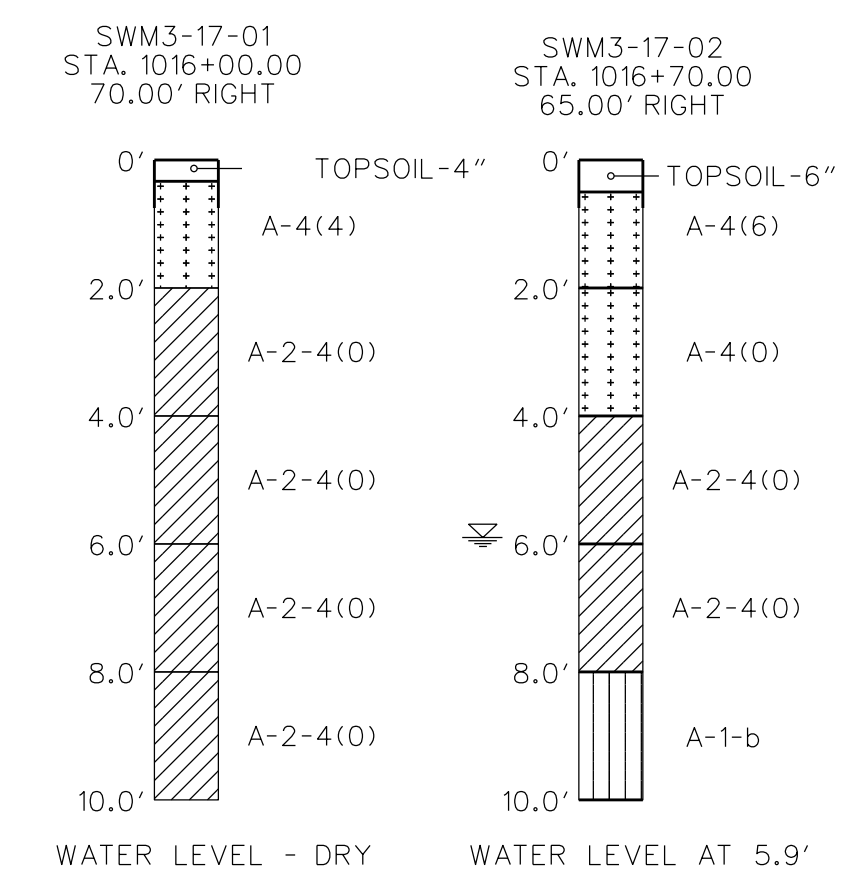
**PLAN - STORMWATER MANAGEMENT POND - BMP NO. 619 - (STA. 1019+00 E)
(STRAWBERRY LANE STA. 1013+05 TO STA. 1017+45), TYPE: DRY POND**

AUGUST 2015

NOTE: SEE SHEETS SW-92 TO SW-95 FOR STORMWATER MANAGEMENT POND BMP NO. 619 DETAILS.

FACILITY DESIGN SUMMARY FOR STORMWATER MANAGEMENT POND NO. 619				
DESIGN STORM	FACILITY INFLOW (CES)	FACILITY DISCHARGE (CES)	WATER SURFACE ELEVATION (FT.)	STORAGE VOLUME (AC. FT.)
1-YEAR	0.81	0.16	66.11	0.016
10-YEAR	3.09	0.25	66.80	0.092
100-YEAR	7.29	1.41	67.35	0.211

HAZARD CLASSIFICATION: CLASS 'A' AS PER POND CODE 378
DRAINAGE AREA TO FACILITY 1.309 ACRES
MANAGEMENT PROVIDED BY FACILITY: WATER QUANTITY FOR 10-YEAR AND 100-YEAR STORMS.



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	DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO. 	STORMWATER MANAGEMENT PLAN	SHEET NO. 428
					COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF		CHECKED BY: JZS

SW- 91

POND CONSTRUCTION SEQUENCE AND NOTES

THE STORMWATER MANAGEMENT POND SHALL FUNCTION AS A SEDIMENT BASIN DURING ROADWAY CONSTRUCTION AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE STANDARD SPECIFICATIONS:

- SECTION 910 STORMWATER MANAGEMENT FACILITIES
 - STORMWATER MANAGEMENT POND
 - POND OUTLET STRUCTURE, CONCRETE
 - CLAY BORROW

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. CLEAR AND GRUB FOR INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS.
3. INSTALL PERIMETER SEDIMENT CONTROLS AS SHOWN ON EROSION & SEDIMENT CONTROL SHEETS.
4. CLEAR AND GRUB REMAINING AREA FOR POND CONSTRUCTION.
5. CONSTRUCT POND OUTLET STRUCTURE, RIPRAP ENERGY DISSIPATOR AT END OF PRINCIPAL SPILLWAY AND PARTIAL EMBANKMENT AS NEEDED TO INSTALL POND OUTLET STRUCTURE. INSTALL SKIMMER DEWATERING DEVICE. DE-WATER FOUNDATION AS NEEDED IN ACCORDANCE WITH SECTION 111 AND USE SUMP PIT FOR PUMPING. (SEE EROSION & SEDIMENT CONTROL DETAILS FOR SKIMMER DEWATERING DEVICE INSTALLATION).
6. EXCAVATE THE POND AND COMPLETE THE EMBANKMENT TO LINES, GRADES AND DETAILS SHOWN IN THE CONSTRUCTION PLANS. DURING EXCAVATION, THE CONTRACTOR SHALL SALVAGE AND STOCKPILE SOILS TO BE USED TO CONSTRUCT EMBANKMENT. THE SOILS REQUIRED FOR THE EMBANKMENT MAY BE OBTAINED FROM ELSEWHERE WITHIN THE PROJECT LIMITS. OVEREXCAVATE POND BOTTOM TO ELEVATION 63.50 AS SHOWN FOR SEDIMENT STORAGE DURING CONSTRUCTION.
7. STABILIZE ALL BARE AREAS. SEE CONSTRUCTION SEQUENCE PLANS FOR LOCATION OF EROSION AND SEDIMENT CONTROL MEASURES.

MAINTENANCE OF POND AS A SEDIMENT BASIN

1. CONTRACTOR SHALL INSPECT THE BASIN IMMEDIATELY AFTER EVERY RAIN AND MAKE REPAIRS AS NEEDED.
2. CONTRACTOR SHALL CLEARLY MARK THE CLEANOUT ELEVATION ON A STAKE DRIVEN INTO THE GROUND AT A LOCATION CLEARLY VISIBLE FROM THE EMBANKMENT. SEDIMENT SHALL BE REMOVED WHEN CLEANOUT ELEVATION IS REACHED AND DISPOSED OF AT A LOCATION APPROVED BY THE ENGINEER.

CONVERSION TO PERMANENT STORMWATER MANAGEMENT POND

1. CONVERT THE BASIN INTO THE PERMANENT STORMWATER MANAGEMENT POND AND GROUT TEMPORARY 6" DIA. ORIFICE AT EL. 65.50 AFTER ALL AREAS DRAINING TO THE POND HAVE BEEN PERMANENTLY STABILIZED AND THE ENGINEER HAS APPROVED THE CONVERSION.
2. REMOVE ACCUMULATED SEDIMENT TO ELEVATION 65.50 AND DISPOSE SEDIMENT AT A LOCATION APPROVED BY THE ENGINEER.
3. COMPLETE STABILIZATION OF ALL BARE AREAS. REMOVE EROSION AND SEDIMENT CONTROL MEASURES AND DEACTIVATE SKIMMER DEWATER DEVICE.

AS-BUILT DRAWINGS OF STORMWATER MANAGEMENT FACILITIES

THE CONTRACTOR SHALL PROVIDE 'AS-BUILT' DRAWINGS OF ALL STORMWATER MANAGEMENT FACILITIES, SUCH AS PONDS, INFILTRATION BASINS, BIOFILTRATION SWALES, ETC. 'AS-BUILT' DRAWINGS SHALL SHOW THE ACTUAL FINISH GROUND CONTOURS, OUTLET STRUCTURES DIMENSIONS AND ELEVATIONS, ETC. AS THEY EXIST AT THE COMPLETION OF THE PROJECT. THESE DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER OR LAND SURVEYOR.

ITEM 302011, DELAWARE NO. 3 STONE	
STATION/OFFSET	WEIGHT
STA 1004+25, 249.9' RT. TO STA 1004+16, 16.0' RT.	83 TON

ITEM 712006, RIPRAP, R-5	
STATION/OFFSET	AREA
STA 1016+66, 93.5' RT. TO STA 1016+81, 93.0' RT.	20 SY

ITEM 712005, RIPRAP, R-4	
STATION/OFFSET	AREA
STA 1014+42, 91.2' RT. TO STA 1014+59, 91.4' RT.	38 SY

ITEM 713003, GEOTEXTILES, RIPRAP	
STATION/OFFSET	AREA
STA 1014+42, 91.2' RT. TO STA 1014+59, 91.4' RT.	47 SY
STA 1016+66, 93.5' RT. TO STA 1016+81, 93.0' RT.	26 SY

ITEM 713002, GEOTEXTILES, SEPARATION	
STATION/OFFSET	AREA
STA 1004+25, 249.9' RT. TO STA 1004+16, 16.0' RT.	430 SY

ITEM 272501, POND OUTLET STRUCTURE, SPECIAL	
ITEM	QUANTITY
CONCRETE WEIR WALL	1 EA

TEMPORARY SEDIMENT BASIN DETAILS			
SKIMMER ORIFICE SIZE (IN)	SKIMMER INVERT	CLEANOUT ELEVATION	*EMERGENCY SPILLWAY ELEVATION
4	65.50	66.25	67.00

* BLOCK OUTLET STRUCTURE TO THIS ELEVATION IN TEMPORARY CONDITIONS

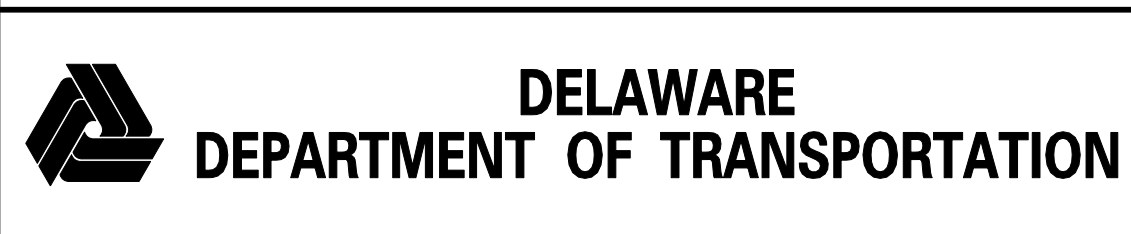
DRAFT

NOT FOR BIDDING

AUGUST 2015

NOTES - STORMWATER MANAGEMENT POND - BMP NO. 619 - (STA. 1019+00 E)

E:\2814 DEL ROUTE 301\001_3_4_5_6 (DESIGN)\CAD\SB_301AET_000_STR.DGN



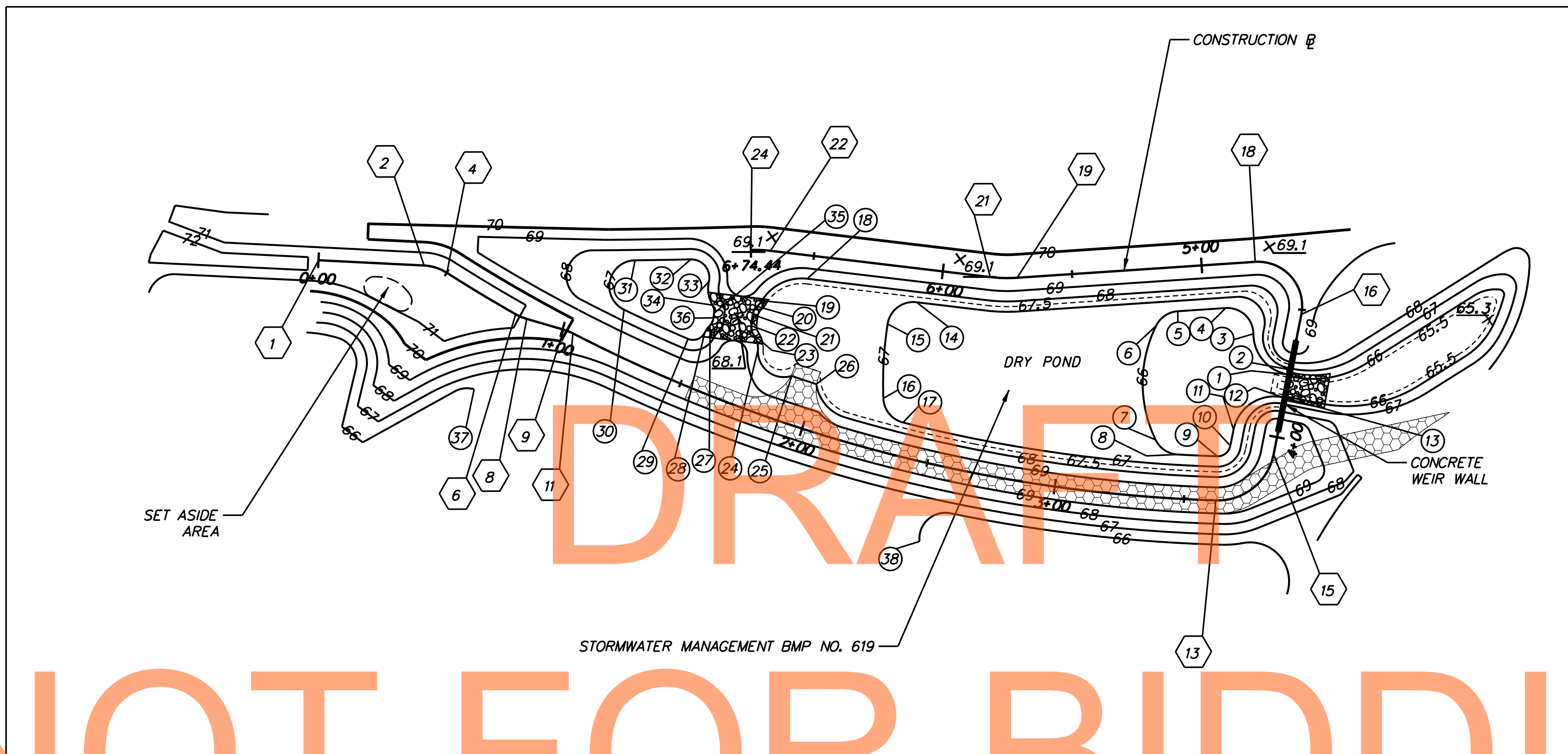
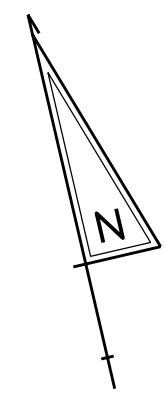
ADDENDUMS / REVISIONS

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY:	DSM/ACF
COUNTY	CHECKED BY:	JZS
NEW CASTLE		

STORMWATER MANAGEMENT PLAN	SHEET NO.
	429
TOTAL SHTS.	850

SW-92



LEGEND	
PROPOSED CONTOUR	— 65 —
POND MAINTENANCE ACCESS	
BASELINE OF CONSTRUCTION CONTROL COORDINATES	⑧
GRADING CONTROL POINTS	⊙
BOTTOM OF POND	BOP
BOTTOM OF FOREBAY	BOF
BOTTOM OF TOE	BOT

PLAN - STORMWATER MANAGEMENT POND - BMP NO. 619 - (STA. 1019+00 E)

GRADING CONTROL POINTS				
	NORTHING	EASTING	ELEVATION	NOTE
1	515, 310. 9219	557, 730. 3414	66. 00	BOP
2	515, 311. 0760	557, 729. 9995	66. 00	BOP
3	515, 329. 1887	557, 720. 9674	66. 00	BOP
4	515, 341. 2626	557, 712. 8191	66. 00	BOP
5	515, 344. 2338	557, 694. 5568	66. 00	BOP
6	515, 340. 7231	557, 685. 2337	66. 00	BOP
7	515, 297. 8796	557, 675. 0553	66. 00	BOP
8	515, 290. 4988	557, 681. 9740	66. 00	BOP
9	515, 286. 3588	557, 696. 7158	66. 00	BOP
10	515, 289. 1359	557, 702. 5606	66. 00	BOP
11	515, 294. 8587	557, 705. 1400	66. 00	BOP
12	515, 302. 8709	557, 726. 3013	66. 00	BOP
13	515, 302. 7169	557, 726. 6432	66. 00	BOP
14	515, 370. 3788	557, 597. 2554	67. 00	BOP
15	515, 364. 6924	557, 584. 5719	67. 00	BOP
16	515, 337. 1878	557, 576. 5066	67. 00	BOP
17	515, 326. 4136	557, 581. 7485	67. 00	BOP
18	515, 388. 6954	557, 558. 3607	68. 00	BOP
19	515, 384. 3815	557, 539. 3989	68. 00	BOP
20	515, 382. 6991	557, 537. 1224	68. 00	BOP
21	515, 380. 0205	557, 534. 7447	68. 00	BOP
22	515, 375. 9255	557, 533. 2551	68. 00	BOP
23	515, 372. 3452	557, 533. 3562	68. 00	BOP
24	515, 366. 3544	557, 533. 6842	68. 00	BOP
25	515, 353. 5711	557, 544. 0456	68. 00	BOP
26	515, 348. 3572	557, 552. 5788	68. 00	BOP
27	515, 379. 7023	557, 517. 8362	67. 00	BOF
28	515, 377. 3028	557, 515. 1403	67. 00	BOF
29	515, 376. 5077	557, 508. 3735	67. 00	BOF
30	515, 393. 0649	557, 486. 8928	67. 00	BOF
31	515, 410. 6048	557, 495. 3245	67. 00	BOF
32	515, 406. 1081	557, 516. 3391	67. 00	BOF
33	515, 396. 2574	557, 521. 2316	67. 00	BOF
34	515, 387. 0330	557, 520. 5027	67. 00	BOF
35	515, 383. 8980	557, 520. 3960	67. 00	BOF
36	515, 382. 1732	557, 519. 7685	67. 00	BOF
37	515, 376. 2464	557, 423. 7354	66. 00	BOT
38	515, 280. 3313	557, 577. 6148	66. 00	BOT

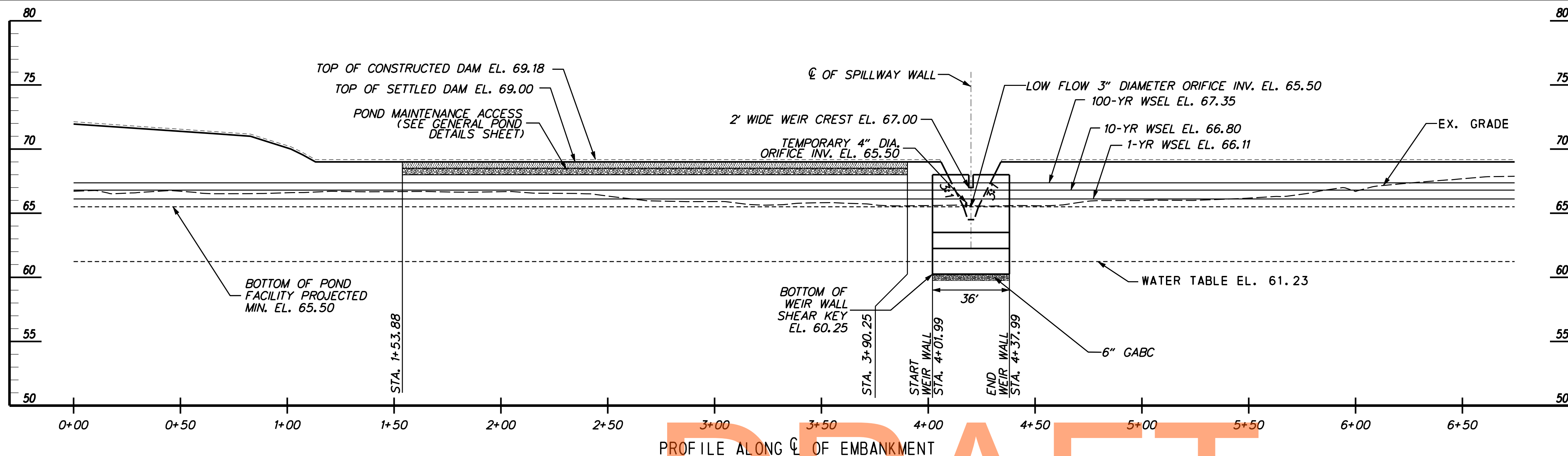
BASELINE OF CONSTRUCTION CONTROL COORDINATES				
	STATION		NORTHING	EASTING
1	POB	STA. 0+00. 00	515, 438. 1943	557, 376. 5735
2	PC	STA. 0+40. 69	515, 427. 0340	557, 415. 7035
	PI	STA. 0+45. 47	515, 425. 7242	557, 420. 2958
4	PRC	STA. 0+50. 03	515, 422. 3102	557, 423. 6349
	PI	STA. 0+65. 50	515, 411. 2481	557, 434. 4543
6	PCC	STA. 0+80. 97	515, 400. 7734	557, 445. 8434
	PI	STA. 0+83. 29	515, 399. 2001	557, 447. 5540
8	PT	STA. 0+85. 59	515, 398. 0611	557, 449. 5798
9	PC	STA. 1+00. 41	515, 390. 7995	557, 462. 4942
	PI	STA. 1+02. 34	515, 389. 8551	557, 464. 1738
11	PRC	STA. 1+04. 25	515, 388. 6074	557, 465. 6422
	PI	STA. 2+35. 41	515, 303. 6768	557, 565. 5946
13	PCC	STA. 3+62. 25	515, 269. 9310	557, 692. 3420
	PI	STA. 3+80. 92	515, 265. 1269	557, 710. 3862
15	PT	STA. 3+93. 22	515, 282. 1504	557, 718. 0591
16	PC	STA. 4+48. 19	515, 332. 2708	557, 740. 6493
	PI	STA. 4+70. 36	515, 352. 4766	557, 749. 7564
18	PT	STA. 4+79. 35	515, 356. 0357	557, 727. 8807
19	PC	STA. 5+71. 26	515, 370. 7937	557, 637. 1704
	PI	STA. 5+76. 47	515, 371. 6310	557, 632. 0245
21	PT	STA. 5+81. 65	515, 373. 4037	557, 627. 1215
22	PC	STA. 6+66. 89	515, 402. 3872	557, 546. 9616
	PI	STA. 6+70. 67	515, 403. 6729	557, 543. 4057
24	POE	STA. 6+74. 44	515, 404. 4093	557, 539. 6969

NOTES:

1. THE ENTIRE POND SHALL RECEIVE PERMANENT GRASS SEEDING - DRY GROUND (ITEM 908014).
2. THE SLOPED PORTION OF THE EMBANKMENT SHALL RECEIVE TOPSOILING, 6" DEPTH (ITEM 908010).
3. DRY GROUND SEEDING AREA = 2,713 SY.

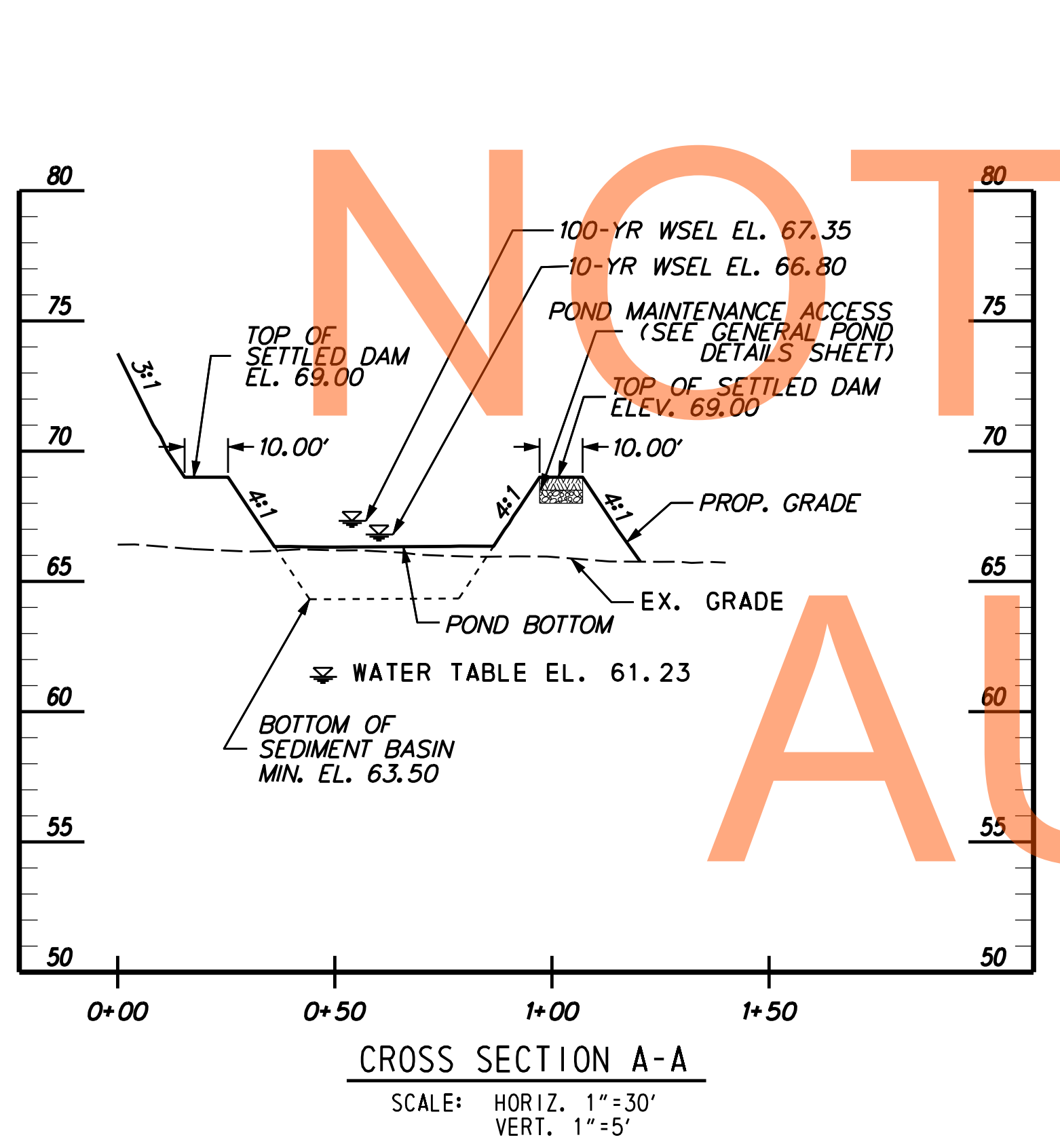
E:\2814 DEL ROUTE 301\001-3-4-5,6 (DESIGN)\CAD\SB-301AET_000_STR.DGN

<p>DELAWARE DEPARTMENT OF TRANSPORTATION</p>	ADDENDUMS / REVISIONS	<p>SCALE</p> <p>FEET</p>	<p>US 301 MARYLAND STATE LINE TO LEVELS ROAD</p>	CONTRACT T200811301	BRIDGE NO.	<p>DETAILS FOR SWM POND BMP NO. 619</p>	SHEET NO. 430
				COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF		CHECKED BY: JZS

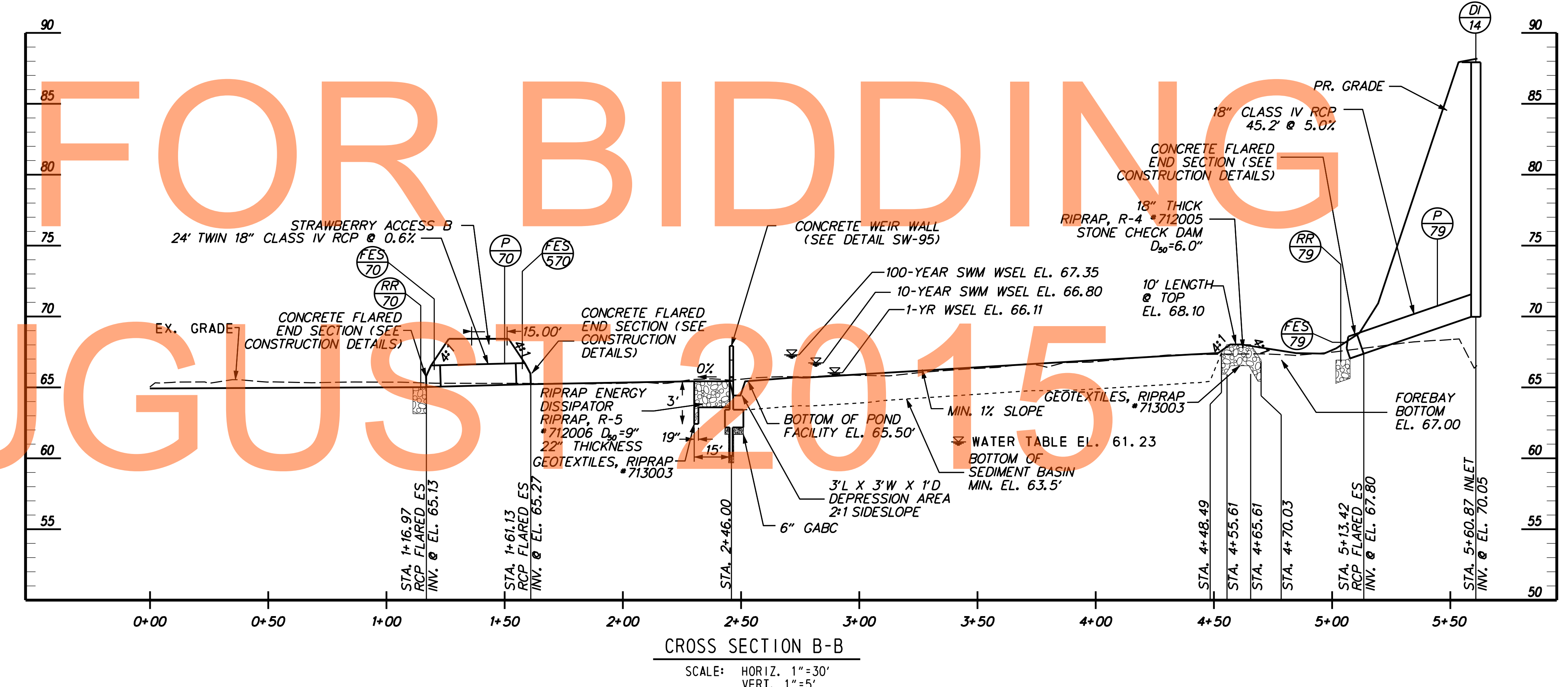


POND MAINTENANCE ACCESS	
6" TOPSOIL, PERM. SEEDING	
6" DELAWARE NO. 3 STONE	

DRAFT



CROSS SECTION A-A
SCALE: HORIZ. 1"=30'
VERT. 1"=5'



CROSS SECTION B-B
SCALE: HORIZ. 1"=30'
VERT. 1"=5'

DETAILS – STORMWATER MANAGEMENT POND – BMP NO. 619 – (STA. 1019+00 E)

SW-94



ADDENDUMS / REVISIONS	

SCALE: AS SHOWN

**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

**DETAILS FOR SWM
POND
BMP NO. 619**

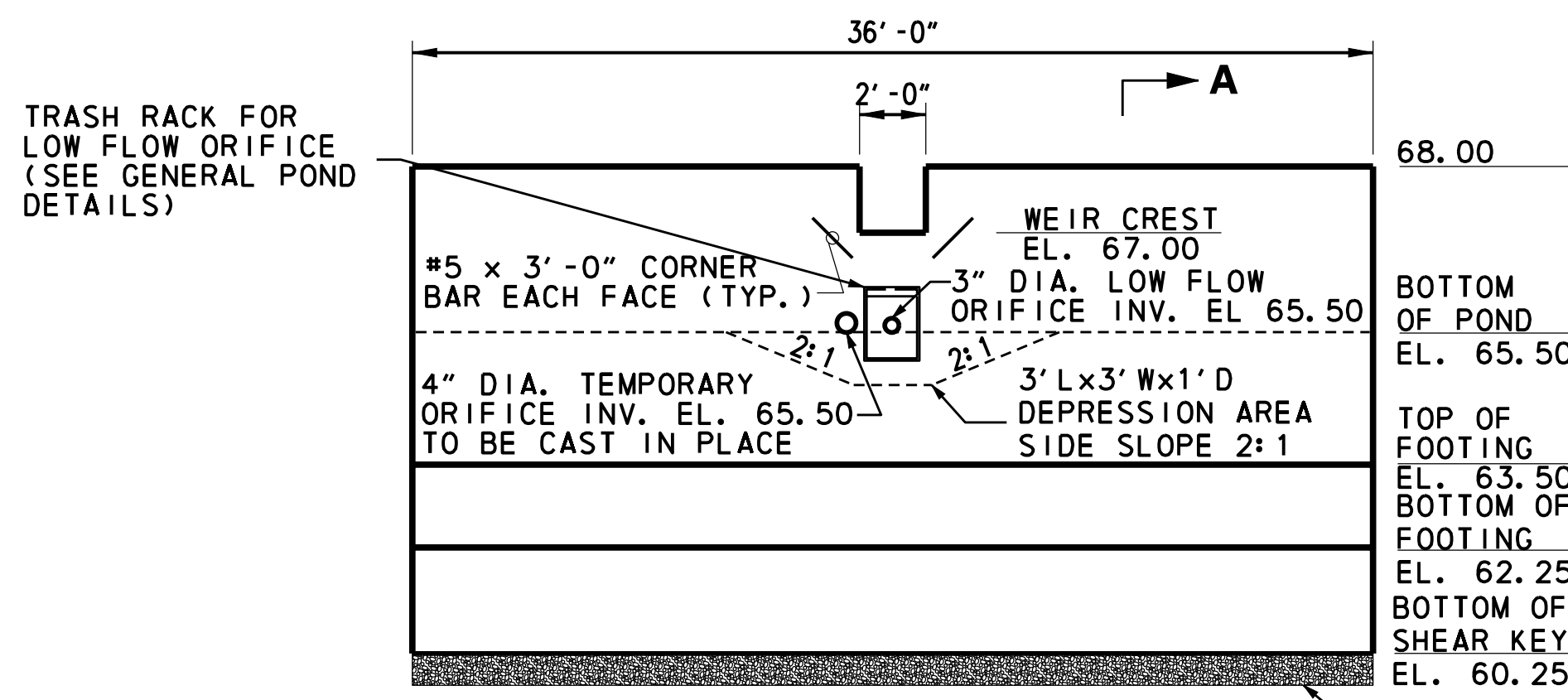
SHEET NO. 431
TOTAL SHTS. 850

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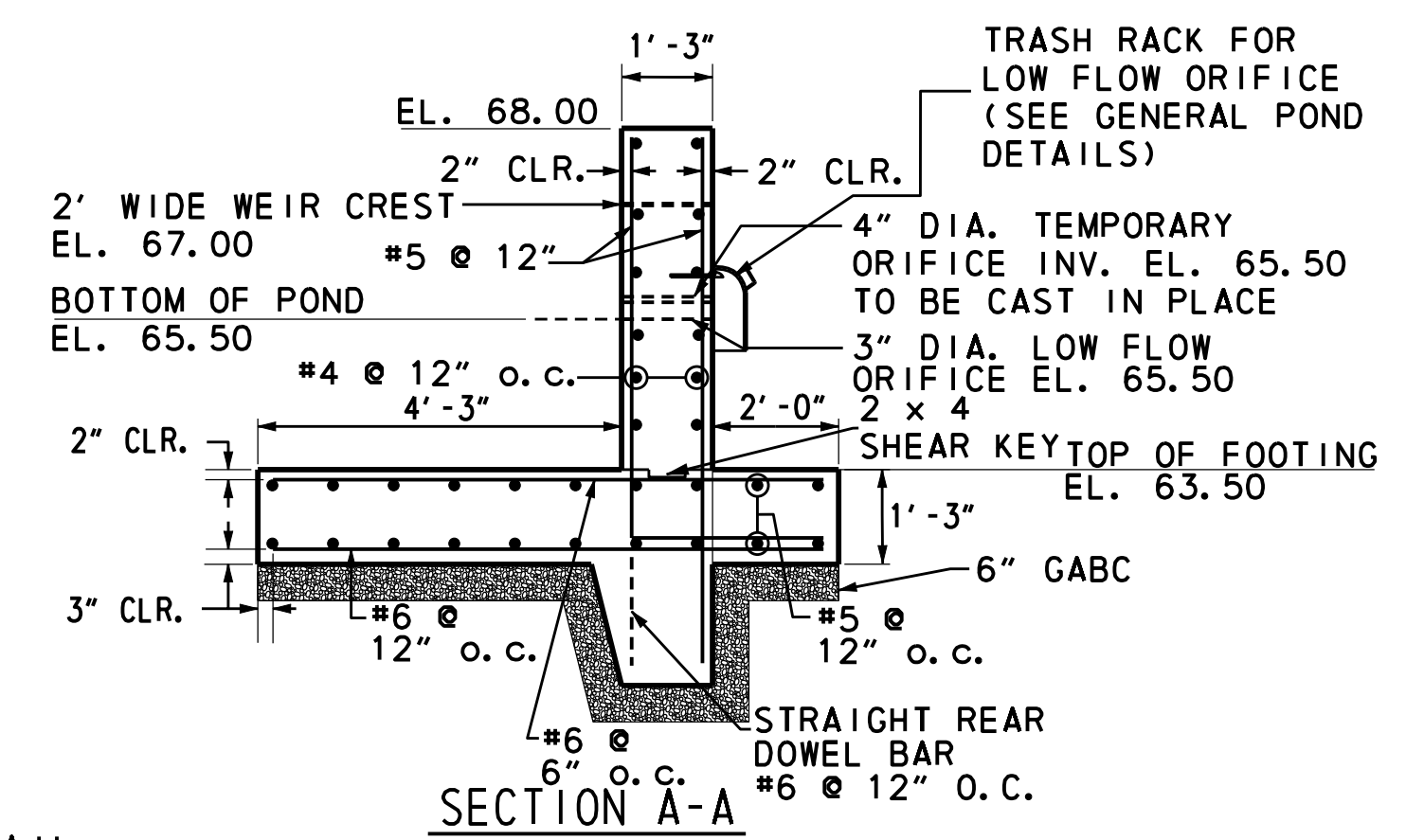
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NOT FOR BIDDING

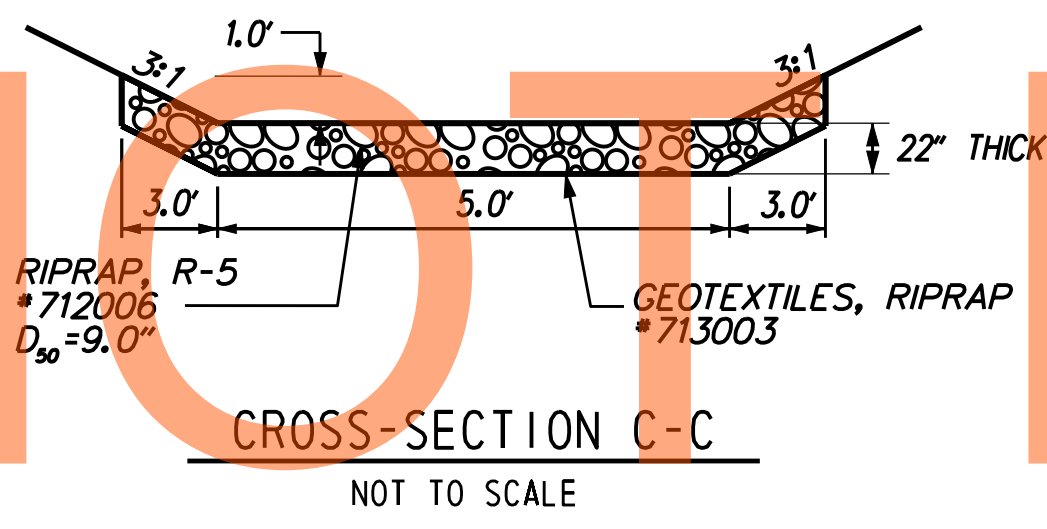
AUGUST 2015



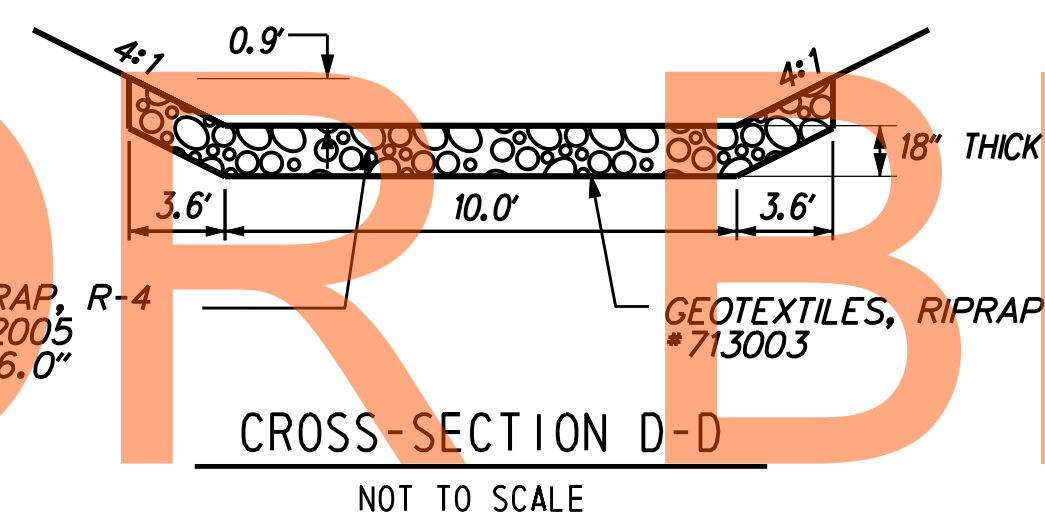
ELEVATION
CONCRETE WEIR WALL DETAIL
NOT TO SCALE



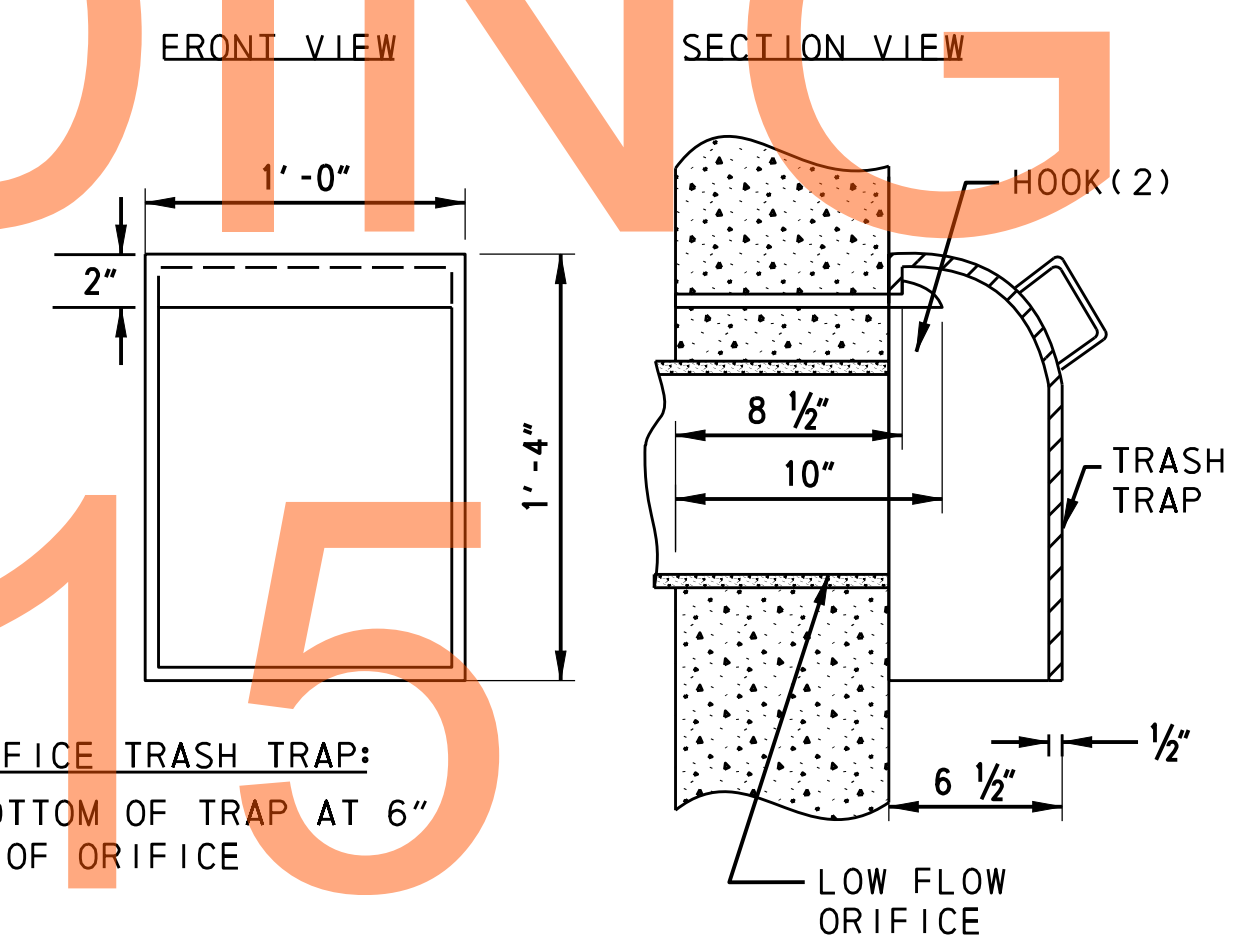
SECTION A-A
*ALTERNATE HOOKED BARS W/STRAIGHT BARS



CROSS-SECTION C-C
NOT TO SCALE



CROSS-SECTION D-D
NOT TO SCALE



NOTES FOR ORIFICE TRASH TRAP:
LOCATE THE BOTTOM OF TRAP AT 6"
BELOW INVERT OF ORIFICE

TYPICAL CONFIGURATIONS AND DETAILS
FOR LOW FLOW ORIFICE TRASH TRAP
NOT TO SCALE

DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 619 - (STA. 1019+00 E)



ADDENDUMS / REVISIONS

SCALE: AS SHOWN

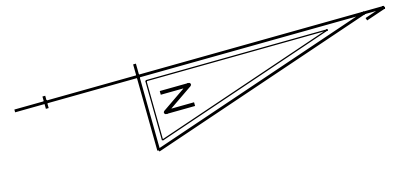
US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

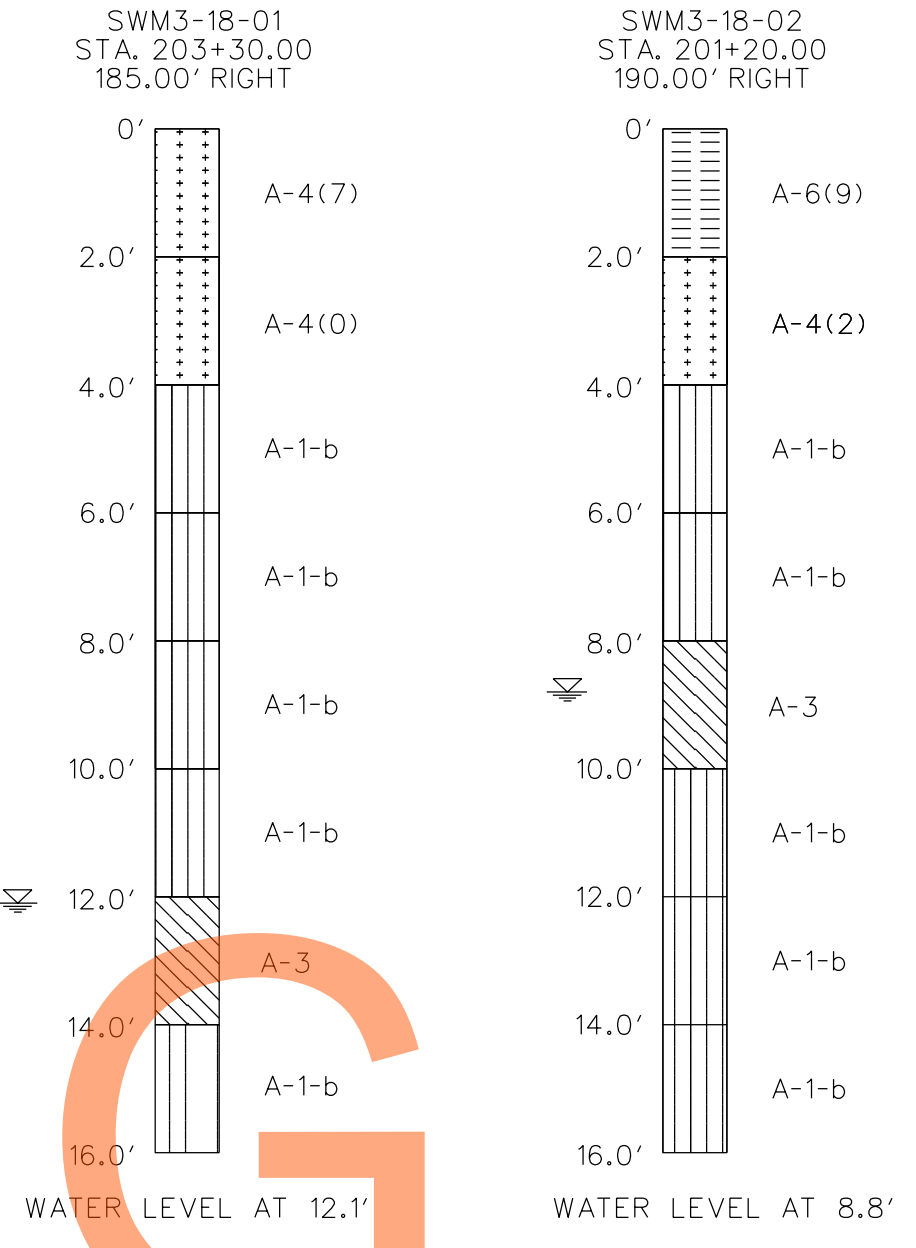
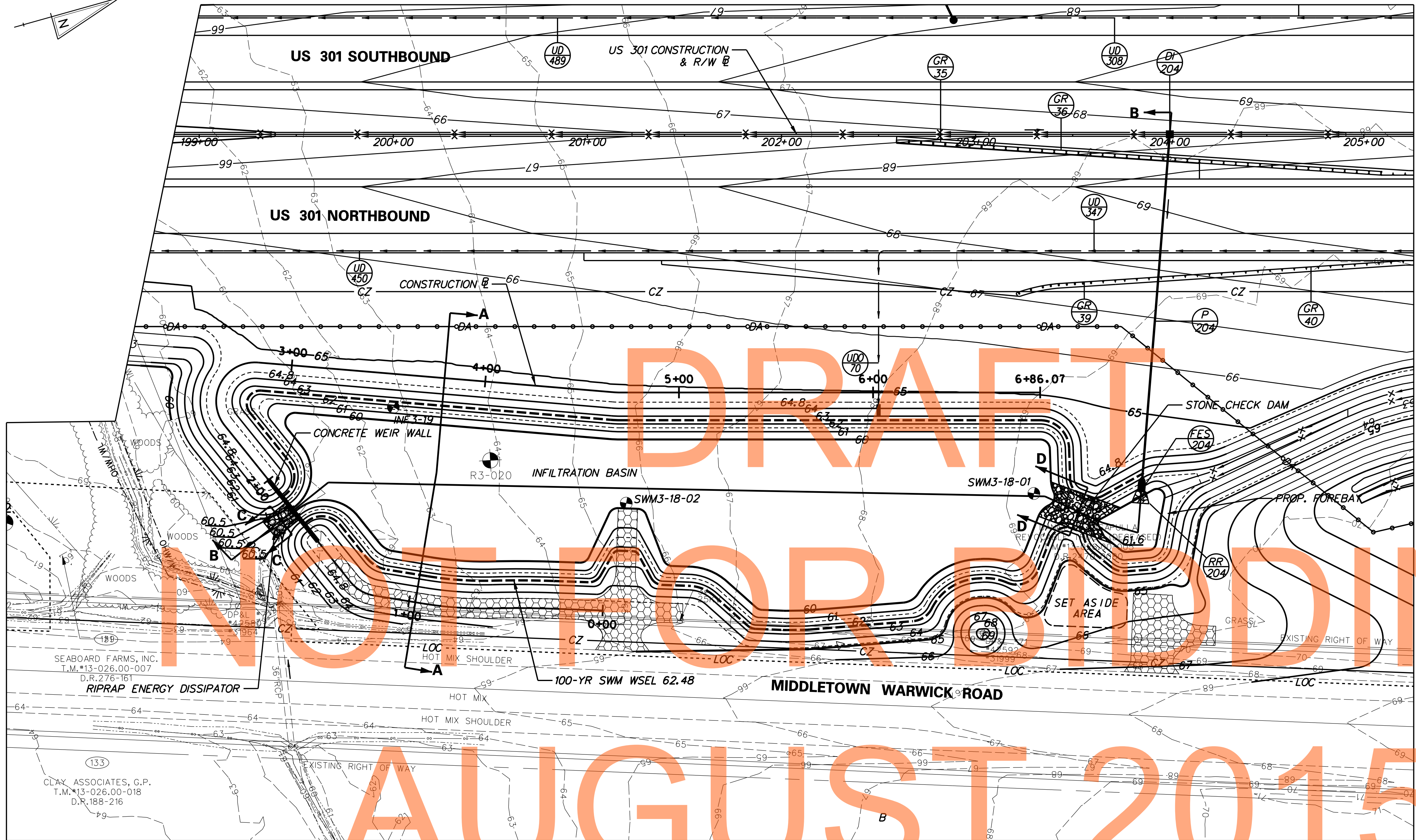
DETAILS FOR SWM
POND
BMP NO. 619

SW-95
SHEET NO. 432
TOTAL SHTS. 850

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LEGEND	
EXISTING CONTOUR	--- 68 ---
PROPOSED CONTOUR	— 65 —
POND MAINTENANCE ACCESS	



**PLAN - STORMWATER MANAGEMENT POND - BMP NO. 620 - (STA. 199+00 N)
(US 301 STA. 199+11 TO STA. 204+33), TYPE: INFILTRATION BASIN**

NOTE: SEE SHEETS SW-97 TO SW-99 FOR STORMWATER MANAGEMENT POND BMP NO. 620 DETAILS.

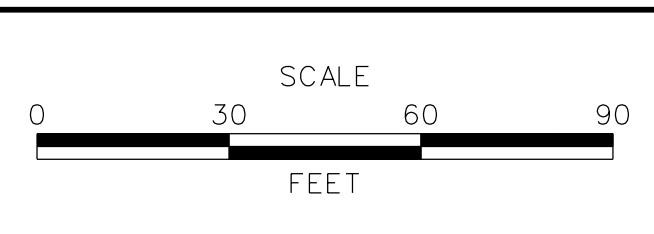
FACILITY DESIGN SUMMARY FOR STORMWATER MANAGEMENT POND BMP NO. 620				
DESIGN STORM	FACILITY INFLOW (CES)	FACILITY DISCHARGE (CES)	WATER SURFACE ELEVATION (FT.)	STORAGE VOLUME (AC. FT.)
1-YEAR	3.10	0.00	60.20	0.122
10-YEAR	11.40	1.67	61.47	0.992
100-YEAR	26.63	7.68	62.48	1.824

HAZARD CLASSIFICATION: CLASS 'A' AS PER POND CODE 378
 DRAINAGE AREA TO FACILITY 9.706 ACRES
 MANAGEMENT PROVIDED BY FACILITY: WATER QUALITY BY INFILTRATION FOR 1-YEAR STORM, WATER QUANTITY FOR 10-YEAR AND 100-YEAR STORMS.

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ADDENDUMS / REVISIONS



**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: DSM/ACF
	CHECKED BY: JZS

**STORMWATER
MANAGEMENT PLAN**

SW-96	SHEET NO. 433
	TOTAL SHTS. 850

POND CONSTRUCTION SEQUENCE AND NOTES

THE STORMWATER MANAGEMENT POND SHALL FUNCTION AS A SEDIMENT BASIN DURING ROADWAY CONSTRUCTION AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE STANDARD SPECIFICATIONS:

- SECTION 910 STORMWATER MANAGEMENT FACILITIES
- STORMWATER MANAGEMENT POND
 - POND OUTLET STRUCTURE, CONCRETE
 - CLAY BORROW

1. PRIOR TO DISTURBANCE OF THE SITE UPSTREAM OF THE BASIN, INSTALL FENCE AROUND THE BASIN AREA TO PREVENT CONSTRUCTION EQUIPMENT AND STOCKPILED MATERIALS FROM ENTERING THE BASIN AREA AND COMPACTING THE SUBGRADE SOILS.
2. CONSTRUCT BASIN AFTER ALL AREAS DRAINING TO THE BASIN HAVE BEEN PERMANENTLY STABILIZED AND THE ENGINEER HAS APPROVED THE CONSTRUCTION. INITIAL BASIN EXCAVATION SHOULD BE CARRIED TO WITHIN 2' OF THE FINAL ELEVATION OF BASIN FLOOR DURING CONSTRUCTION FOR USE AS A SEDIMENT BASIN.
3. CONSTRUCT THE BASIN WITHOUT COMPACTING THE BASIN'S SUBGRADE SOILS. EXCAVATION SHALL BE PERFORMED BY CONSTRUCTION EQUIPMENT PLACED OUTSIDE THE BASIN, WHERE POSSIBLE. ALL EXCAVATION SHALL BE PERFORMED WITH THE LIGHTEST PRACTICAL EXCAVATION EQUIPMENT.
4. CONSTRUCT POND OUTLET STRUCTURE, RIPRAP ENERGY DISSIPATOR AT THE END OF PRINCIPAL SPILLWAY AND PARTIAL EMBANKMENT AS NEEDED TO INSTALL POND OUTLET STRUCTURE. DE-WATER FOUNDATION AS NEEDED IN ACCORDANCE WITH SECTION 111 AND USE SUMP PIT FOR PUMPING.
5. EXCAVATE THE POND TO ELEVATION 62.00' AND COMPLETE THE EMBANKMENT, GRADES AND DETAILS SHOWN IN THE CONSTRUCTION PLANS. THE FINAL PHASE EXCAVATION SHOULD REMOVE ALL ACCUMULATED SEDIMENT TO ELEVATION 62.00'. LIGHT TRACKED EQUIPMENT IS RECOMMENDED FOR THIS OPERATION. AFTER FINAL GRADING IS COMPLETED TO ELEVATION 60.00', THE BASIN FLOOR SHOULD RETAIN A HIGHLY POROUS SURFACE TEXTURE.
 - A. DURING EXCAVATION, THE CONTRACTOR SHALL SALVAGE AND STOCKPILE SOILS CLASSIFIED AS CH, CL, CH AND GM PER THE UNIFIED SOIL CLASSIFICATION SYSTEM TO BE USED TO CONSTRUCT EMBANKMENT. THE ABOVE CLASSIFIED SOILS MAY BE OBTAINED FROM ELSEWHERE WITHIN THE PROJECT LIMITS, IF NECESSARY.
 - B. DURING EXCAVATION, THE CONTRACTOR SHALL SALVAGE AND STOCKPILE SOILS CLASSIFIED AS SW AND SP PER THE UNIFIED SOIL CLASSIFICATION SYSTEM TO BE USED TO FILL THE BASIN BOTTOM WHERE OVEREXCAVATED FOR REMOVAL OF UNSUITABLE SOIL. THE ABOVE CLASSIFIED SOILS MAY BE OBTAINED FROM ELSEWHERE WITHIN THE PROJECT LIMITS, IF NECESSARY.
6. STABILIZE BASIN EMBANKMENT AND BOTTOM WITH PERMANENT SEEDING.
7. REMOVE EROSION AND SEDIMENT CONTROLS, WATER DIVERSION PRACTICES AND FENCE UPON FINAL STABILIZATION AND APPROVAL FROM INSPECTOR. SEE CONSTRUCTION SEQUENCE PLANS FOR LOCATION OF EROSION AND SEDIMENT CONTROL MEASURES.

MAINTENANCE OF POND AS A SEDIMENT BASIN

1. CONTRACTOR SHALL INSPECT THE BASIN IMMEDIATELY AFTER EVERY RAIN AND MAKE REPAIRS AS NEEDED.
2. CONTRACTOR SHALL CLEARLY MARK THE CLEANOUT ELEVATION ON A STAKE DRIVEN INTO THE GROUND AT A LOCATION CLEARLY VISIBLE FROM THE EMBANKMENT. SEDIMENT SHALL BE REMOVED WHEN CLEANOUT ELEVATION IS REACHED AND DISPOSED OF AT A LOCATION APPROVED BY THE ENGINEER.

CONVERSION TO PERMANENT STORMWATER MANAGEMENT POND

1. CONVERT THE BASIN INTO THE PERMANENT STORMWATER MANAGEMENT POND AND GROUT TEMPORARY 4" DIA. ORIFICE AT EL. 62.00 AFTER ALL AREAS DRAINING TO THE POND HAVE BEEN PERMANENTLY STABILIZED AND THE ENGINEER HAS APPROVED THE CONVERSION.
2. REMOVE ACCUMULATED SEDIMENT TO ELEVATION 60.00 AND DISPOSE SEDIMENT AT A LOCATION APPROVED BY THE ENGINEER.
3. COMPLETE STABILIZATION OF ALL BARE AREAS. REMOVE EROSION AND SEDIMENT CONTROL MEASURES AND DEACTIVATE SKIMMER DEWATER DEVICE.

AS-BUILT DRAWINGS OF STORMWATER MANAGEMENT FACILITIES

THE CONTRACTOR SHALL PROVIDE 'AS-BUILT' DRAWINGS OF ALL STORMWATER MANAGEMENT FACILITIES, SUCH AS PONDS, INFILTRATION BASINS, BIOFILTRATION SWALES, ETC. 'AS-BUILT' DRAWINGS SHALL SHOW THE ACTUAL FINISH GROUND CONTOURS, OUTLET STRUCTURES DIMENSIONS AND ELEVATIONS, ETC. AS THEY EXIST AT THE COMPLETION OF THE PROJECT. THESE DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER OR LAND SURVEYOR.

ITEM 713003, GEOTEXTILES, RIPRAP	
STATION/OFFSET	AREA
STA 203+32, 196.8' RT. TO STA 203+75, 192.4' RT.	81 SY
STA 199+33, 199.3' RT. TO STA 199+51, 198.5' RT.	25 SY

ITEM 713002, GEOTEXTILES, SEPARATION	
STATION/OFFSET	AREA
STA 199+66, 223.2' RT. TO STA 201+49, 251.8' RT.	371 SY

ITEM 302011, DELAWARE NO. 3 STONE	
STATION/OFFSET	WEIGHT
STA 199+66, 223.2' RT. TO STA 201+49, 251.8' RT.	73 TON

ITEM 712005, RIPRAP, R-4	
STATION/OFFSET	AREA
STA 203+32, 196.8' RT. TO STA 203+75, 192.4' RT.	66 SY

ITEM 712006, RIPRAP, R-5	
STATION/OFFSET	AREA
STA 199+33, 199.3' RT. TO STA 199+51, 198.5' RT.	19 SY

ITEM 272501, POND OUTLET STRUCTURE, SPECIAL	
ITEM	QUANTITY
CONCRETE WEIR WALL	1 EA


TEMPORARY SEDIMENT BASIN DETAILS			
SKIMMER ORIFICE SIZE (IN)	SKIMMER INVERT	CLEANOUT ELEVATION	*EMERGENCY SPILLWAY ELEVATION
4	62.00	2.11	63.10

* BLOCK OUTLET STRUCTURE TO THIS ELEVATION IN TEMPORARY CONDITIONS

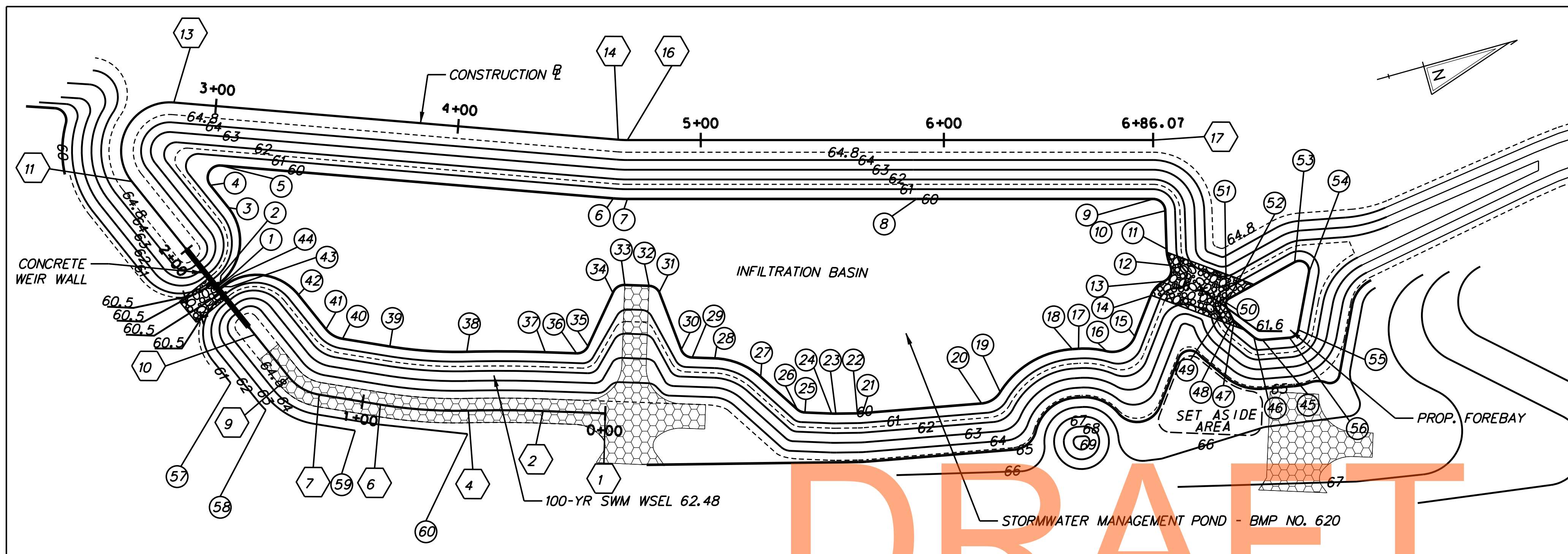
DRAFT
NOT FOR BIDDING
AUGUST 2015

NOTES - STORMWATER MANAGEMENT POND - BMP NO. 620 - (STA. 199+00 N)

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 DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT	BRIDGE NO.	STORMWATER MANAGEMENT PLAN	SHEET NO.	
			T200811301	DESIGNED BY:		DSM/ACF	434
			NEW CASTLE	CHECKED BY:		JZS	TOTAL SHTS.
						850	

SW-97



LEGEND	
PROPOSED CONTOUR	65
POND MAINTENANCE ACCESS	[Pattern]
BASELINE OF CONSTRUCTION CONTROL COORDINATES	8
GRADING CONTROL POINTS	8
BOTTOM OF POND	BOP
BOTTOM OF FOREBAY	BOF
BOTTOM OF SWALE	BOS

PLAN - STORMWATER MANAGEMENT POND - BMP NO. 620 - (STA. 199+00 N)

NOTES:

- THE POND BETWEEN ELEVATIONS 60.0 AND 64.8, NOT INCLUDING THE POND BOTTOM SHALL RECEIVE TOPSOILING, 6" DEPTH (ITEM 908010).
- THE POND BETWEEN ELEVATIONS 60.0 AND 61.0, INCLUDING THE POND BOTTOM SHALL RECEIVE PERMANENT GRASS SEEDING - WET GROUND (ITEM 908015).
- THE REMAINDER OF THE EMBANKMENT AREA SHALL RECEIVE PERMANENT GRASS SEEDING - DRY GROUND (ITEM 908014).
- WET GROUND SEEDING AREA = 3,438 SY,
DRY GROUND SEEDING AREA = 3,744 SY.

BASELINE OF CONSTRUCTION CONTROL COORDINATES

STATION	NORTHING	EASTING
1 POB STA. 0+00.00	521,464.8414	559,319.0585
2 PC STA. 0+25.57	521,440.4840	559,311.2642
PI STA. 0+40.98	521,425.8120	559,306.5692
4 PRC STA. 0+56.37	521,410.8811	559,302.7772
PI STA. 0+74.58	521,393.2403	559,298.2971
6 PT STA. 0+92.67	521,376.7392	559,290.6170
7 PC STA. 1+18.22	521,353.5761	559,279.8364
PI STA. 1+25.88	521,346.6295	559,276.6032
9 PT STA. 1+32.85	521,343.6212	559,269.5562
10 PT STA. 1+55.28	521,334.8174	559,248.9329
11 PC STA. 2+35.99	521,303.1290	559,174.7013
PI STA. 2+82.63	521,284.8182	559,131.8072
13 PT STA. 2+82.62	521,328.5146	559,148.1109
14 PC STA. 4+66.04	521,500.3664	559,212.2311
PI STA. 4+67.92	521,502.1264	559,212.8878
16 PT STA. 4+69.80	521,503.9349	559,213.3954
17 POE STA. 6+86.07	521,712.1622	559,271.8493

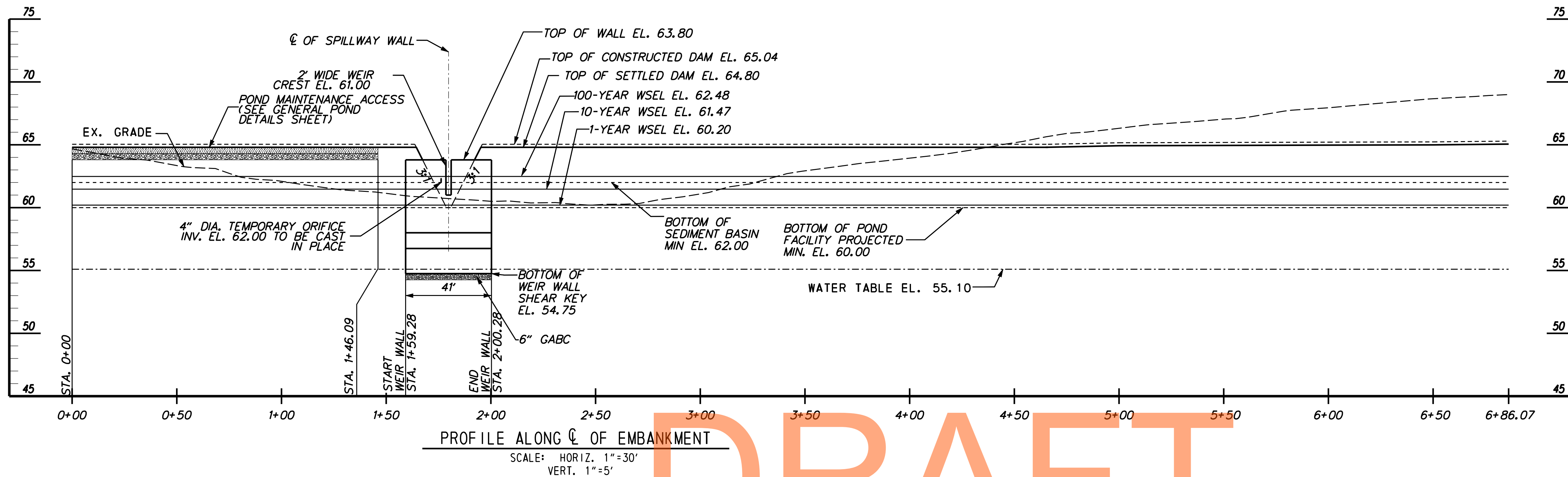
GRADING CONTROL POINTS

	NORTHING	EASTING	ELEVATION	NOTE
1	521,325.3795	559,225.2324	60.00	BOP
2	521,326.7935	559,224.6318	60.00	BOP
3	521,338.4253	559,195.7457	60.00	BOP
4	521,333.8089	559,184.9314	60.00	BOP
5	521,340.1553	559,178.2838	60.00	BOP
6	521,491.9068	559,234.9043	60.00	BOP
7	521,497.3943	559,236.6948	60.00	BOP
8	521,611.9236	559,268.8456	60.00	BOP
9	521,705.6216	559,295.1486	60.00	BOP
10	521,709.1257	559,301.1560	60.00	BOP
11	521,705.3634	559,316.4629	60.00	BOP
12	521,705.0240	559,323.3048	60.00	BOP
13	521,700.9066	559,328.9421	60.00	BOP
14	521,693.9536	559,333.1676	60.00	BOP
15	521,683.1374	559,347.5175	60.00	BOP
16	521,670.2406	559,350.2092	60.00	BOP
17	521,659.4155	559,346.1278	60.00	BOP
18	521,656.9313	559,345.6041	60.00	BOP
19	521,623.6008	559,354.6073	60.00	BOP
20	521,614.9777	559,357.0065	60.00	BOP
21	521,566.7229	559,347.5943	60.00	BOP
22	521,564.6948	559,347.1186	60.00	BOP
23	521,556.1245	559,344.8362	60.00	BOP
24	521,554.4615	559,344.3428	60.00	BOP
25	521,543.9993	559,340.9375	60.00	BOP
26	521,541.3364	559,338.8798	60.00	BOP
27	521,530.4458	559,321.8768	60.00	BOP
28	521,514.3267	559,309.4848	60.00	BOP
29	521,505.4511	559,306.6446	60.00	BOP
30	521,501.9959	559,302.3394	60.00	BOP

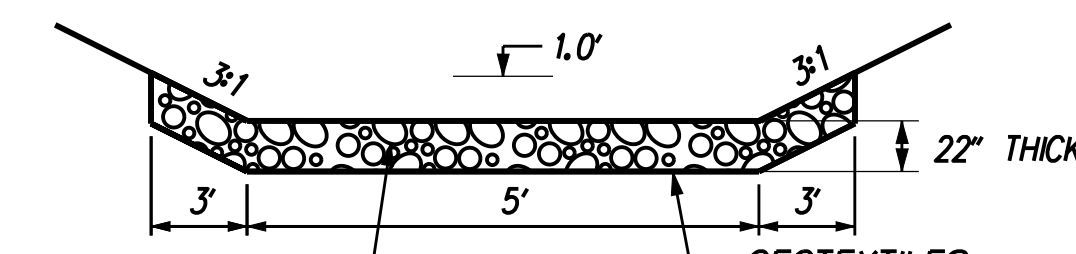
GRADING CONTROL POINTS

	NORTHING	EASTING	ELEVATION	NOTE
31	521,499.6816	559,277.1239	60.00	BOP
32	521,496.3341	559,273.4886	60.00	BOP
33	521,486.8098	559,270.4409	60.00	BOP
34	521,481.2239	559,272.2876	60.00	BOP
35	521,465.4483	559,290.6401	60.00	BOP
36	521,460.1327	559,292.1429	60.00	BOP
37	521,447.8595	559,288.2155	60.00	BOP
38	521,416.8380	559,279.3219	60.00	BOP
39	521,386.9506	559,268.6770	60.00	BOP
40	521,369.0670	559,260.3535	60.00	BOP
41	521,363.5918	559,254.6994	60.00	BOP
42	521,356.4854	559,238.0522	60.00	BOP
43	521,327.6502	559,226.4408	60.00	BOP
44	521,326.1692	559,227.0699	60.00	BOP
45	521,733.2888	559,363.0910	60.00	BOF
46	521,730.1604	559,361.0658	60.00	BOF
47	521,724.1021	559,352.4783	60.00	BOF
48	521,723.7755	559,351.7191	60.00	BOF
49	521,722.5887	559,345.8090	60.00	BOF
50	521,722.9313	559,344.2401	60.00	BOF
51	521,723.2266	559,343.8334	60.00	BOF
52	521,724.3825	559,343.0628	60.00	BOF
53	521,754.6325	559,335.8729	60.00	BOF
54	521,759.1482	559,341.5271	60.00	BOF
55	521,748.5782	559,363.0601	60.00	BOF
56	521,744.2217	559,365.2235	60.00	BOF
57	521,319.8771	559,265.3851	61.00	BOT
58	521,330.7904	559,280.0192	62.00	BOT
59	521,363.8934	559,298.0950	63.00	BOT
60	521,408.0312	559,311.9503	64.00	BOT

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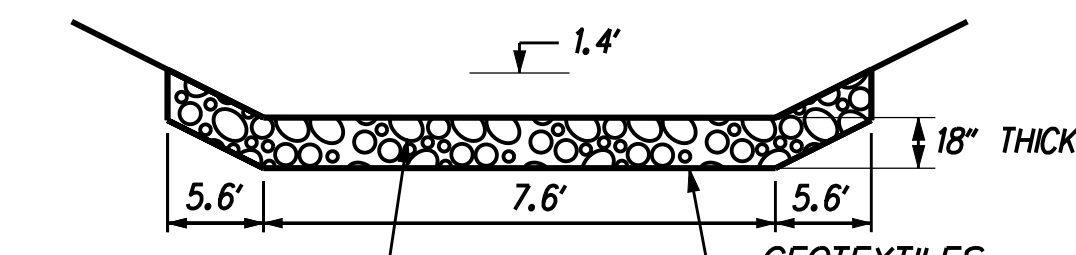
POND MAINTENANCE ACCESS	
6" TOPSOIL, PERM. SEEDING	[Pattern]
6" DELAWARE NO. 3 STONE	[Pattern]



RIPRAP, R-5
*712006
D₅₀=9.0"

GEOTEXTILES, RIPRAP *713003

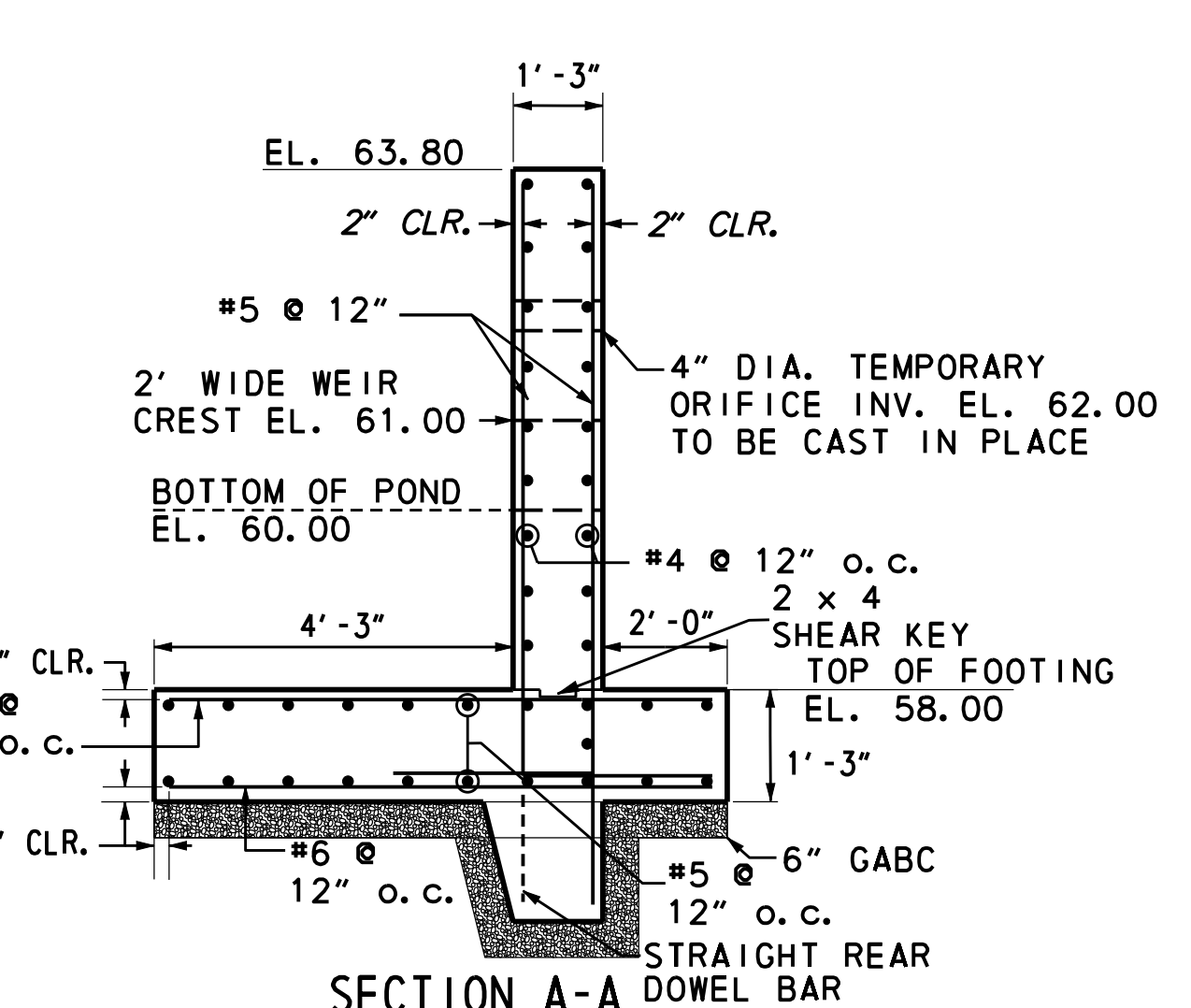
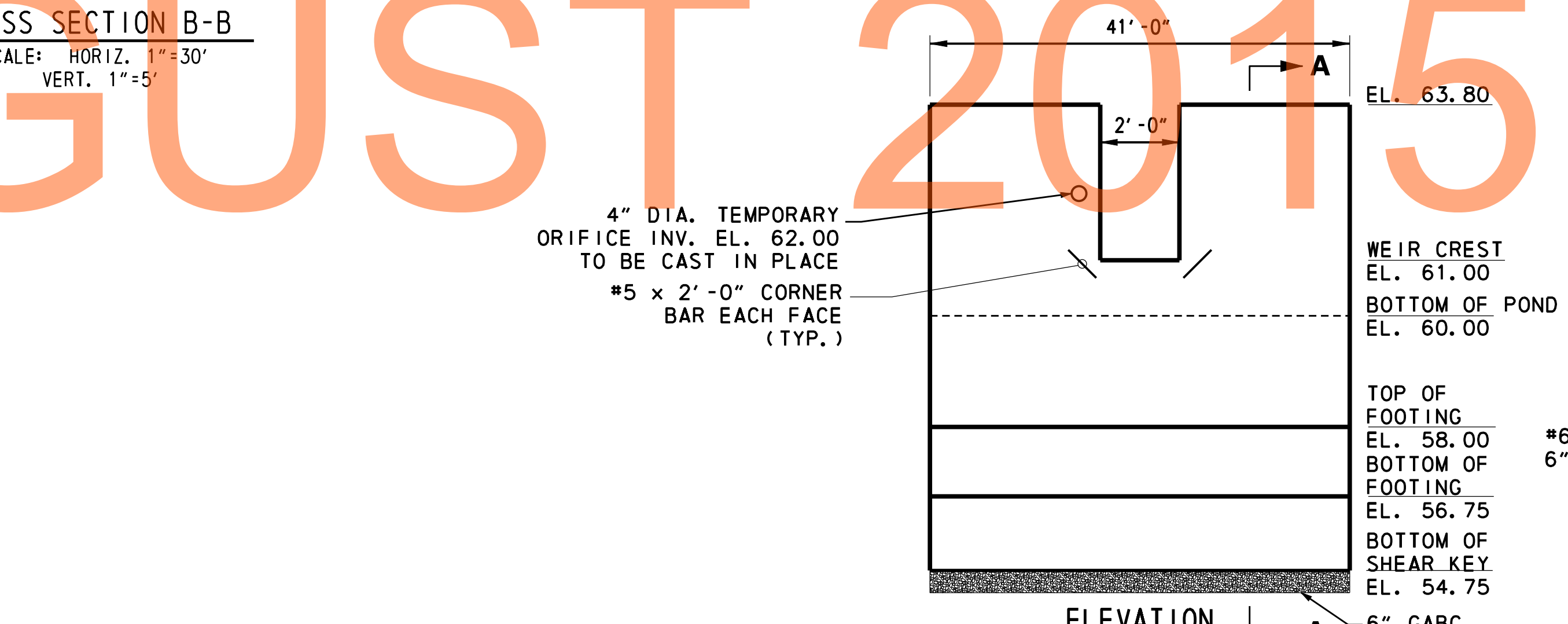
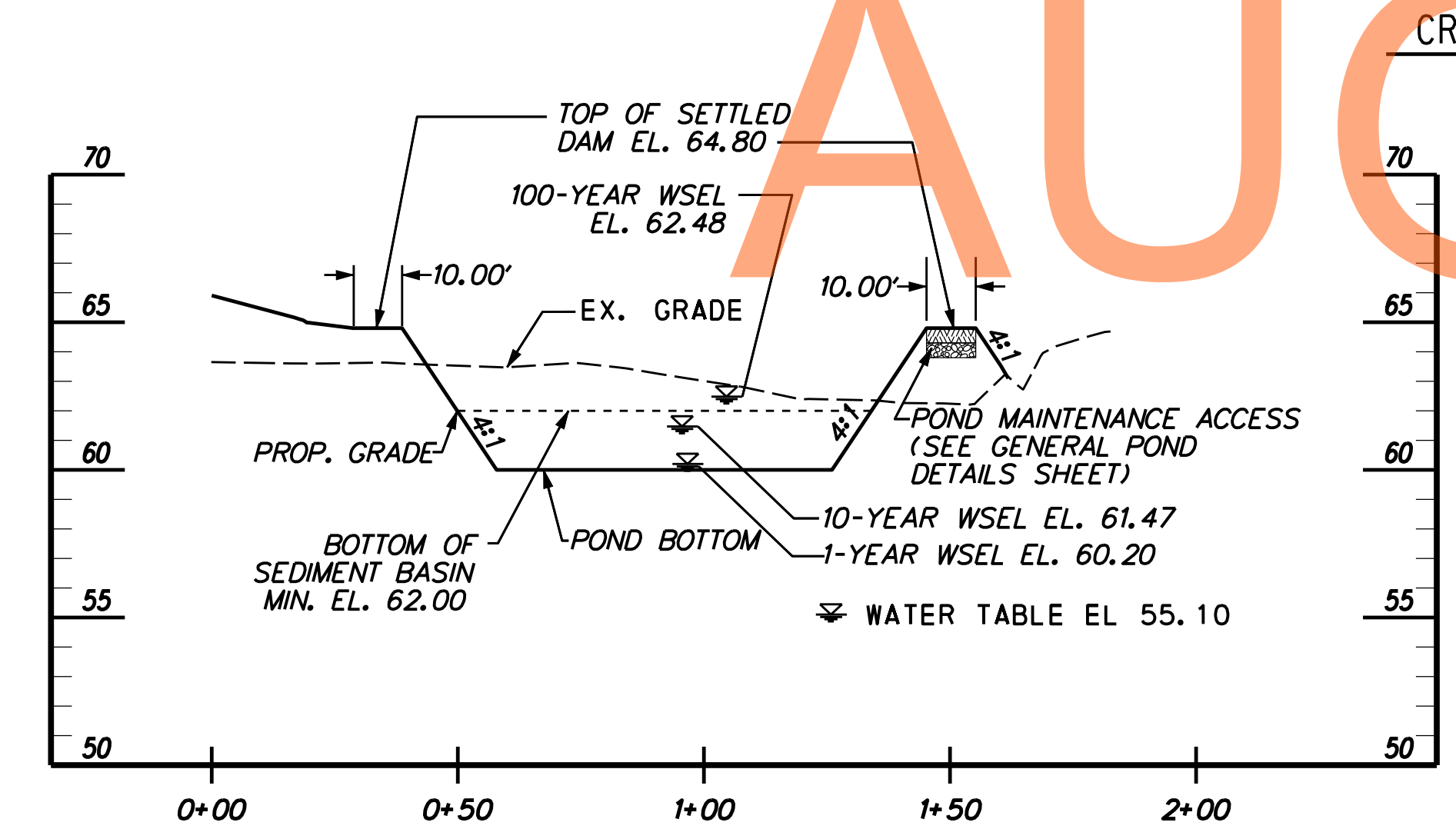
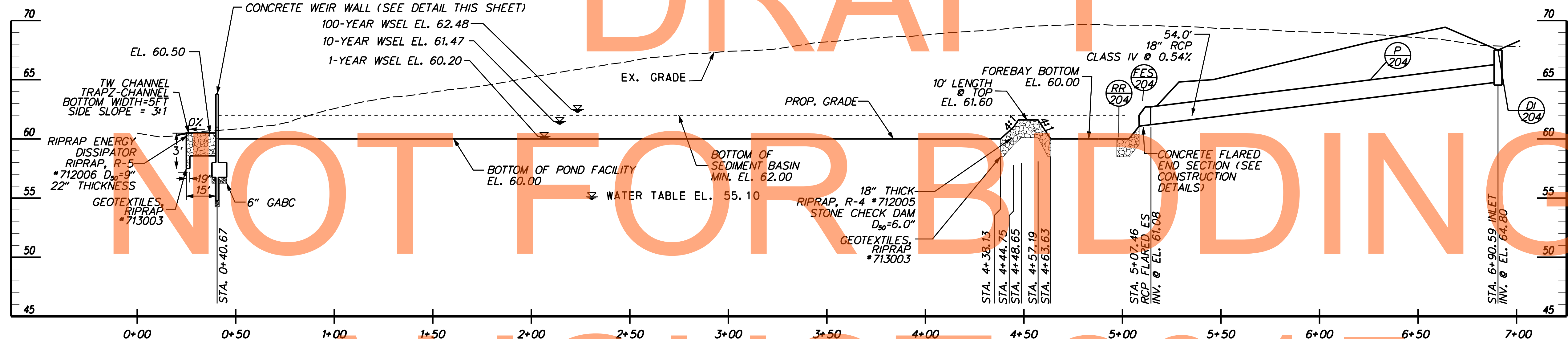
RIPRAP ENERGY DISSIPATOR
CROSS SECTION C-C
NOT TO SCALE



RIPRAP, R-4
*712005
D₅₀=6.0"

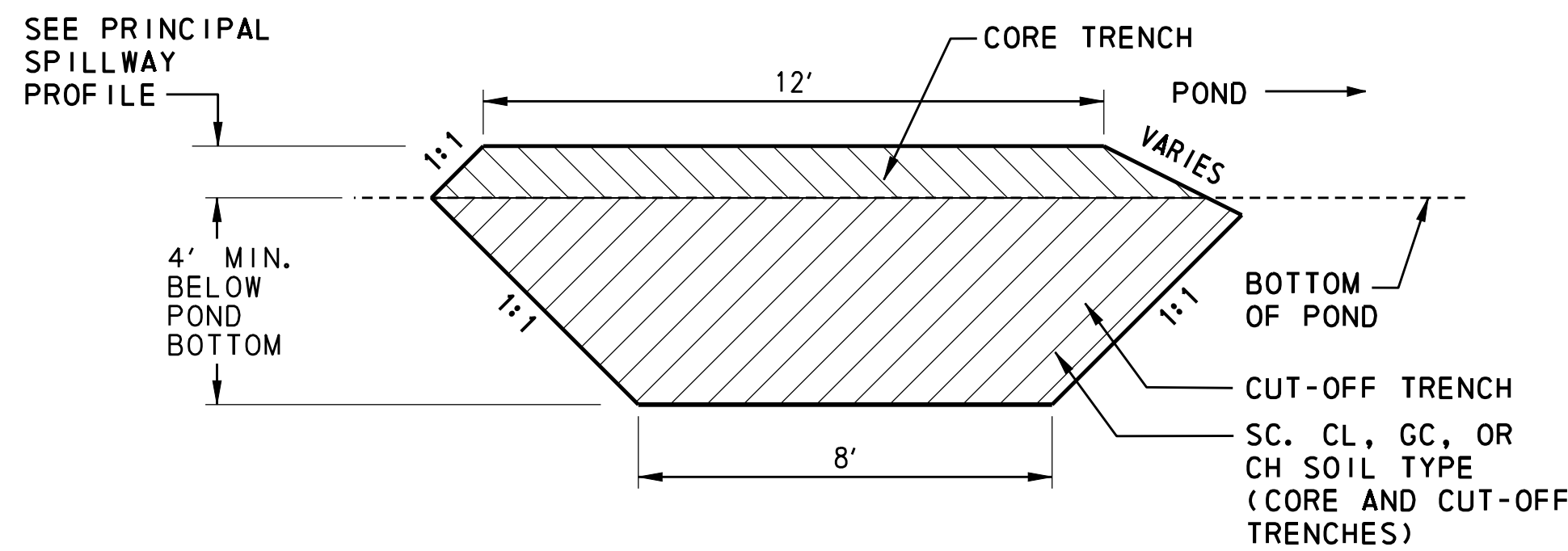
GEOTEXTILES, RIPRAP *713003

STONE CHECK DAM
CROSS SECTION D-D
NOT TO SCALE

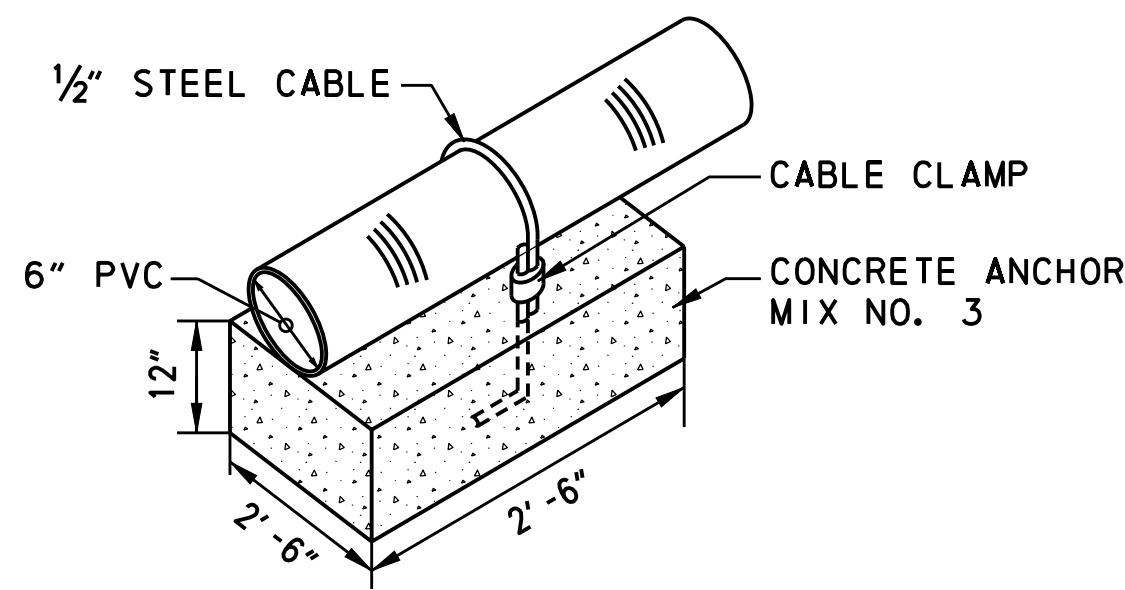


DETAILS - STORMWATER MANAGEMENT POND - BMP NO. 620 - (STA. 199+00 N)

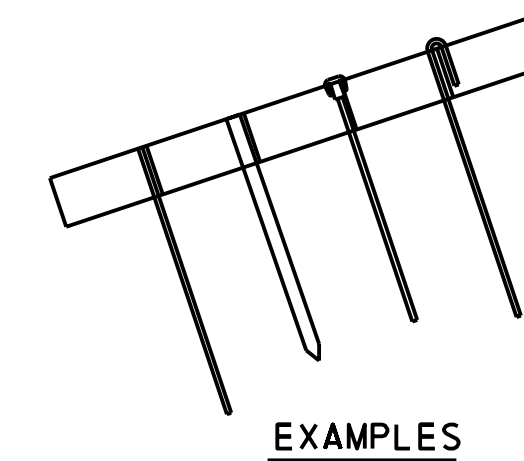
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CORE/CUT-OFF TRENCH TYPICAL SECTION
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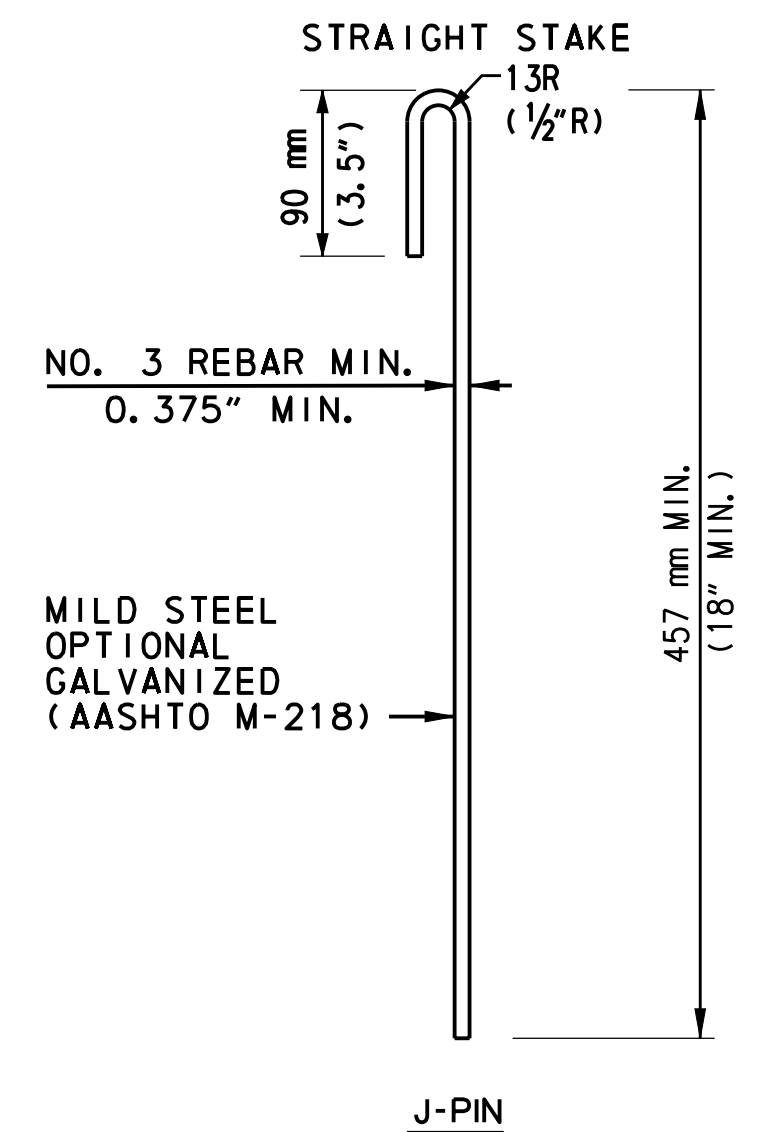


CONCRETE ANCHOR DETAIL
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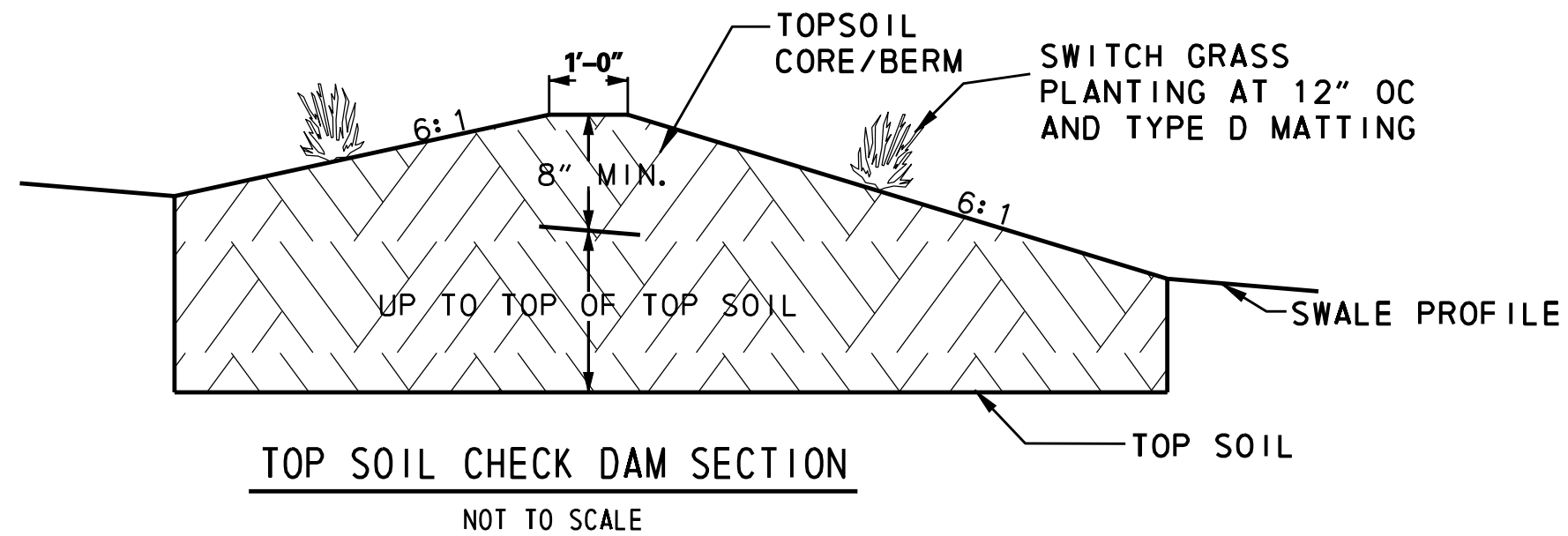


- STEP 1 - POSITION STAKE NEXT TO 'UP-SLOPE' CELL WALL
- STEP 2 - DRIVE STAKE INTO GROUND UNTIL FLUSH WITH THE TOP OF THE CELL WALLS

STAKE ANCHOR INSTALLATION
NO TENDONS

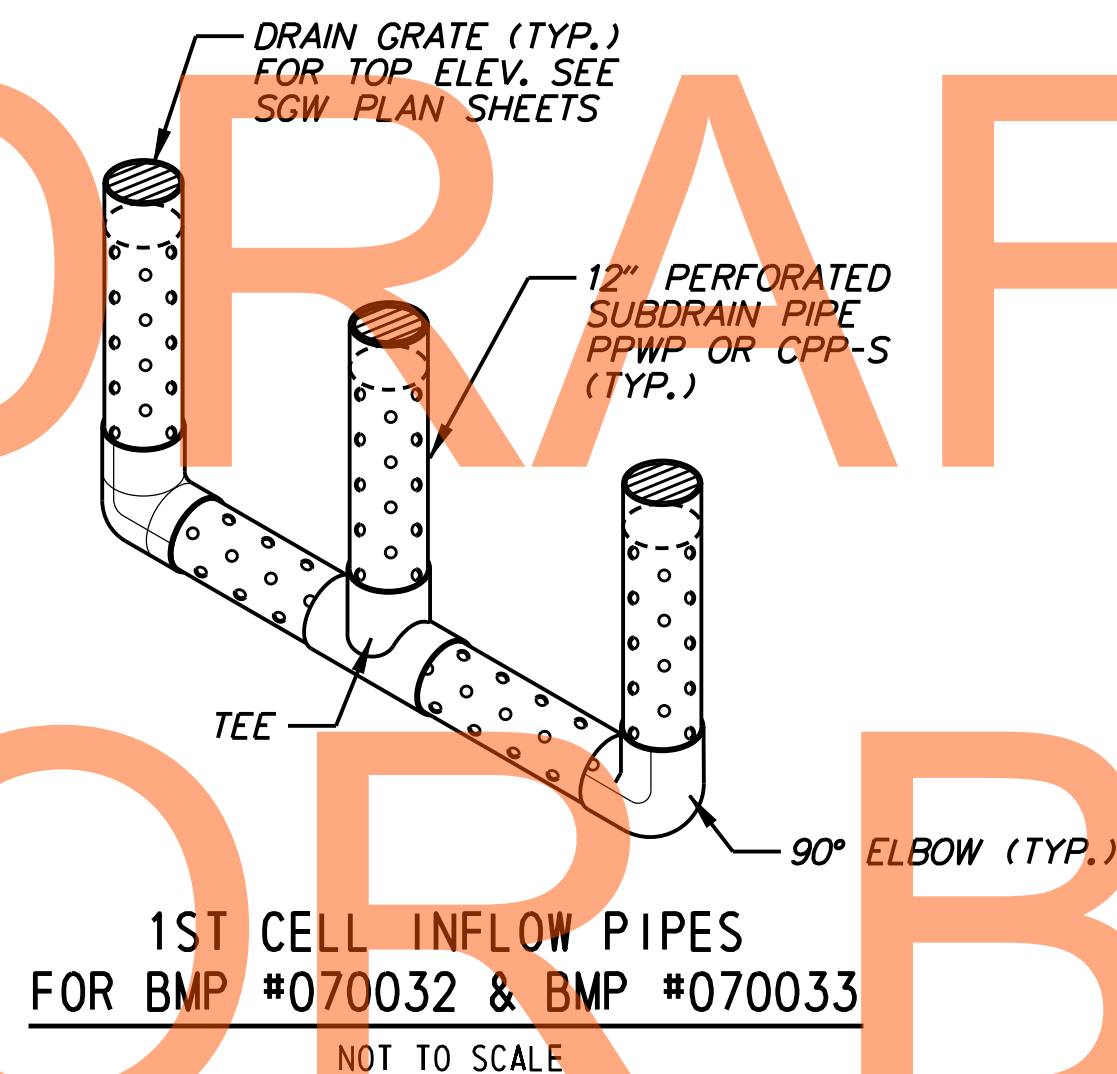


TYPICAL STAKE DETAILS
NOT TO SCALE

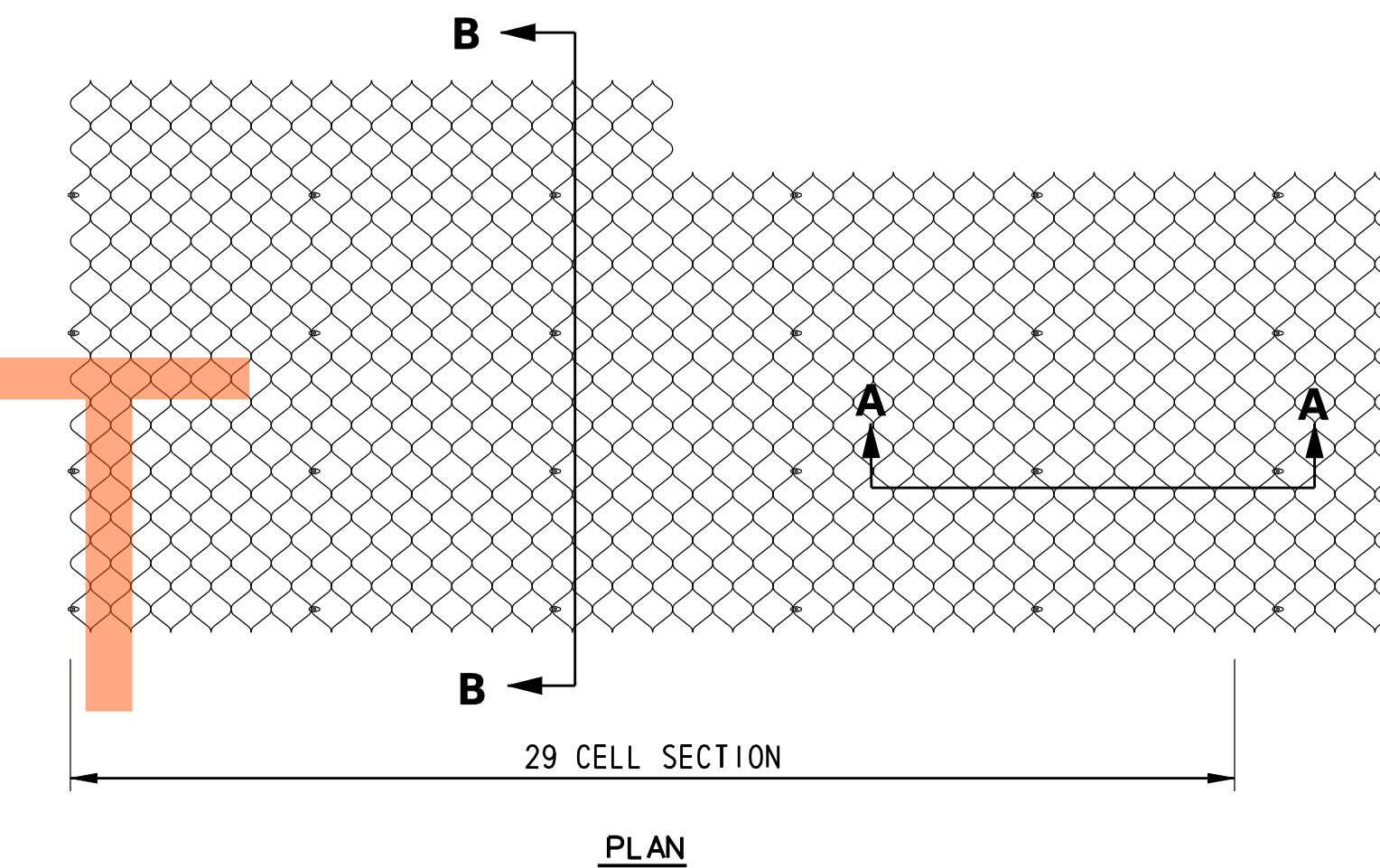


TOP SOIL CHECK DAM SECTION
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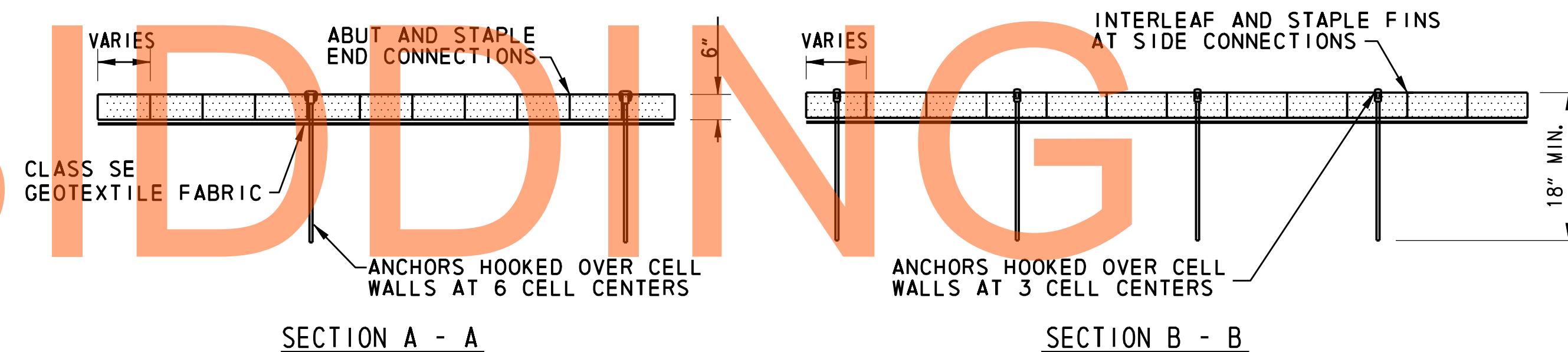
DRAFT



1ST CELL INFLOW PIPES
FOR BMP #070032 & BMP #070033
NOT TO SCALE



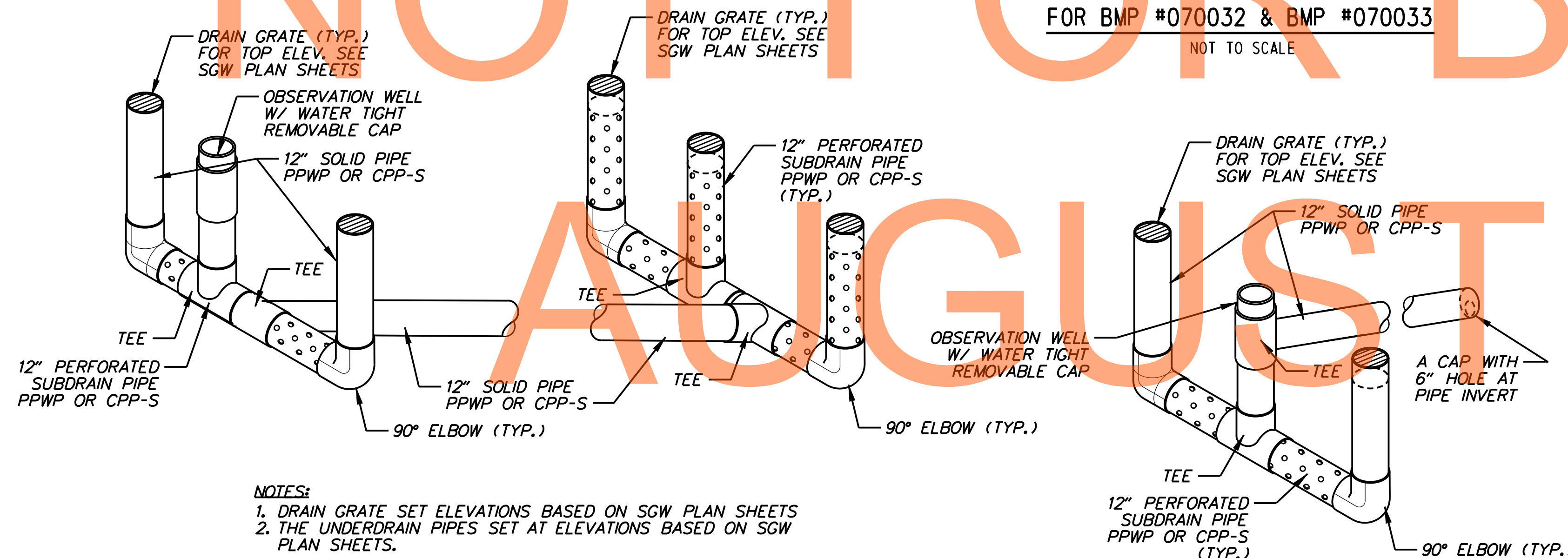
PLAN



SECTION A - A

SECTION B - B

TYPICAL CELLULAR CONFINEMENT ANCHOR SYSTEM

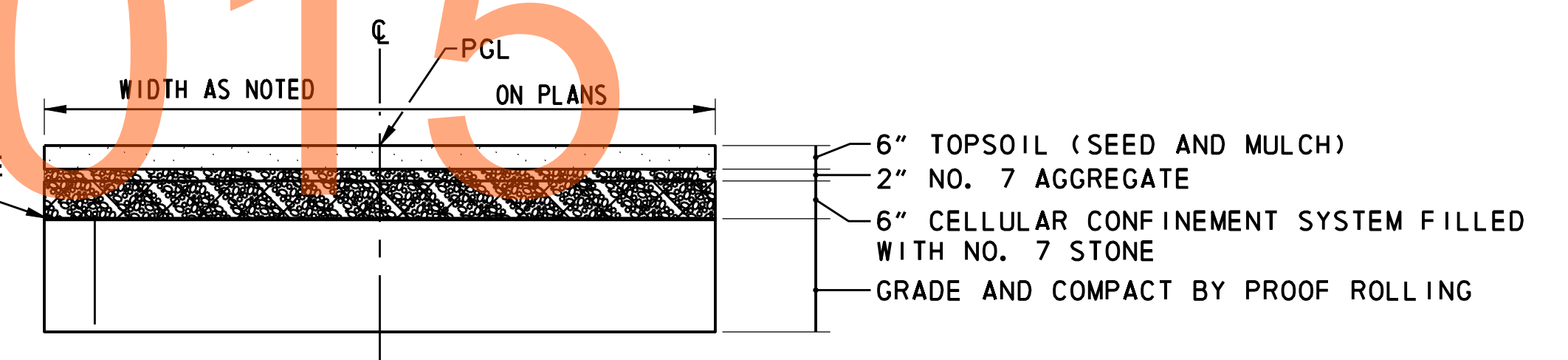


1ST CELL OUTFLOW PIPES
FOR BMP #070032 & BMP #070033
NOT TO SCALE

2ND CELL INFLOW PIPE
FOR BMP #070032, #070033, & #070034
NOT TO SCALE

2ND CELL OUTFLOW PIPE
FOR BMP #070032, #070033, & #070034
NOT TO SCALE

- NOTES:**
1. DRAIN GRATE SET ELEVATIONS BASED ON SGW PLAN SHEETS
 2. THE UNDERDRAIN PIPES SET AT ELEVATIONS BASED ON SGW PLAN SHEETS.



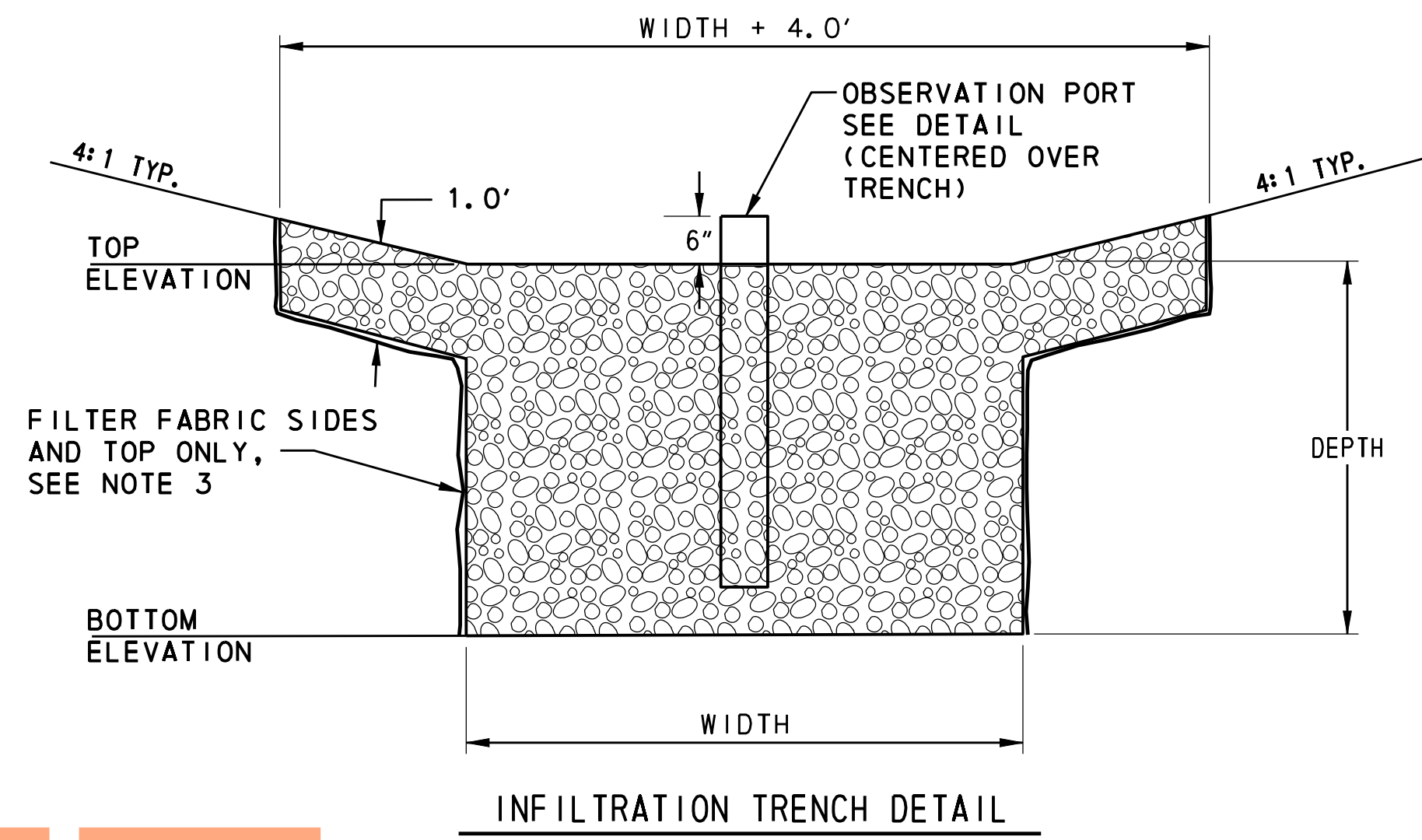
POND ACCESS ROAD, MARYLAND SECTION

POND ACCESS ROAD, MARYLAND
CELLULAR CONFINEMENT LOAD SUPPORT SYSTEM
NOT TO SCALE

GENERAL DETAILS - MARYLAND STORMWATER MANAGEMENT PONDS

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- NOTES:
1. FOOTPRINT OF PROPOSED INFILTRATION TRENCH PLUS 10 FEET IN ALL DIRECTIONS SHALL BE MARKED IN THE FIELD WITH CONSTRUCTION SAFETY FENCE (ITEM NO. 727520) AT THE BEGINNING OF AREA SHALL BE OFF LIMITS TO CONSTRUCTION EQUIPMENT UNTIL WORK ON INFILTRATION TRENCH BEGIN.
 2. DURING CONSTRUCTION, THE CONTRACTOR SHALL EXERCISE CAUTION NOT TO DISTURB AND COMPACT ANY IN SITU SOIL LAYER BELOW THE PROPOSED GRADE AND WITHIN THE FOOTPRINT OF THE INFILTRATION TRENCH. ALL SIDES AND BOTTOM OF THE TRENCH SHALL BE SACRIFIED PRIOR TO PLACEMENT OF THE GEOTEXTILE MATERIAL AND BACKFILLING WITH STONE.
 3. FILTER FABRIC SHALL BE PLACED ALONG ALL SIDES OF THE INFILTRATION TRENCH AND EXTEND OVER THE ENTIRE TOP OF THE INFILTRATION TRENCH DURING CONSTRUCTION. ONCE THE ENTIRE DRAINAGE AREA HAS BEEN STABILIZED WITH A GOOD STAND OF GRASS, THE CONTRACTOR SHALL CUT THE FILTER FABRIC AT GROUND LEVEL AND EXPOSE THE TOP SURFACE OF THE TRENCH. ANY BARE AREAS SHALL BE IMMEDIATELY SEEDED AND MULCHED WITH SRBM, TYPE 5. FILTER FABRIC MATERIAL SHALL CONFORM TO SECTION B27.04 OF THE STANDARD SPECIFICATIONS.
 4. STONE BACKFILL FOR THE INFILTRATION TRENCH SHALL BE DE NO. 3 STONE. THE DE NO. 3 STONE SHALL BE CLEAN, DOUBLE WASHED CRUSHED AGGREGATE FREE OF ROCK DUST, FINES, AND SOIL PARTICLES. STONES SHALL NOT BE CRUSHED LIMESTONE AGGREGATES. STONE BACKFILL MATERIALS DETERMINED TO BE CONTAMINATED SHALL BE REPLACED AT THE CONTRACTORS EXPENSE.
 5. AN OBSERVATION POST SHALL BE INSTALLED AT THE DOWNSTREAM END WITHIN 5 FEET OF EACH INFILTRATION TRENCH. SEE DETAIL.

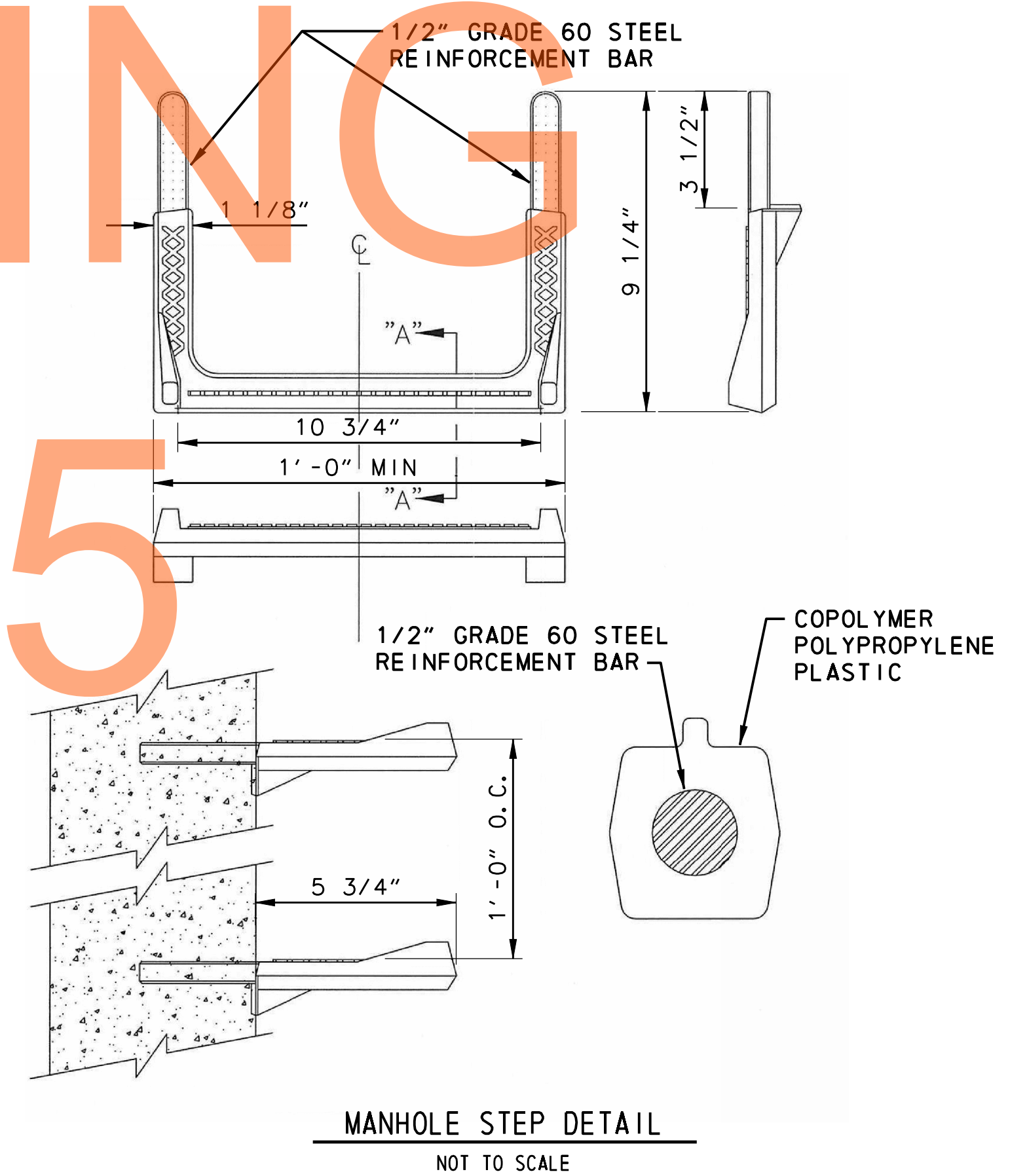
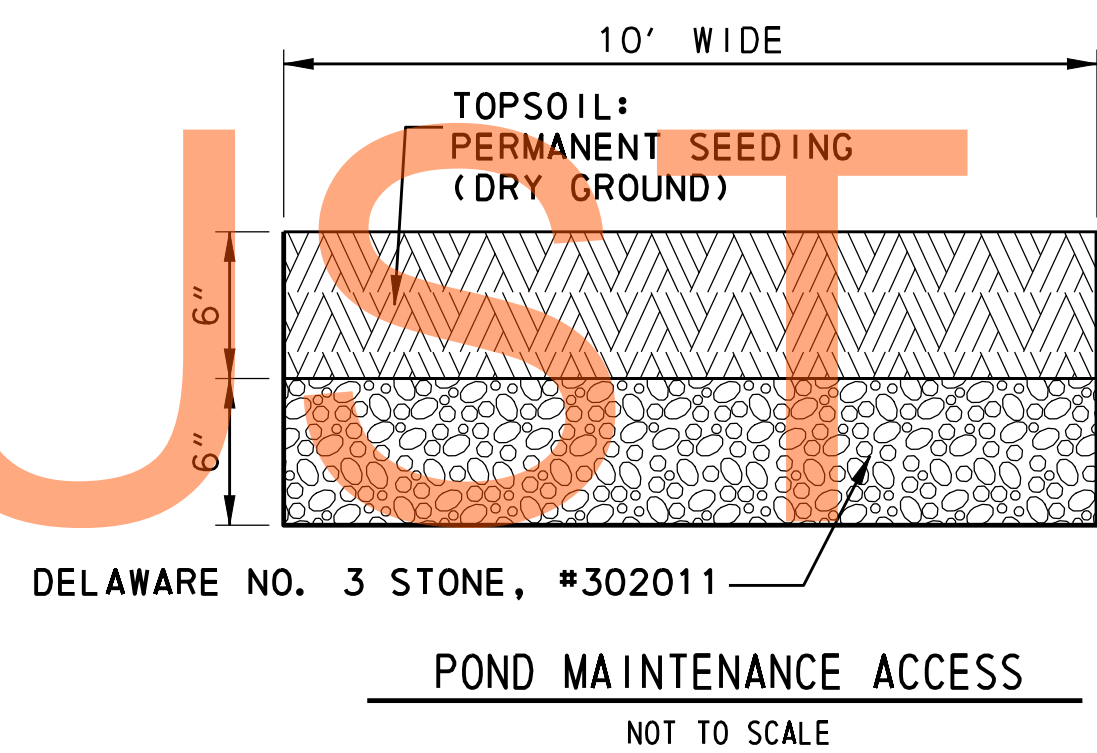
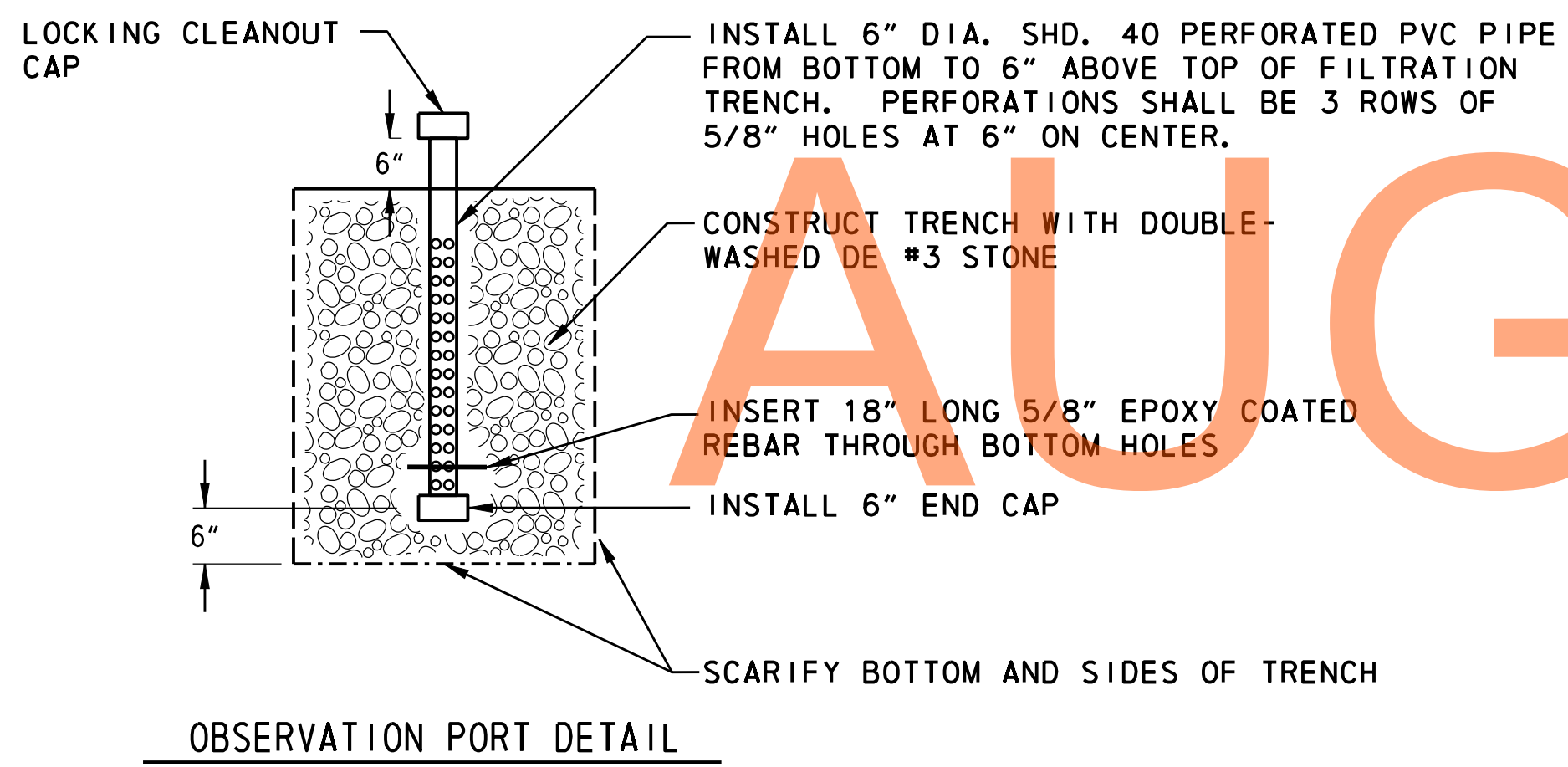


SWM FACILITY NO.	STATION FROM	STATION TO	LENGTH FT.	WIDTH FT.	DEPTH FT.	TOP ELEVATION FT.	BOTTOM ELEVATION FT.	GROUND WATER EL. FT.	MEASURED RATE IN/HR	DESIGN RATE IN/HR
624	131+70LT	133+62LT	200.00	4.00	4.00	67.00	63.00	60.65	3.00+	1.50

DRAFT

NOT FOR BIDDING

AUGUST 2015



GENERAL DETAILS - DELAWARE STORMWATER MANAGEMENT PONDS

E:\2814 DEL ROUTE 301\001-3-4-5-6 (DESIGN)\CAD\SB-301AET_000_STR.DGN

<p>DELAWARE DEPARTMENT OF TRANSPORTATION</p>	ADDENDUMS / REVISIONS	SCALE: AS SHOWN	<p>US 301 MARYLAND STATE LINE TO LEVELS ROAD</p>	<table border="1" style="font-size: 8px;"> <tr> <td>CONTRACT</td> <td>BRIDGE NO.</td> </tr> <tr> <td>T200811301</td> <td></td> </tr> <tr> <td>COUNTY</td> <td>DESIGNED BY: DSM/ACF</td> </tr> <tr> <td>NEW CASTLE</td> <td>CHECKED BY: JZS</td> </tr> </table>	CONTRACT	BRIDGE NO.	T200811301		COUNTY	DESIGNED BY: DSM/ACF	NEW CASTLE	CHECKED BY: JZS	<p>DETAILS FOR SWM PONDS</p>	<table border="1" style="font-size: 8px;"> <tr> <td>SHEET NO.</td> </tr> <tr> <td>438</td> </tr> <tr> <td>TOTAL SHTS.</td> </tr> <tr> <td>850</td> </tr> </table>	SHEET NO.	438	TOTAL SHTS.	850
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SW-101																		