ADDENDUM OF SOLICITATION

INVITATION FOR BIDS (IFB No. 024-004)

ADDENDUM No. 2

Issued: May 7, 2024

IFB No. 024-004

Title: PRTC Stormwater Management System and Sewer Ejector Pit Maintenance and Repair Services

Contact: Cynthia Porter Johnson **Email:** cporter-johnson@omniride.com **Phone**: 703-580-6147

This addendum is hereby incorporated into the solicitation documents of the above referenced IFB. The following items are clarifications, corrections, additions, deletions and/or revisions to the IFB, which shall take precedence over the original documents. Bidders must acknowledge receipt of this amendment by returning the signed original with the Bid package prior to the hour and date specified in the solicitation.

DESCRIPTION OF ADDENDUM

The above numbered solicitation is amended as follows:

1. **PROCUREMENT SCHEDULE**
   Extending the Bids Due (Bid Opening) Date to Tuesday, May 21, 2024 @ 12 Noon EST.

   DELETE: **Page 4**

   REPLACE WITH: **Page 4 (Revised) attached herewith**

2. **ATTACHMENT A Site Map Drawings**
   Providing electronic version of Site Map Drawings.

   ADD: **Electronic Version of Site Map Drawings**

Except as specifically amended herein, all other terms and conditions of this solicitation remain unchanged and in full force and effect.

Bidders must acknowledge receipt of this amendment by returning signed original with the Bid package prior to the hour and date specified in the solicitation. Failure to acknowledge receipt of this Addendum may be grounds to declare your Bid unresponsive.

_____

Company

_____

Address

City_____ State_____ Zip Code_____

Name of Person Authorized to Sign _____

Print

Signature_____ Date_____

II. PROCUREMENT SCHEDULE

PRTC anticipates following the procurement schedule as shown below. PRTC reserves the right to make changes to the schedule. All such changes shall be made by an addendum to the solicitation. It is the responsibility of each vendor to check the PRTC's procurement webpage (https://omniride.com/about/business/procurement/) or eVA, Virginia's online, electronic procurement system (the Commonwealth of Virginia electronic procurement portal) for information concerning this solicitation, including any addenda or notices.

April 12, 2024	**IFB Issued by PRTC**
April 22, 2024 11:00am EST	**Pre-bid Conference (In-Person and Virtual) (In-Person at PRTC Transit Center Large Conference Room and Virtually via Zoom)**
April 29, 2024 5:00pm	**Final Questions Due**
May 6, 2024	**PRTC Response to Questions**
~~**May 17**~~ **May 21, 2024 12:00 Noon EST**	**BIDS DUE (Bid Opening)**
June 6, 2024	**Recommend Award to PRTC Board**

MATCH LINE SHT C-7

VIRGINIA STATE GRID NORTH ZONE (VCS 83)

30 15 0 30 60
SCALE IN FEET

I-95 R/W

I-95 ENTRANCE RAMP

EX. FENCE

EX. ELEC.

EX. C & G

EX. W/M

EX. SAN. SEWER 8"

EX. M.H.
INV. IN=210.33
INV. OUT=210.21

OLD DALE BLVD.

EX. E.O.P.

EX. FENCE

S 42°40'10" E

374.48'

C=0.60

1.93 AC.

10.66 AC.
C=0.38

COUNTY HOME
FOR BOYS

TELEGRAPH ROAD

POTOMAC MILLS ROAD

R=2196.83'

L=380.01'

S55°16'08"E
49.02'

S55°16'08"E 66.62'

S39°29'17"W
5.01'

R=1727.02'

L=240.69'

R=874.93'

L=688.22'

0.10 AC.
C=0.30

51.13'

S77°41'40"E

P.T. 80+56.45

P.C. 81+71.85

TO DALE BOULEVARD

I-95 EXT RAMP

Symbol	Description	Initials	Date
1	Revised As-Built	PEO	9/15/06

See Disclaimer Sheet 1 (Index sheet)

Gauthier, Alvarado & Associates, Inc.

Architecture Engineering Planning

PROJECT NO. 10085

PLAN NO. 96-00152.

SAE JOB NO. 974.000

PROJECT TITLE

PRTC

POTOMAC AND RAPPAHANNOCK TRANSPORTATION COMMISSION

MULTI-PURPOSE TRANSIT CENTER

TRANSPORTATION CONSULTANTS:
SG Associates, Inc.

SITE ENGINEERS:
Springfield Engineering Associates. Inc.

PLANNING LANDSCAPE AND SIGNAGE CONSULTANTS:
Coffin & Coffin

REVISIONS

NO.	DATE	DESCRIPTION
	3-11-96	PRINT FOR BIDDING
1	5-10-96	PERMIT REVISIONS

DRAWN KLT

CHECKED

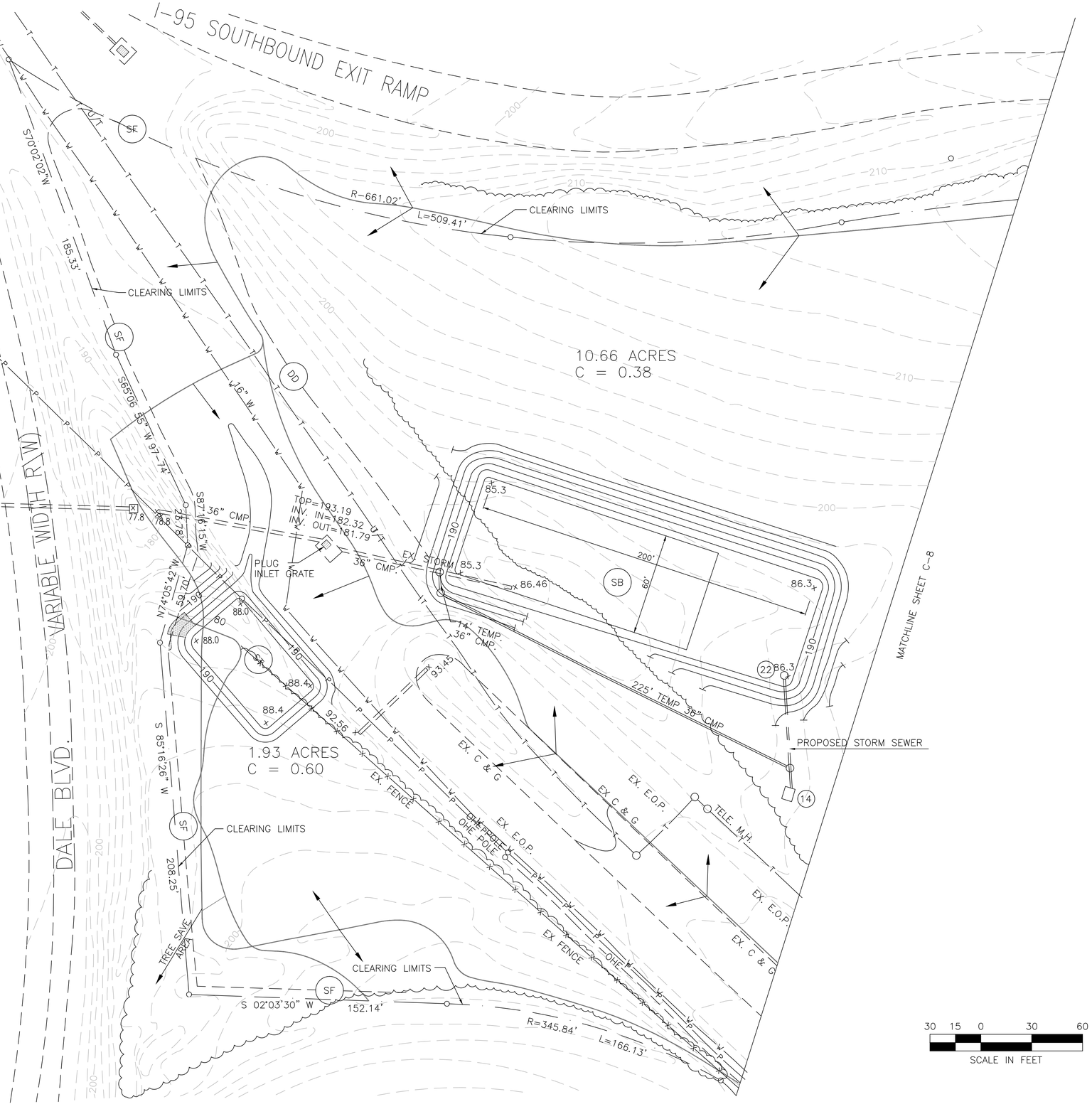
DRAWING TITLE

EROSION & SEDIMENT CONTROL PHASE 1

DATE SEPT. 29. 1995

DRAWING NUMBER

C-8



	1	Revised As-Built	PEO	9/15/06
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	See Disclaimer Sheet 1 (Index sheet)			

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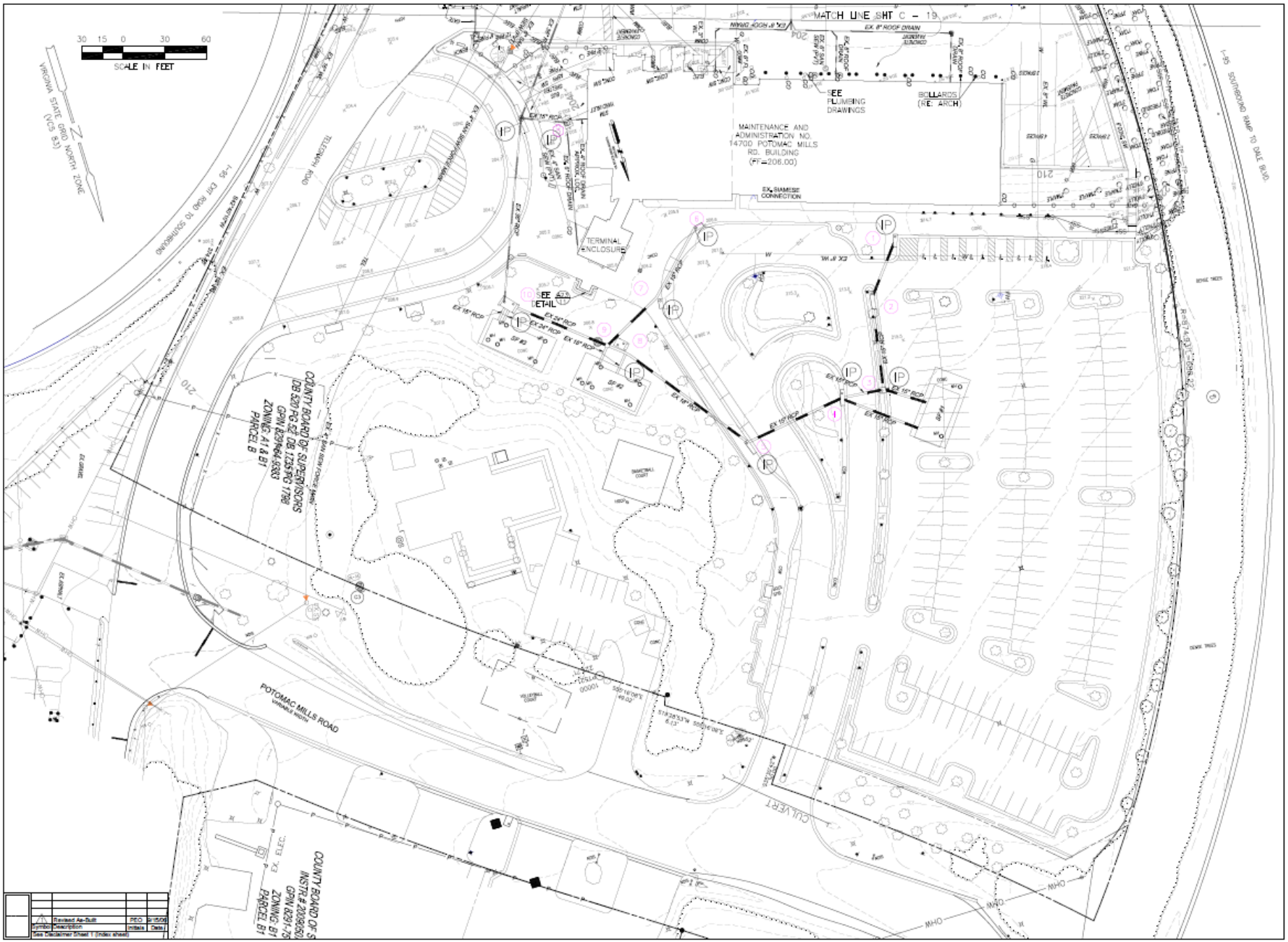
DRAWING TITLE

EROSION & SEDIMENT CONTROL PHASE 1

DATE SEPT. 29, 1995

DRAWING NUMBER

C-9



Gauthier, Alvarado & Associates, Inc.

Architecture Engineering Planning

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CHECKED

DRAWING TITLE

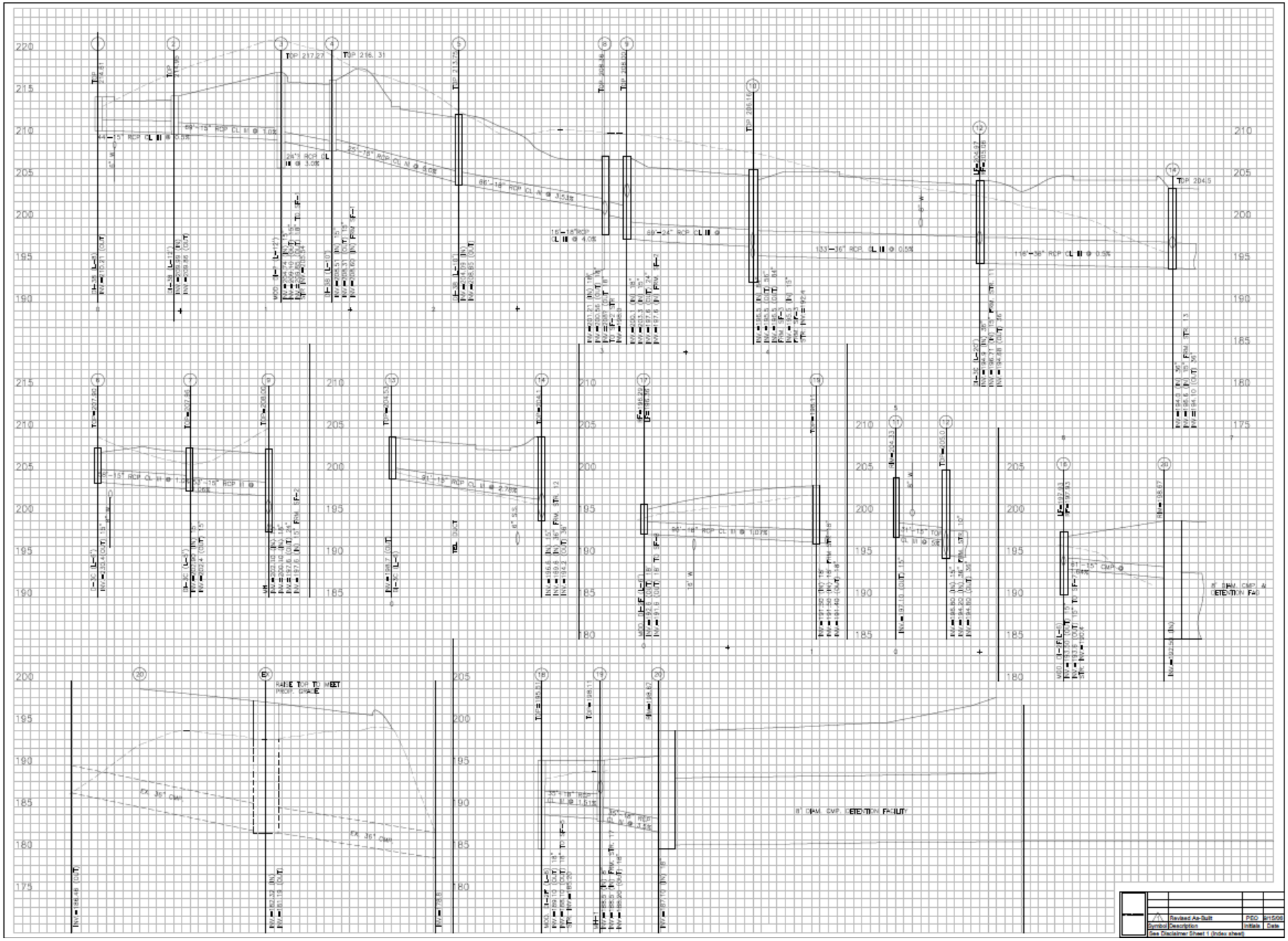
EROSION & SEDIMENT CONTROL PHASE 2

DATE SEPT. 29, 1995

DRAWING NUMBER

C-10

10 OF 29



Gauthier, Alvarado & Associates, Inc.

Architecture Engineering Planning

PROJECT NO. 10005

PLAN NO. 96-00152

SEA JOB NO. 974.000

PROJECT TITLE

PRTC

POTOMAC AND RAPPAHANNOCK TRANSPORTATION COMMISSION

MULTI-PURPOSE TRANSIT CENTER

TRANSPORTATION CONSULTANTS:
SG Associates, Inc.

SITE ENGINEERS:
Springfield Engineering Corporation, P.C.

PLANNING LANDSCAPE AND SIGNAGE CONSULTANTS:
Coffin & Coffin

REVISIONS

NO.	DATE	DESCRIPTION
	3-11-96	PRINT FOR BIDDING
1	5-10-96	PERMIT REVISIONS

DRAWN

CHECKED

DRAWING TITLE

STORM SEWER PROFILES

DATE SEPTEMBER 29, 1995

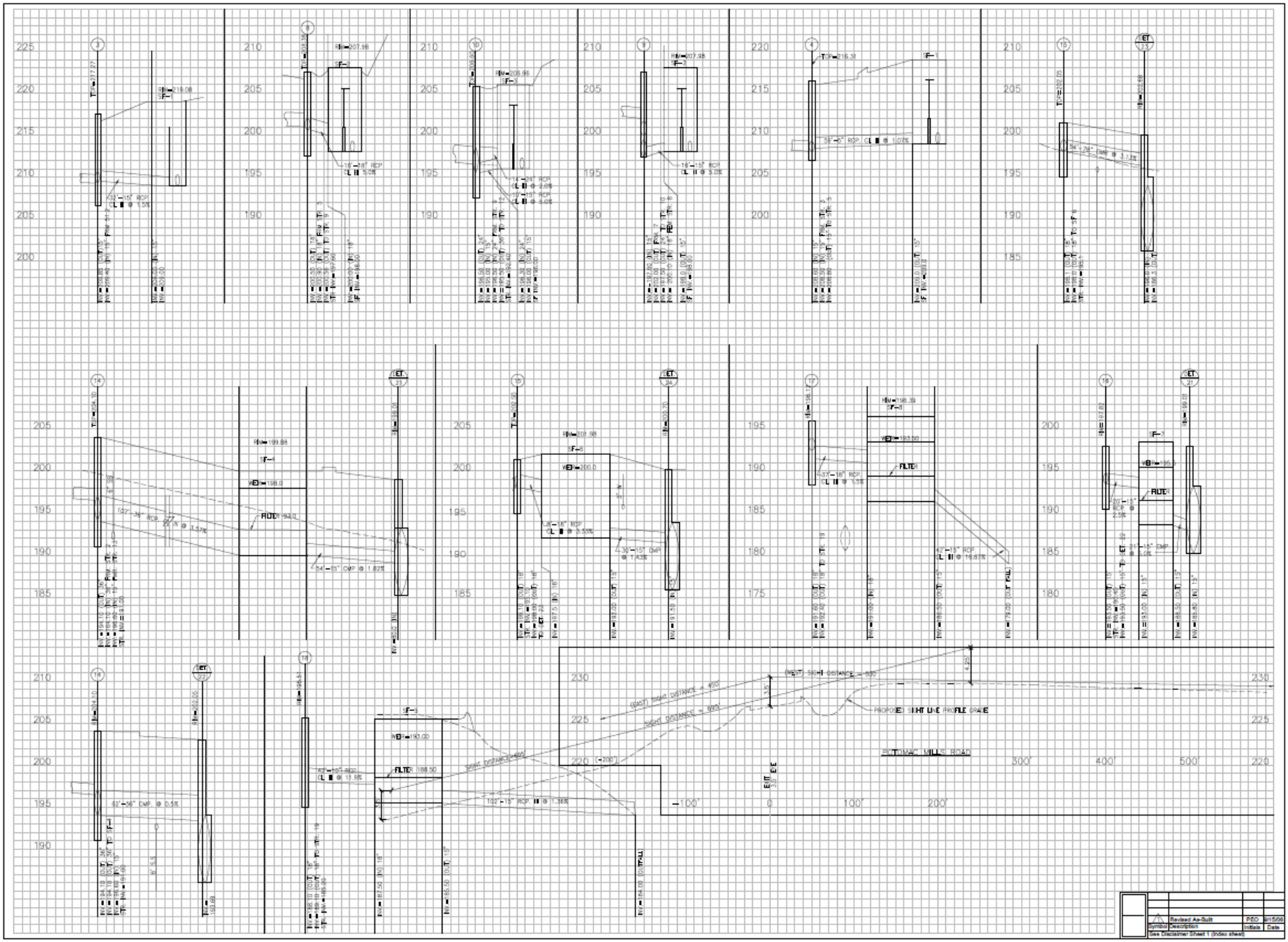
DRAWING NUMBER

C-15

15 OF 29

Symbol	Description	Initials	Date
1	Revised As-Built	PEO	9/15/96

See Disclaimer Sheet 1 (Index sheet)



Gauthier, Alvarado & Associates, Inc.

Architecture Engineering Planning

PROJECT NO. 10005

PLAN NO. 95-00152

SEA JOB NO. 974.00

PROJECT TITLE

PRTC

POTOMAC AND RAPPAHANNOCK TRANSPORTATION COMMISSION

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SITE ENGINEERS:
Springfield Engineering Corporation, P.C.

PLANNING LANDSCAPE AND SIGNAGE CONSULTANTS:
Coffin & Coffin

REVISIONS

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1	5-10-96	PERMIT REVISIONS

DRAWN

CHECKED

DRAWING TITLE

STORM SEWER & ROAD PROFILES

DATE SEPTEMBER 29, 1995

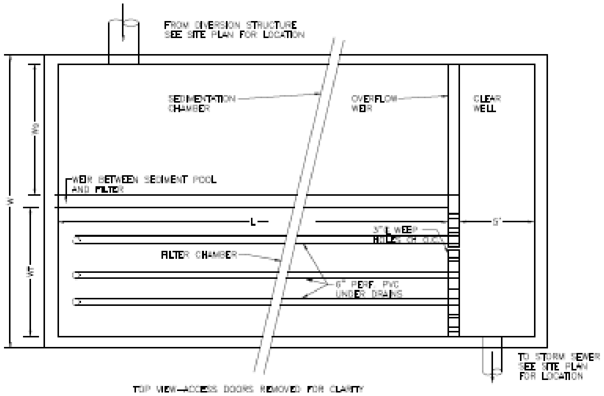
DRAWING NUMBER

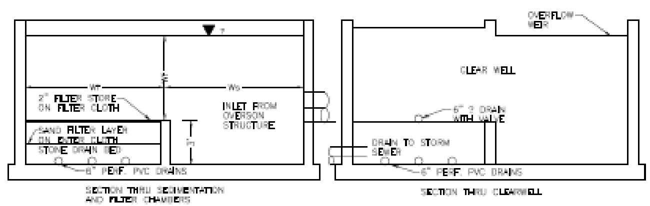
C-16

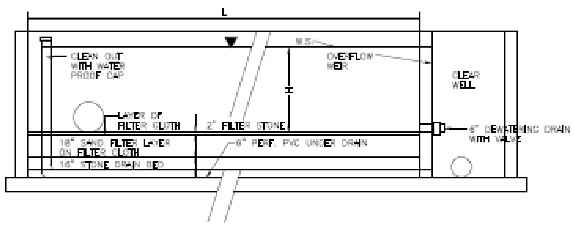
16 OF 29

Symbol	Description	Initials	Date
1	Revised As-Built	PEO	9/15/98

See Disclaimer Sheet 1 (Index sheet)





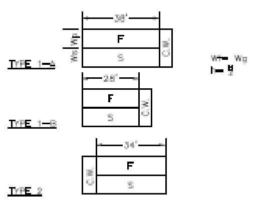


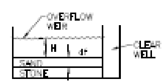
SAND FILTER		A	Iq	H	h	df	AREA OF FILTER A.F.		L	WF				DETENTION VOLUME
NO.	TYPE	AC	AC				REQ'D	PROVIDED			TOP ELEV.	INV. ELEV.	WEIR ELEV.	(C.F.)
1	1-A	1.65	1.40	4.0	2.0	1.5	327	342	38	9	219.0	209.0	216.0	2736
2	1-A	1.83	1.56	4.5	2.25	1.5	340	342	38	9	208.0	198.0	205.5	3078
3	1-A	1.88	1.60	4.5	2.25	1.5	348	342	38	9	206.0	196.0	203.5	3078
4	1-B	1.54	1.31	5.0	2.5	1.5	254	252	28	9	200.0	190.0	198.0	2520
5	2	1.64	1.39	4.5	2.25	1.5	303	306	34	9	195.5	185.5	193.0	2754
6	1-A	1.46	1.24	5.0	2.5	1.5	327	342	38	9	202.0	192.0	200.0	3420
7	1-B	1.10	0.94	4.0	2.0	1.5	220	342	38	9	198.5	188.5	196.5	2016
8	1-B	1.21	1.03	4.0	2.0	1.5	241	252	28	9	196.5	186.5	193.5	2016

TOTAL 21,618

* (H)(WF+Ws)(L) = 2WHL = 18HL

REQUIRED FILTER AREA = Af = $\frac{545\ I_{q}H}{H + df}$





SAND FILTER MAINTENANCE SPECIFICATION

1. SAND FILTER(S) AND APPURTENANCES SHALL BE MAINTAINED IN GOOD WORKING CONDITION ACCEPTABLE TO THE COUNTY.
2. THE SAND FILTER(S) AND APPURTENANCES SHALL BE PRIVATELY OWNED AND MAINTAINED.
3. THE LANDOWNER SHALL ENTER INTO AN AGREEMENT WITH A RESPONSIBLE THIRD PARTY TO CLEAN THE SAND FILTER(S) IN ACCORDANCE WITH THE FOLLOWING SPECIFICATION.
   A) THE WATER LEVEL IN THE FILTER CHAMBER SHALL BE MONITORED BY THE OWNER ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM FOR THE FIRST YEAR AFTER COMPLETION OF CONSTRUCTION AND A LOG SHALL BE MAINTAINED OF THE RESULTS INDICATING THE RATE OF DEWATERING AFTER EACH STORM AND THE WATER DEPTH FOR EACH OBSERVATION ONCE COUNTY STAFF INDICATES THAT SATISFACTORY PERFORMANCE OF THE STRUCTURE HAS BEEN DEMONSTRATED. THE MONITORING SCHEDULE CAN BE REDUCED TO A SEMIANNUAL BASIS.
   B) THE SAND FILTER(S) SHALL BE INSPECTED SEMIANNUALLY BY A REPRESENTATIVE OF THE OWNER AND THE CONTRACTOR.
   C) THE SEDIMENT CHAMBER MUST BE PUMPED OUT AFTER EACH SEMIANNUAL INSPECTION IF THE CHAMBER CONTAINS AN OIL SHAW; IT SHOULD BE REMOVED BY A FIRM SPECIALIZING IN OIL RECOVERY AND RECYCLING. THE REMAINING MATERIAL MAY THEN BE REMOVED BY VACUUM PUMP AND DISPOSED OF IN AN APPROPRIATE LANDFILL. AFTER EACH CLEANING REFILL THE FIRST CHAMBER TO A DEPTH OF THREE FEET WITH CLEAN WATER TO REESTABLISH THE WATER SEALS.
   D) WHEN THE FILTER WILL NO LONGER DRAW DOWN WITHIN THE REQUIRED 40-HOUR PERIOD, THE TOP LAYER OF FILTER CLOTH AND BALLAST GRAVEL MUST BE REMOVED AND REPLACED WITH NEW MATERIALS CONFORMING TO THE MOST CURRENT SPECIFICATIONS. ANY DISCOLORED OR SEDIMENT CONTAMINATED SAND SHALL ALSO BE REMOVED AND REPLACED WITH NEW MATERIAL MEETING THE MOST CURRENT SPECIFICATIONS.
   E) MONITORING MANHOLES, FLUMES, AND OTHER FACILITIES SHALL BE KEPT CLEAN AND READY FOR USE.
4. THE LANDOWNER SHALL MAINTAIN A COPY OF A VALID CURRENT AGREEMENT ON FILE WITH PRINCE WILLIAM COUNTY AT ALL TIMES.
5. THE QUALIFICATIONS OF THE MAINTENANCE OPERATOR ARE SUBJECT TO REVIEW AND APPROVAL BY PRINCE WILLIAM COUNTY.
6. SAND FILTER MAINTENANCE RECORDS SHALL BE KEPT ON-SITE AND SHALL BE MADE AVAILABLE TO COUNTY OFFICIALS UPON REQUEST.

SAND FILTER CONSTRUCTION SPECIFICATIONS

1. THE SITE EROSION AND SEDIMENT CONTROL PLAN MUST BE CONFIGURED TO PERMIT CONSTRUCTION OF THE FILTER SYSTEM WHILE MAINTAINING EROSION AND SEDIMENT CONTROL.
2. NO RUNOFF IS TO ENTER THE SAND FILTRATION SYSTEM PRIOR TO COMPLETION OF ALL CONTRACTION AND SITE REVEGETATION. CONSTRUCTION RUNOFF SHALL BE TREATED IN SEPARATE SEDIMENTATION BASINS AND ROUTED TO BY-PASS THE FILTER SYSTEM SHOULD CONSTRUCTION RUNOFF ENTER THE FILTER SYSTEM PRIOR TO SITE REVEGETATION, ALL CONTAMINATED MATERIALS MUST BE REMOVED AND REPLACED WITH NEW CLEAN MATERIALS.
3. THE TOP OF THE SAND FILTER MUST BE COMPLETELY LEVEL NO GRADE IS ALLOWABLE
4. ACCESS MANHOLES TO THE FILTRATION SYSTEM SHALL CONFORM TO PRINCE WILLIAM COUNTY STANDARDS.
5. AFTER COMPLETION OF THE FILTER SHELL BUT BEFORE PLACEMENT OF THE FILTER LAYERS, ENTRANCES TO THE STRUCTURE SHALL BE PLUGGED AND THE SHELL COMPLETELY FILLED WITH WATER TO DEMONSTRATE WATERTIGHTNESS. SHOULD THE STRUCTURE FAIL THIS TEST, IT SHALL BE MADE WATERTIGHT AND SUCCESSFULLY RETESTED PRIOR TO PLACEMENT OF THE FILTER LAYERS.

SAND FILTRATION BASIN DETAILS

THE SAND BED FILTRATION SYSTEM CONSISTS OF THE INLET STRUCTURE, SAND BED, AND UNDER DRAIN PIPING.

INLET STRUCTURE – THE INLET STRUCTURE SHOULD SPREAD THE FLOW UNIFORMLY ACROSS THE SURFACE OF THE FILTER MEDIA. FLOW SPREADERS, WEIRS OR MULTIPLE ORIFICE OPENINGS ARE RECOMMENDED.

SAND BED – FILTER BED SAND SHOULD MEET THE REQUIREMENTS OF ASTM C-33 CONCRETE SAND OR VDOT SECTION 202 GRADE A FINE AGGREGATE SAND. THE SAND BED MUST BE LEVEL AND MEET THE CONFIGURATION GIVEN BELOW.

NOTE: SAND BED DEPTHS ARE FINAL, COMPACTED DEPTHS. CONSOLIDATION EFFECTS MUST BE TAKEN INTO ACCOUNT.

SAND BED WITH STONE LAYER (PLATE 5) – THE TOP LAYER SHOULD BE A MINIMUM OF 18" OF SAND. UNDER THE SAND A 16" THICK LAYER OF 1/2" TO 2" DIAMETER STONE (E.G., VDOT #57 STONE) WHICH PROVIDES A MINIMUM OF 2" COVER OVER THE TOP OF THE 6" DIAMETER PVC UNDER DRAIN LATERAL PIPES. NO STONE IS REQUIRED UNDER THE LATERAL PIPES. THE SAND AND STONE MUST BE SEPARATED BY A LAYER OF GEOTEXTILE FABRIC MEETING THE SPECIFICATIONS BELOW.

THE LATERALS SHOULD BE WRAPPED IN GEOTEXTILE FABRIC. THE GEOTEXTILE FABRIC IS NEEDED TO PREVENT THE FILTER MEDIA FROM INFILTRATING INTO THE LATERAL PIPING.

THE GEOTEXTILE FABRIC SHOULD MEET THE FOLLOWING SPECIFICATIONS:

PROPERTY	TEST METHOD	UNIT	SPECIFICATION	
MATERIAL	NONWOVEN GEOTEXTILE FABRIC			
UNIT WEIGHT		OZ/YD2	8	(MIN.)
FILTRATION RATE		IN./SEC	0.08	(MIN.)
PUNCTURE STRENGTH	ASTM D-751 (MODIFIED)	LB	125	(MIN.)
MULLEN BURST STRENGTH	ASTM D-751	PSI	400	(MIN.)
TENSILE STRENGTH	ASTM D-1682	LB	300	(MIN.)
EQUIV. OPENING SIZE	US STANDARD SIEVE	NO.	80	(MIN.)

SOURCE: CITY OF AUSTIN

UNDER DRAIN PIPING – THE UNDER DRAIN PIPING CONSISTS OF THE MAIN COLLECTOR PIPE(S) AND PERFORATED LATERAL BRANCH PIPES. THE PIPING SHOULD BE REINFORCED TO WITHSTAND THE WEIGHT OF THE OVERBURDEN. INTERNAL DIAMETERS OF LATERAL BRANCH PIPES SHOULD BE 6" AND PERFORATIONS SHOULD BE 3/8" EACH ROW OF PERFORATIONS SHOULD CONTAIN AT LEAST 4 HOLES AND THE MAXIMUM SPACING BETWEEN ROWS OF PERFORATIONS SHOULD BE 6". ALL PIPING IS TO BE SCHEDULE 40 PVC OR GREATER STRENGTH.

THE MINIMUM GRADE OF PIPING SHOULD BE 1/8" PER FOOT (1% SLOPE). ACCESS FOR CLEANING ALL UNDER DRAIN PIPING.

Symbol	Description	Initials	Date
1	Revised As-Built	PSO	9/15/06

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Architecture Engineering Planning

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PLAN NO. 96-00152
SEA JOB NO. 974.000

PROJECT TITLE

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PLANNING LANDSCAPE AND SIGNAGE CONSULTANTS:
Coffin & Coffin

REVISIONS

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	3-11-96	PRINT FOR BIDDING
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DRAWN

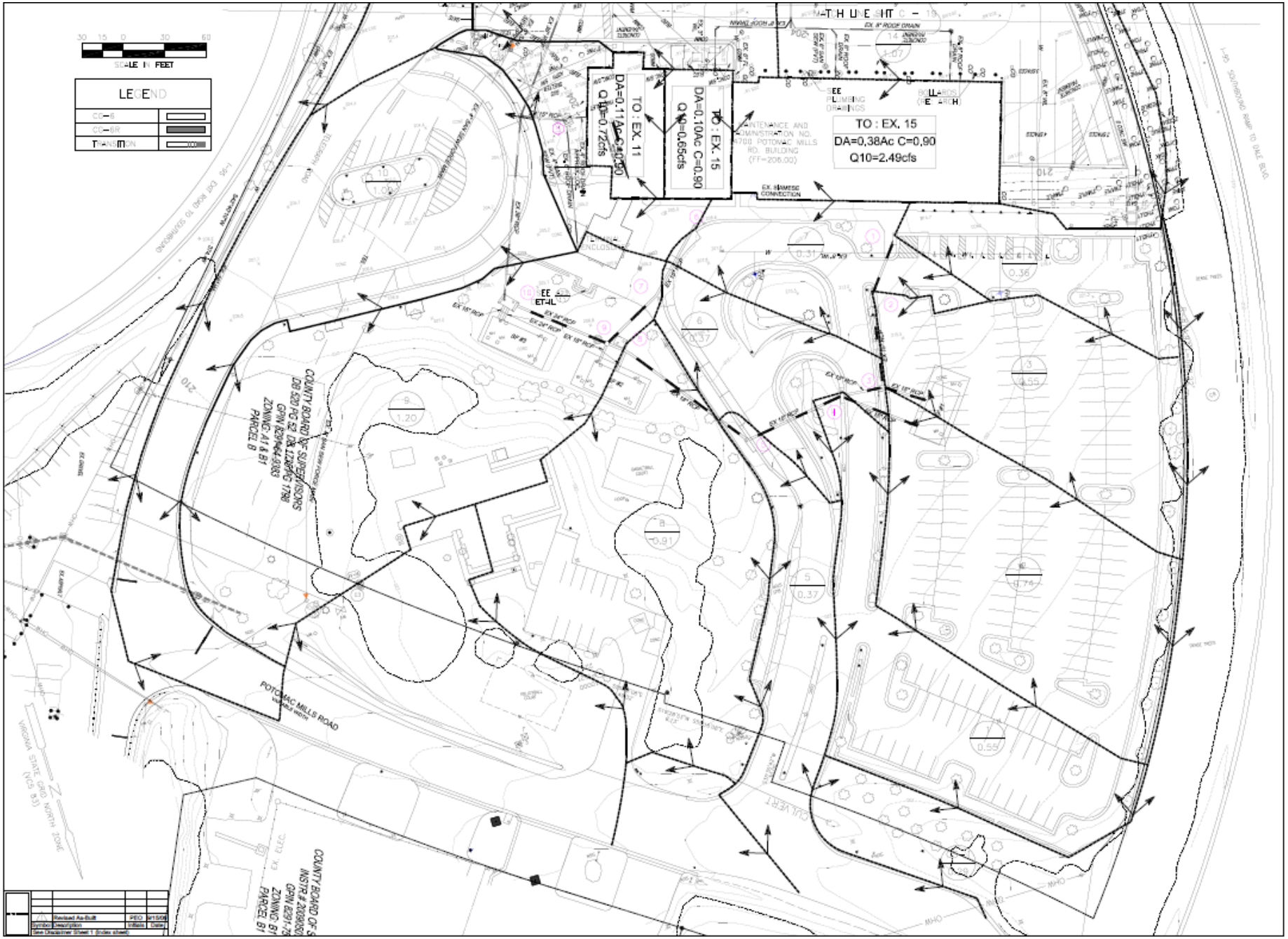
CHECKED

DRAWING TITLE
SAND FILTER DETAILS

DATE SEPTEMBER, 29, 1995

DRAWING NUMBER
C-17

17 OF 29



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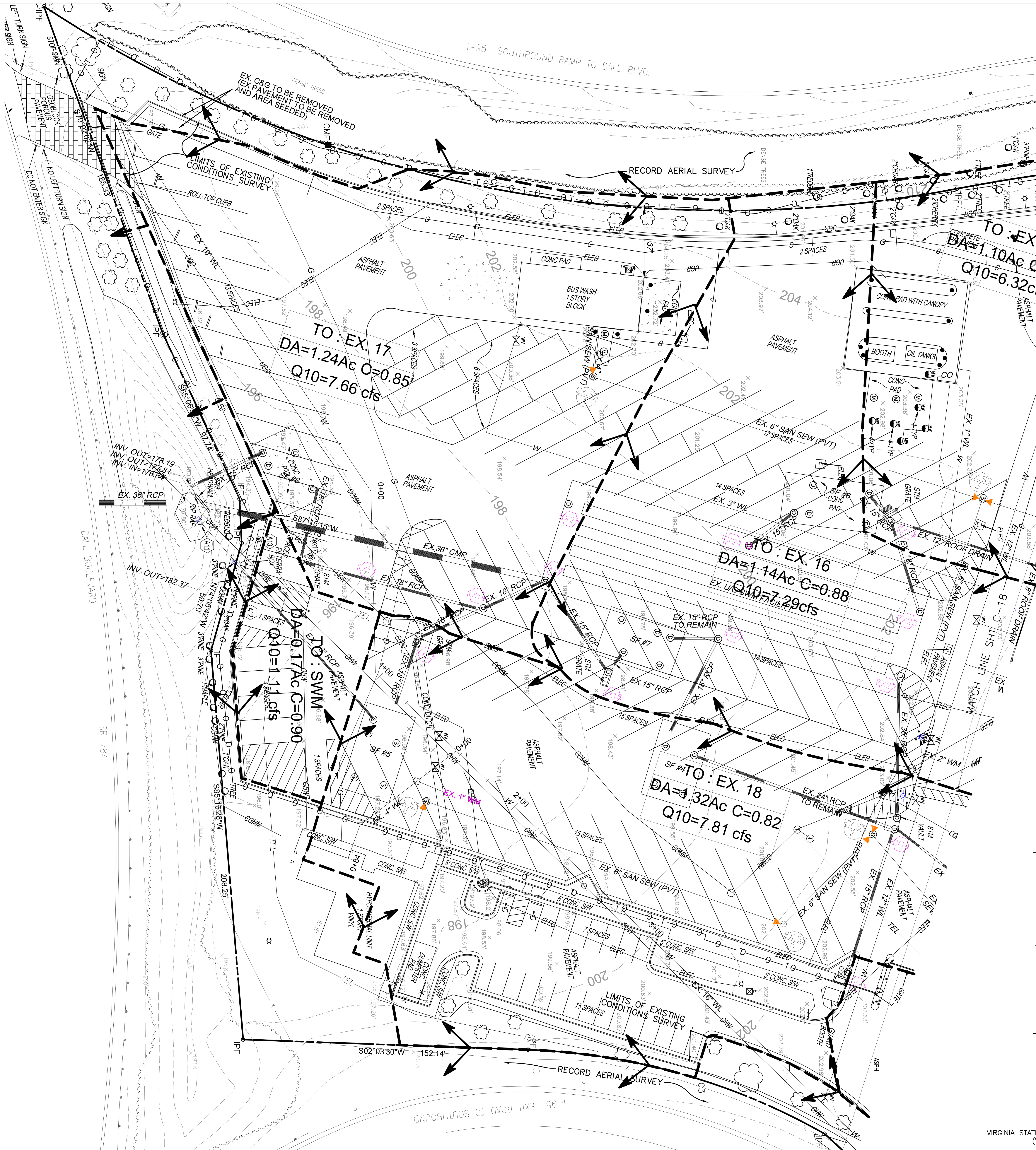
DRAWN KLT
CHECKED

DRAWING TITLE
DRAINAGE DIVIDES

DATE SEPT. 29, 1995

DRAWING NUMBER
C-18

18 OF 29

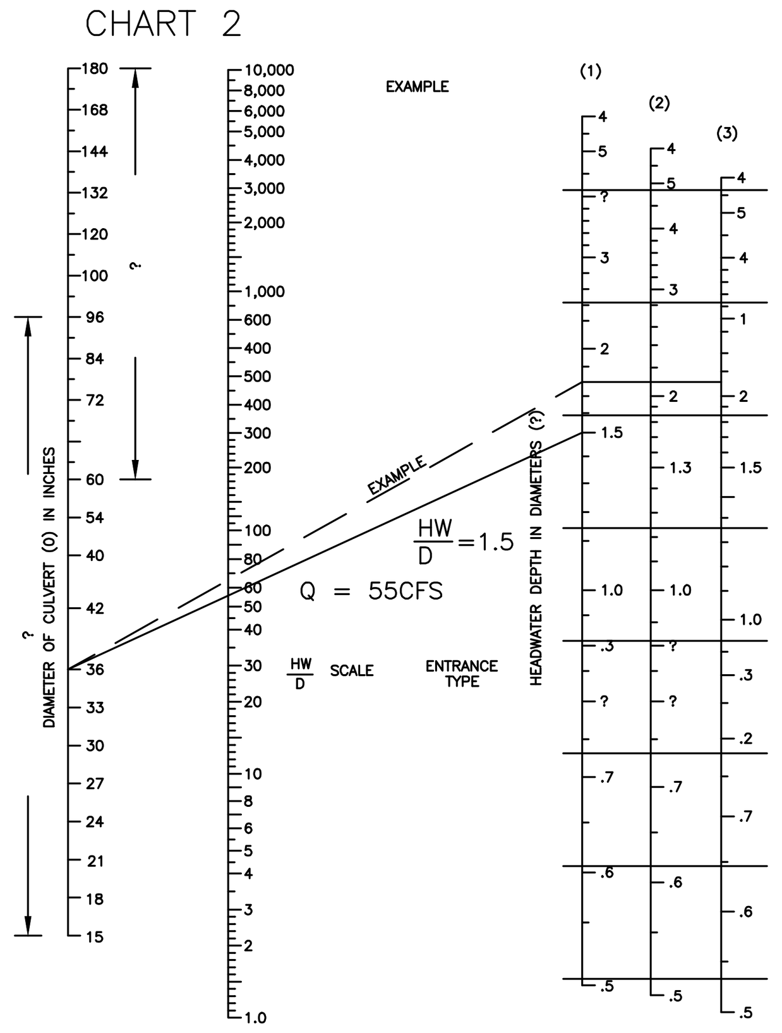


DRAINAGE BASINS
(FOR ADEQUATE OUTFALL COMPUTATIONS)

NOTE: RUNOFF COEFFICIENT FOR ALL DEVELOPED BASINS C=0.85.

LEGEND	
CG-6	
CG-6R	
TRANSITION	

CHART 2



HEADWATER DEPTH FOR C.N. PIPE CULVERTS WITH INLET CONTROL

ADEQUATE OUTFALL

OFF-SITE BASIN

A = 4.15 AC.
C = [1.0 (0.9)+3.15 (.3)] ÷ 4.15 = 0.44
$T_c \simeq$ .10 MIN.
I_{10} = 5.92
Q_{10} = 4.15 (0.44)(5.92) = 10.8CFS
TOTAL Q = 10.8+18.0 (FROM DETENTION)
TOTAL Q = 28.8CFS < 55CFS CAPACITY
∴ OUTFALL IS ADEQUATE

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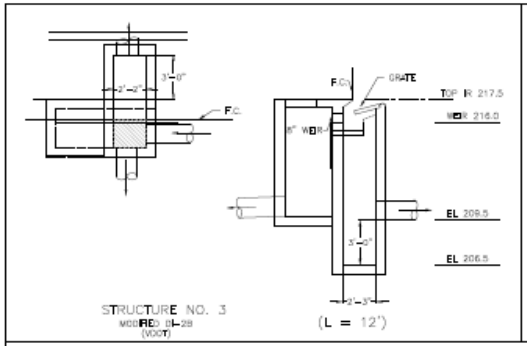
CHECKED

DRAWING TITLE
DRAINAGE DIVIDES

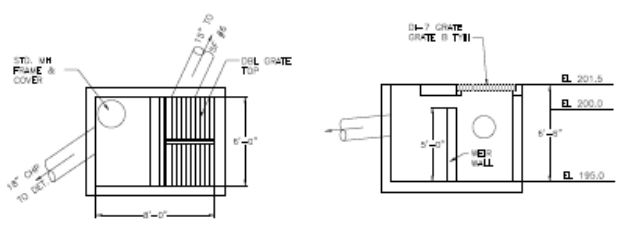
DATE SEPT. 29, 1995

DRAWING NUMBER
C-19

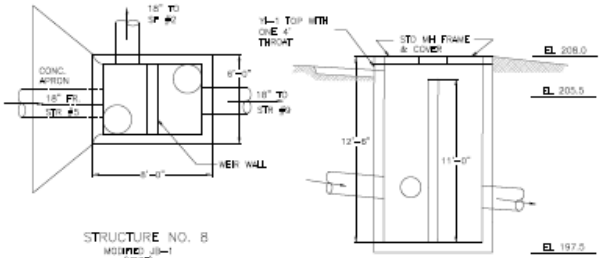


STRUCTURE NO. 3
MODIFIED DI-2B
(VDOT)

(L = 12')



STRUCTURE NO. 15
MODIFIED JB-1
(VDOT)



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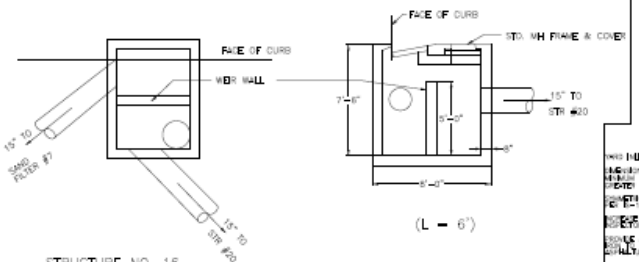
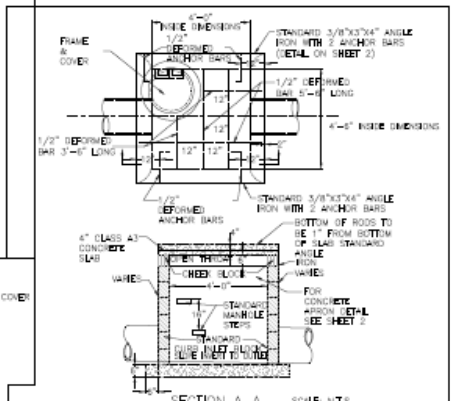
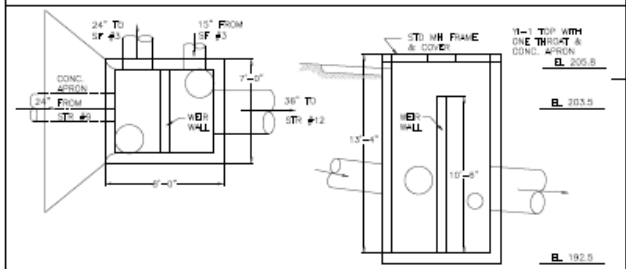
MODIFIED JB-1
(VDOT)



STRUCTURE NO. 16
MODIFIED DI-3F
(VDOT)





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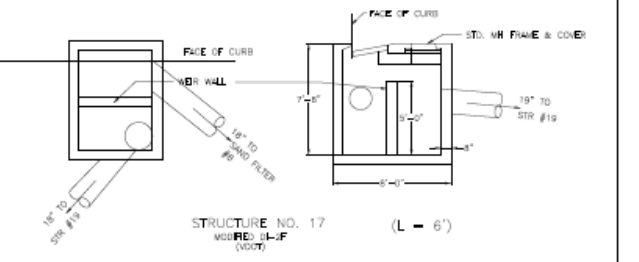
MODIFIED JB-1
(VDOT)



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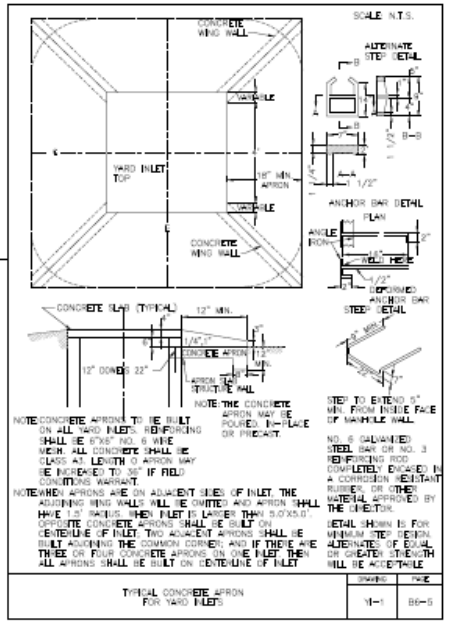
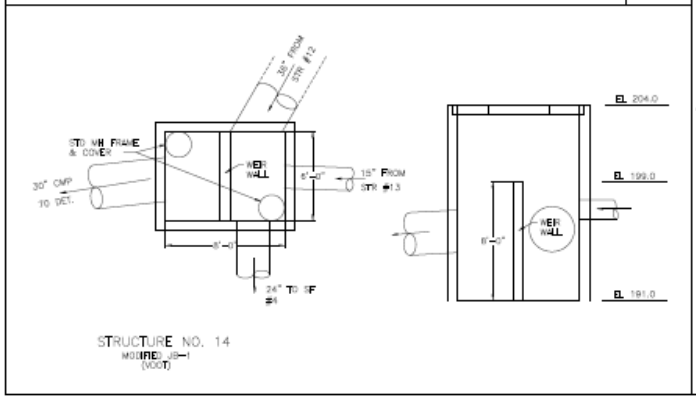
MODIFIED DI-3F
(VDOT)





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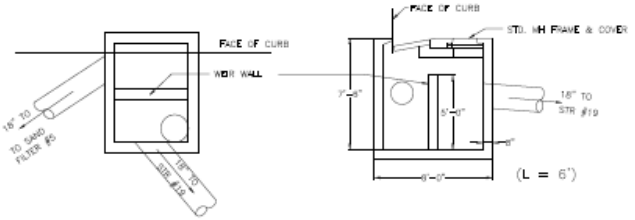
(VDOT)



STRUCTURE NO. 18
MODIFIED DI-3F
(VDOT)

Symbol	Description	Initials	Date
1	Revised As-Built	PDO	9/15/06

See Disclaimer Sheet 1 (index sheet)

Gauthier, Alvarado & Associates, Inc.
Architecture Engineering Planning

PROJECT NO. 10005
PLAN NO. 96-00152

SEA JOB NO. 974.000

PROJECT TITLE

PRTC

POTOMAC AND RAPPAHANNOCK TRANSPORTATION COMMISSION

MULTI-PURPOSE TRANSIT CENTER

TRANSPORTATION CONSULTANTS:
SG Associates, Inc.

SITE ENGINEERS:
Springfield Engineering Associates, Inc.

PLANNING LANDSCAPE AND SIGNAGE CONSULTANTS:
Coffin & Coffin

REVISIONS

NO.	DATE	DESCRIPTION
	3-11-96	PRINT FOR BIDDING
1	5-10-96	PERMIT REVISIONS

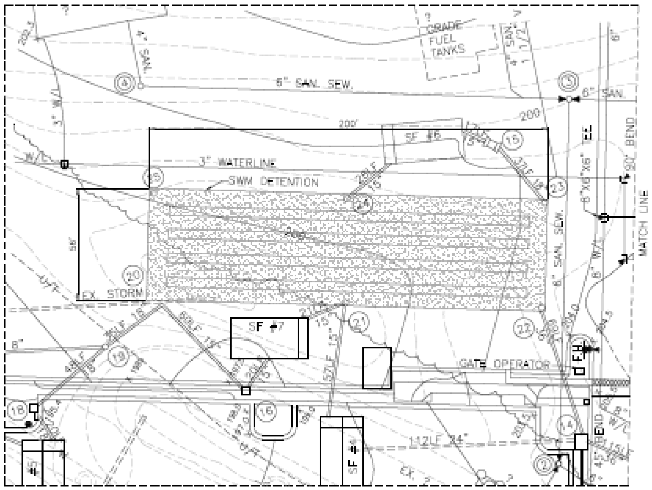
DRAWN: KLT
CHECKED:

DRAWING TITLE
STORM SEWER DETAILS

DATE: SEPT. 29, 1995

DRAWING NUMBER
C-20

20 OF 29



MAINTENANCE PLAN FOR STORMWATER DETENTION SYSTEM

1. MAINTENANCE INSPECTIONS. A REPRESENTATIVE OF THE OWNER WILL INSPECT THE CONTROL BOX AND THE STORAGE PIPE AFTER EACH SIGNIFICANT RAINFALL. IF WATER IS STANDING IN BOTH COMPARTMENTS OF THE CONTROL STRUCTURE MORE THAN 12 HOURS AFTER THE RAIN HAS STOPPED, CHECK THE OUTLET AND OF THE 36-INCH PIPE. IF IT IS NOT OBSTRUCTED, CHECK THE INLET END IN THE CONTROL STRUCTURE. IT IS RECOMMENDED THAT NO ONE ENTERS THE CONTROL STRUCTURE WHEN WATER IS STANDING IN THE STRUCTURE UNLESS ANOTHER ADULT IS STANDING BY OUTSIDE THE STRUCTURE. WHILE NOT COMMON IN STORM SEWER STRUCTURES, IT IS POSSIBLE THAT HEAVIER-THAN-AIR GASES COULD BE TRAPPED ABOVE THE WATER. THIS IS NOT LIKELY IF THE WATER HAS DRAINED OUT SINCE THE HEAVY AIR WOULD ALSO DRAIN OUT THROUGH THE 18-INCH PIPE UNLESS THE OUTLET END OF THE PIPE IS SUBMERGED IN WATER. IF ONLY THE MAIN COMPARTMENT CONTAINS STANDING WATER, THE 18-INCH HOLE IN THE WEIR/ORIFICE WALL IS PROBABLY PLUGGED. THIS IS THE MAINTENANCE PROBLEM WHICH IS MOST LIKELY TO OCCUR OTHER THAN SIMPLY CLEANING UP LITTER. WORKERS CAN USUALLY CLEAR THIS OPENING WHILE IN THE COMPARTMENT DOWNSTREAM OF THE WEIR WALL. ONCE EACH YEAR A REPRESENTATIVE OF THE OWNER AND A REPRESENTATIVE OF THE COUNTY WILL JOINTLY INSPECT THE ENTIRE DETENTION SYSTEM. APPROPRIATE ACTION WILL BE TAKEN TO ENSURE PROPER MAINTENANCE. ALL MAINTENANCE COSTS WILL BE BORNE BY THE OWNER(S). KEYS TO LOCKED ACCESS POINTS SHALL BE AVAILABLE TO PRINCE WILLIAM COUNTY PERSONNEL UPON REQUEST.

2. REMOVING TRASH, DEBRIS AND SEDIMENT. THE CONTROL STRUCTURE AND THE PIPE SHOULD ALSO BE CHECKED DURING DRY WEATHER. LITTER AND SEDIMENT DEPOSITS SHOULD BE REMOVED AS NEEDED TO PREVENT OBSTRUCTION TO THE FLOW OF WATER, TO PREVENT MOVEMENT OF TRASH AND DEBRIS TO DOWNSTREAM PROPERTIES, TO MINIMIZE WATER POLLUTION AND TO ENSURE THAT THE SYSTEM ADEQUATELY PERFORMS THE FUNCTION FOR WHICH IT WAS CONSTRUCTED.

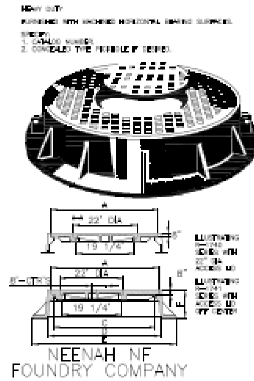
3. SEDIMENT DISPOSAL. SEDIMENT DISPOSAL SHOULD BE IN ACCORDANCE WITH CURRENT PROCEDURES FOR DISPOSAL OF SEDIMENT. WHERE DEEMED NECESSARY OR DESIRABLE, THE SEDIMENT WILL BE TESTED FOR APPROPRIATE POLLUTANTS BEFORE FINAL DISPOSAL.

4. PROPERTY MAINTENANCE. GRASS AND OTHER SOIL COVERS SHOULD BE MAINTAINED IN ORDER TO MINIMIZE THE AMOUNT OF SEDIMENT ENTERING THE SYSTEM. TRASH AND LITTER SHOULD BE COLLECTED ON A DAILY BASIS.

5. MAINTENANCE RECORDS. THE OWNER, OR SOMEONE DESIGNATED BY THE OWNER, SHALL KEEP WRITTEN RECORDS OF ALL INSPECTIONS. THE RECORDS SHALL INCLUDE MAINTENANCE AND REPAIRS PERFORMED. COPIES OF THESE RECORDS SHALL BE PROVIDED TO THE COUNTY UPON REQUEST.

6. THE SYSTEM SHALL NOT BE MODIFIED IN ANY WAY WITHOUT PRIOR APPROVAL BY PRINCE WILLIAM COUNTY.

R-1740-1 SERIES — LARGE MANHOLE FRAMES SOLID LID WITH REMOVABLE CENTER LID



CATALOG NO.	DIMENSIONS IN INCHES							LID	WT.
	A	AA	B	C	D	E	F	TYPE	LBS.
R-1740-B2	38	19	1½	38	48	49	10	B	898
R-1740-E	44	22	1½	42	48	55	10	B	1148
R-1740-E1	(SEE NOTE BELOW**)								1285
R-1740-F+	50	25	2	48	51	62	10	B	1508
R-1740-D*	38	–	1½	38	48	49	10	C	828
R-1740-E2	44	–	1½	42	48	55	10	C	1058
R-1740-F++	50	–	2	48	51	62	10	C	1408

22" DIA. CENTER LID LOCATED 6" OFF CENTER.
**SAME AS R-1740-E, EXCEPT CENTER LID HAS 31 15/16" DIAMETER, + BASE FLANGE DIMENSION (E) IS FLATTENED TO 58" OF FOUR QUARTER POINTS.

STORMWATER MANAGEMENT NARRATIVE

DESCRIPTION

THIS PROJECT CONSISTS OF A 12.34 ACRE PARCEL TO BE DEVELOPED BY THE POTOMAC AND RAPPAHANNOCK TRANSPORTATION COMMISSION AS A BUS TERMINAL AND MAINTENANCE FACILITY. A PORTION OF THE SITE IS PRESENTLY OCCUPIED BY THE PRINCE WILLIAM COUNTY BOYS HOME AND AN ABANDONED SECTION OF DALE BOULEVARD. THE BALANCE OF THE SITE IS COVERED WITH MATURE TREES.

STORMWATER QUALITY CONTROL WILL BE PROVIDED BY THE INSTALLATION OF EIGHT (8) "DELAWARE TYPE" SAND FILTERS DESIGNED AND LOCATED TO INTERCEPT THE FIRST 1/2 INCH OF RUNOFF FOR 12.31 ACRES OF THE SITE. STORMWATER DETENTION IS PROVIDED BY AN UNDERGROUND STORAGE FACILITY CONSISTING OF 1000 LF. OF 96 INCH DIAMETER CORRUGATED MET. PIPE WITH THE OUTFLOW LIMITED TO LESS THAN THE PRE-DEVELOPMENT RATES FOR THE 2 YEAR, 10 YEAR, AND 25 YEAR DESIGN STORMS.

BOTH QUALITY CONTROL AND DETENTION ARE PREDICTED ON THE WHOLE SITE BEING DEVELOPED AS A COMMERCIAL USE (C = 0.85) AT SOME FUTURE DATE.

STORMWATER RUNOFF WILL ENTER THE SYSTEM THROUGH A SERIES OF CURB INLETS OR YARD INLETS, DESIGNED TO DIVERT A VOLUME EQUAL TO 1/2 INCH OF RUNOFF FOR THE CONTRIBUTING AREA TO THE SAND FILTER. THE BALANCE IS ALLOWED TO FLOW TO THE DETENTION FACILITY. THESE DIVERSION STRUCTURES ARE PROVIDED WITH A THREE (3) FOOT DEEP SUMP TO PROVIDE SOME INITIAL SEDIMENTATION FOR THE STORM FLOW. THE WATER DIRECTED TO THE SAND FILTER WILL FIRST ENTER THE SEDIMENTATION CHAMBER WHERE A PORTION OF THE SEDIMENT LOAD WILL BE DEPOSITED AS THE POOL RISES AND OVERFLOWS INTO THE FILTER CHAMBER, ARRIVING AS SHEET FLOW. SINCE THE FILTER BED IS THREE (3) FEET ABOVE THE INVERT OF THE SEDIMENT CHAMBER, THE RESULTING PERMANENT POOL WILL INHIBIT THE RESUSPENSION OF PARTICLES DEPOSITED BY PREVIOUS STORMS.

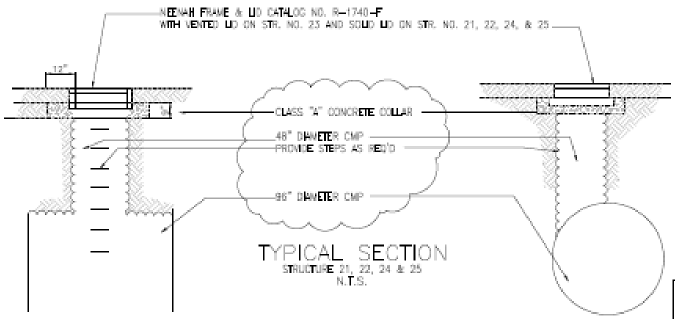
MAINTENANCE

THE FEE TITLE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL DRAINAGE, STORMWATER MANAGE, AND BEST MANAGEMENT PRACTICES FACILITIES AND SYSTEMS IN ACCORDANCE WITH THE MAINTENANCE AGREEMENT TO INSURE THAT THEY FUNCTION PROPERLY.

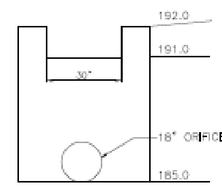
SUBJECT TO OTHER LIMITATIONS, THE FEE TITLE OWNER MAY LANDSCAPE THE EASEMENT TO INCLUDE VEGETATION, SIGNS AND FENCES PROVIDED THAT DRAINAGE AND THE COUNTY'S ABILITY TO ACCESS THE EASEMENT IS NOT COMPROMISED AND THAT THE COUNTY IS NOT IN ANYWAY RESPONSIBLE FOR THE REPAIRS OF THESE LANDSCAPE ITEMS EVEN IF DAMAGED BY COUNTY FORCES.

NOTE:

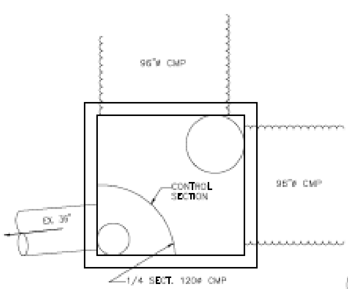
ALL REINFORCED CONCRETE PIPE SHALL BE CONSTRUCTED FOR HS-20 TRAFFIC LOADING.

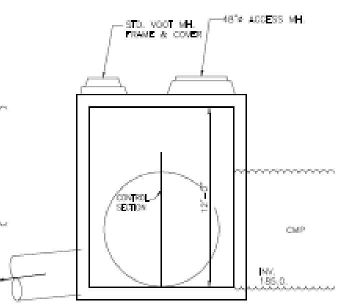


TYPICAL SECTION
STRUCTURE 21, 22, 24 & 25
N.T.S.



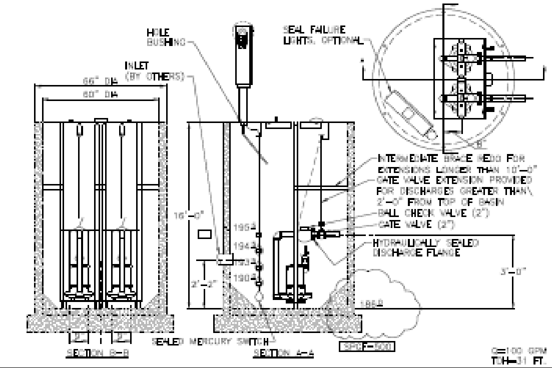
CONTROL SECTION





CONTROL STRUCTURE
STRUCTURE NO. 20
MODIFIED JB-1

△	Revised As-Built	PEO	8/15/00
Symbol	Description	Initials	Date
See Disclaimer Sheet 1 (index sheet)			



PUMP STATION DETAIL

INSTALLATION DRAWING
HYDR-O-RAIL HYDR-O-GRIND
IN CONCRETE SUMP

Gauthier, Alvarado & Associates, Inc.
Architecture Engineering Planning

PROJECT NO. 10066
PLAN NO. 96-00152

SEA JOB NO. 974.000

PROJECT TITLE

PRTC

POTOMAC AND RAPPAHANNOCK TRANSPORTATION COMMISSION

MULTI-PURPOSE TRANSIT CENTER

TRANSPORTATION CONSULTANTS:
SG Associates, Inc.

SITE ENGINEERS:
Springfield Engineering ASSOCIATES, INC.

PLANNING LANDSCAPE AND SIGNAGE CONSULTANTS:
Coffin & Coffin

REVISIONS

NO.	DATE	DESCRIPTION
	3-11-96	PRINT FOR BIDDING
1	5-10-96	PERMIT REVISIONS
2	10-25-96	RCP TO CMP
7	7-3-97	PUMP STATION

DRAWN KLT

CHECKED

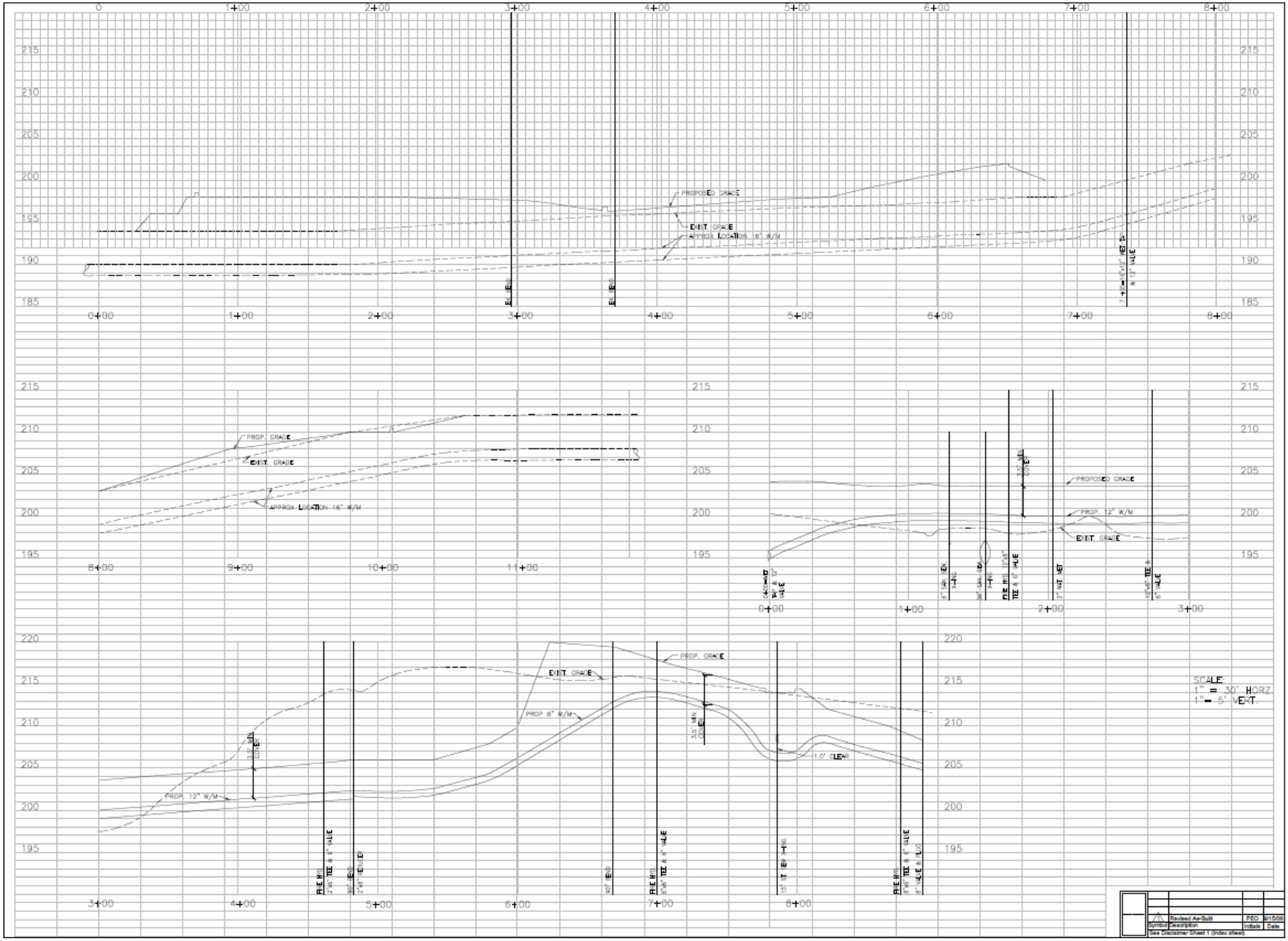
DRAWING TITLE

DETENTION PIPE DETAILS

DATE SEPT. 29, 1995

DRAWING NUMBER

C-21



Gauthier, Alvarado & Associates, Inc.

Architecture Engineering Planning

PROJECT NO. 10085
PLAN NO. 96-00152

SEA NO. 974.000

PROJECT TITLE

PRTC

POTOMAC AND RAPPAHANNOCK TRANSPORTATION COMMISSION

MULTI-PURPOSE TRANSIT CENTER

TRANSPORTATION CONSULTANTS:
SG Associates, Inc.

SITE ENGINEERS:
Springfield Engineering Corporation, P.C.

PLANNING LANDSCAPE AND SIGNAGE CONSULTANTS:
Coffin & Coffin

REVISIONS

NO.	DATE	DESCRIPTION
	3-11-96	PRINT FOR BIDDING
1	5-10-96	PERMIT REVISIONS

Symbol	Description	Initials	Date
1	Revised As-Built	PEC	9/15/00

See Disclaimer Sheet 1 (Index sheet)

DRAWN

CHECKED

DRAWING TITLE

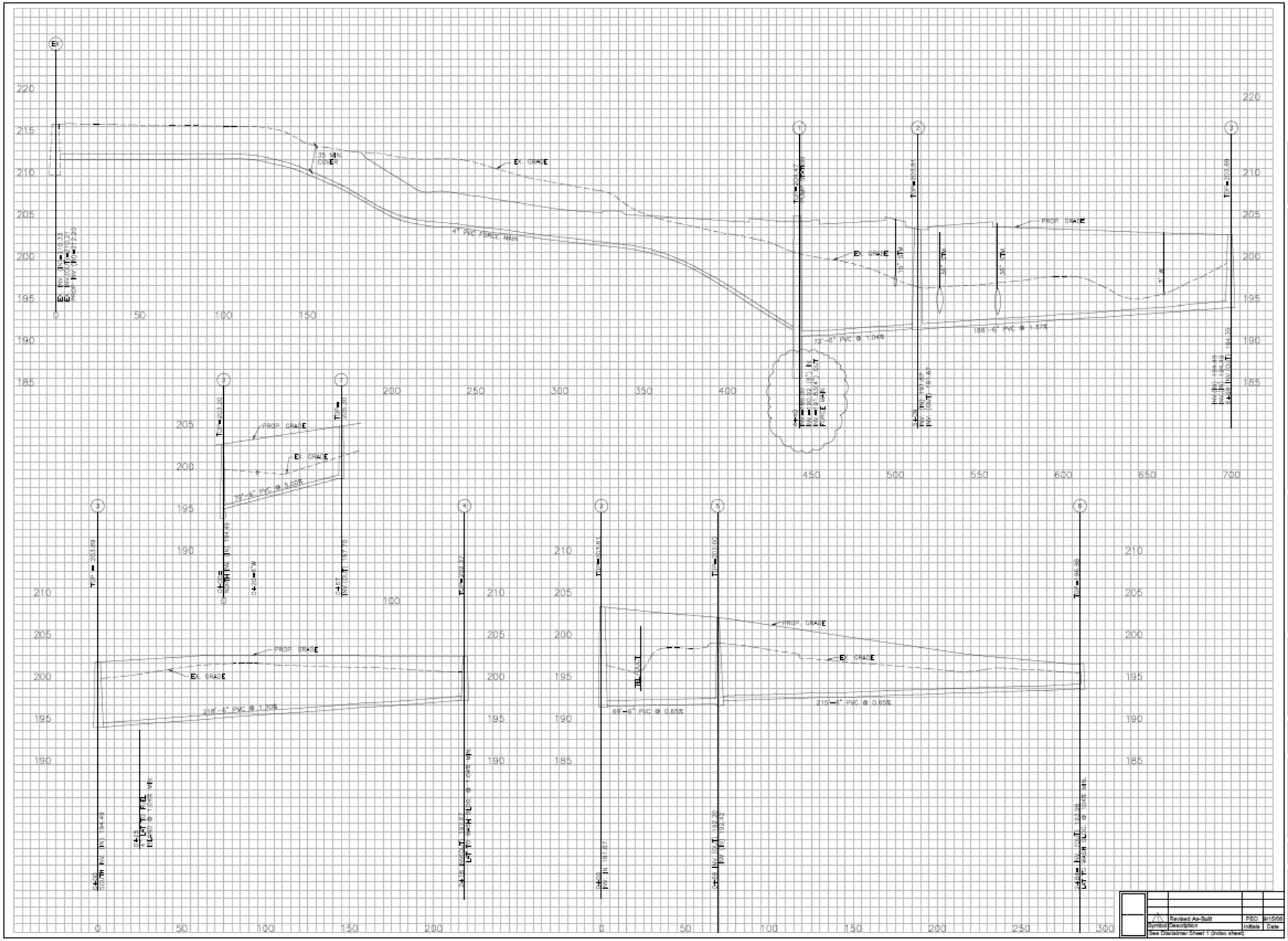
WATERLINE PROFILES

DATE

DRAWING NUMBER

C-22

22 OF 29



Gauthier, Alvarado & Associates, Inc.

Architecture Engineering Planning

PROJECT NO. 10085

PLAN NO. 98-00152

SEA NO. 974.000

PROJECT TITLE

PRTC

POTOMAC AND RAPPAHANNOCK TRANSPORTATION COMMISSION

MULTI-PURPOSE TRANSIT CENTER

TRANSPORTATION CONSULTANTS:
SG Associates, Inc.

SITE ENGINEERS:
Springfield Engineering Corporation, P.C.

PLANNING LANDSCAPE AND SIGNAGE CONSULTANTS:
Coffin & Coffin

REVISIONS

NO.	DATE	DESCRIPTION
	3-11-96	PRINT FOR BIDDING
1	5-10-96	PERMIT REVISIONS
7	7-3-97	PUMP STATION

Symbol	Description	Initials	Date
1	Revised As-Built	PSD	9/15/98

See Disclaimer Sheet 1 (Index sheet)

DRAWN

CHECKED

DRAWING TITLE

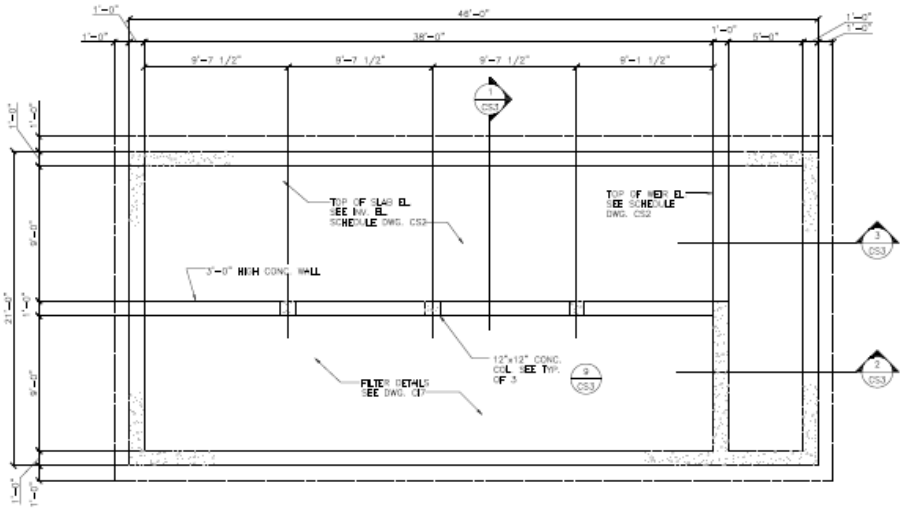
SANITARY SEWER PROFILES

DATE SEPTEMBER 29, 1995

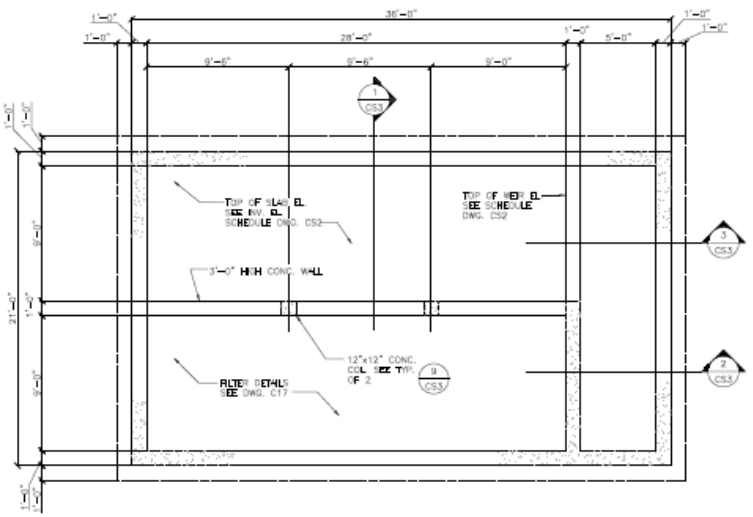
DRAWING NUMBER

C-23

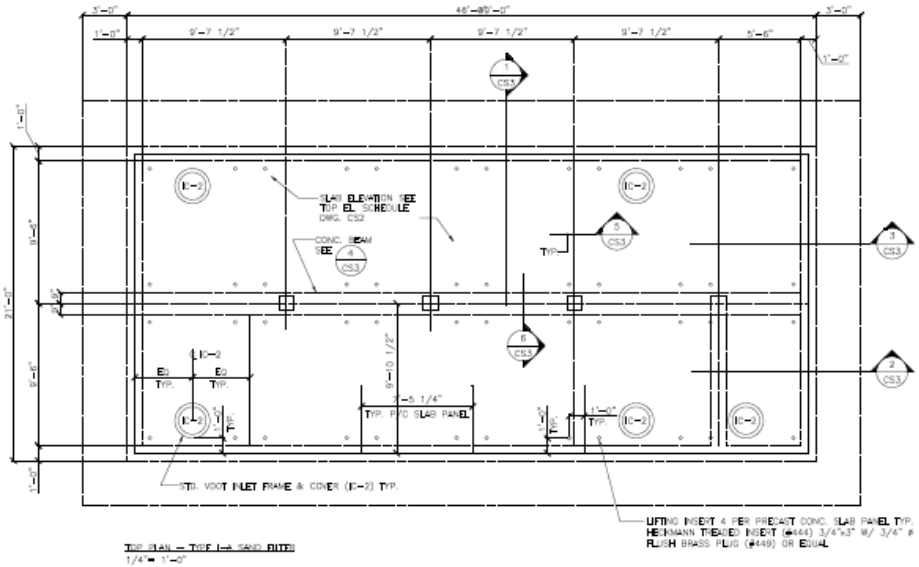
23 OF 29



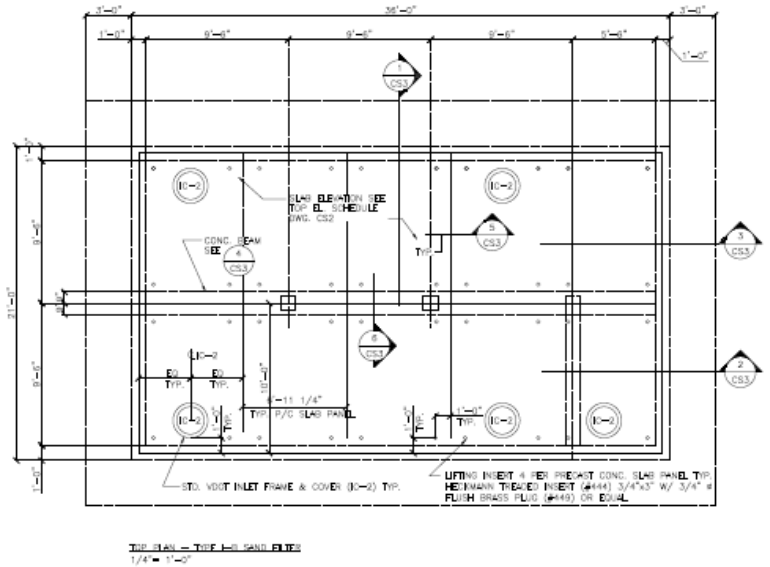
FOUNDATION PLAN – TYPE I-A SAND FILTER
1/4" = 1'-0"



FOUNDATION PLAN – TYPE I-B SAND FILTER
1/4" = 1'-0"



TOP PLAN – TYPE I-A SAND FILTER
1/4" = 1'-0"



TOP PLAN – TYPE I-B SAND FILTER
1/4" = 1'-0"

Symbol	Description	Initials	Date
1	Revised As-Built	PEC	6/15/06
	See Disclaimer Sheet 1 (Index sheet)		

Gauthier, Alvarado & Associates, Inc.
Architecture Engineering Planning

PROJECT NO. 10005
PLAN NO. 96-00152

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PRTC

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PLANNING LANDSCAPE AND SIGNAGE CONSULTANTS:
Coffin & Coffin

REVISIONS

NO.	DATE	DESCRIPTION
	3-11-96	PRINT FOR BIDDING
1	5-10-96	PERMIT REVISIONS

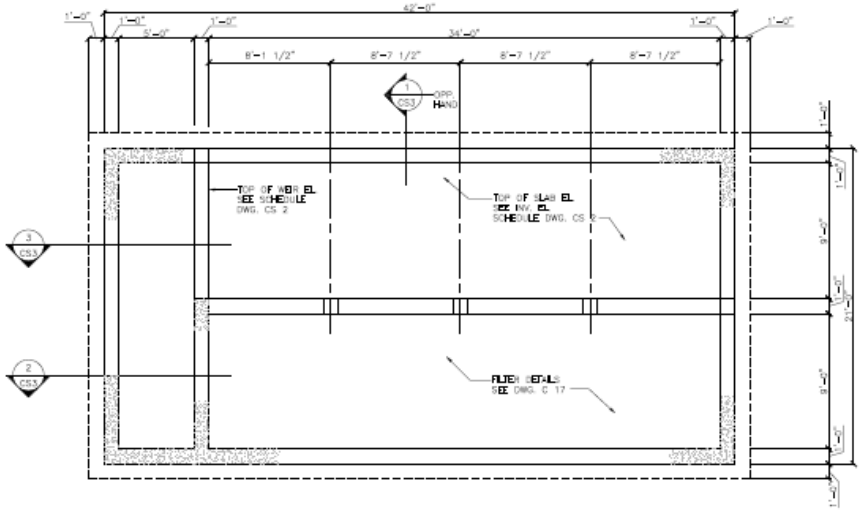
DRAWN MA
CHECKED MG

DRAWING TITLE
SAND FILTER PLANS

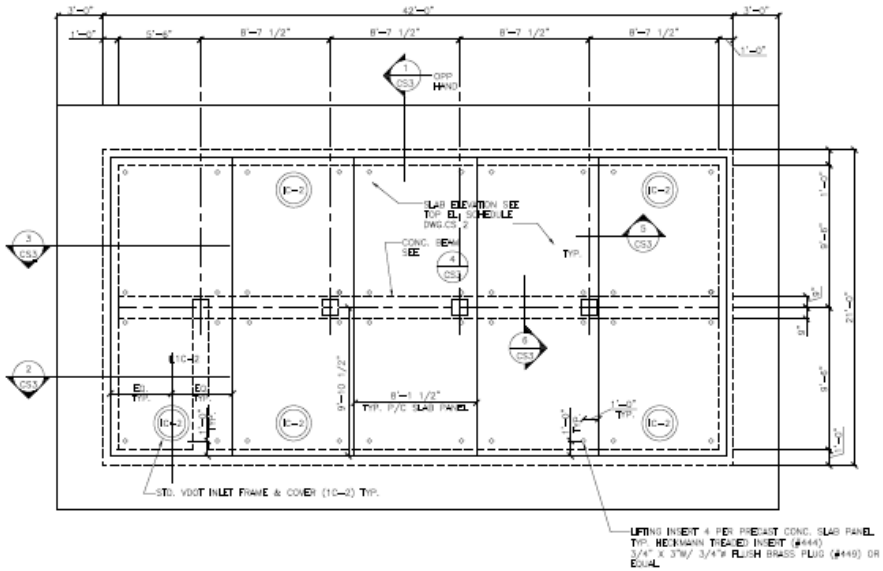
DATE 9-29-95

DRAWING NUMBER
CS-1

24 OF 29



FOUNDATION PLAN—TYPE 2 SAND FILTER
1/4" = 1'-0"



TOP PLAN —TYPE 2 SAND FILTER
1/4" = 1'-0"

STRUCTURAL NOTES—SAND FILTERS

LIVE LOADS:
—SLAB H20-44

FOUNDATION:
—ASSUMED SOIL BEARING VALUE 3000 PSF.
—WALL SHALL BE BACKFILLED EVENLY ON ALL 4 SIDES OF STRUCTURE.
—FOOTINGS TO REST A MINIMUM OF ONE FOOT INTO UNDISTURBED SOIL

CONCRETE:
—CONCRETE STRENGTHS:

ITEM	STRENGTH	WEIGHT
FOOTINGS, COLUMNS, WALLS AND ALL OTHERS	4000 PSI	145 pcf
PRE-CAST SLABS	5000 PSI	145 pcf

—REINFORCING BARS: ASTM A-615, GRADE 60
—PROVIDE 2x4 KEYS, UNLESS NOTED OTHERWISE
—CONCRETE PROTECTION FOR REINFORCING:
FOOTINGS = 3" WALLS = 2"
COLUMNS = 2"
PRE-CAST SLABS = 1 1/2"
—PROVIDE 3/4" CHAMFER ON CONCRETE CORNERS THAT WILL BE EXPOSED TO VIEW.
—CAST IN PLACE CONCRETE WORK SHALL COMPLY WITH ACI 318-89.
—RESPONSIVE BEARING PADS: 60 SHORE A DUROMETER CONFORM TO DIV.2, SECTION 25 OF AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
—USE AIR-ENTRAINING ADMIXTURE IN ALL CONCRETE.
—LIFTING INSERTS: TREADED INSERT 3/4"x3" WITH THE ULTIMATE PULLOUT OF 12,500 LBS. W/3/4" # FLUSH BRASS PLUG (HEICKMANN #444 AND #449 OF APPROVED EQUAL).

SAND FILTER SCHEDULE

MARK	TYPE	H(Feet)	TOP ELEV	INV ELEV	WEIR ELEV	REMARKS
1	1-A	4.0	219.0	209.0	216.0	
2	1-A	4.5	208.0	198.0	205.5	
3	1-A	4.5	206.0	196.0	203.5	
4	1-B	5.0	201.0	191.0	199.0	
5	2	4.5	195.5	185.5	193.0	
6	1-A	5.0	202.0	192.0	200.0	
7	1-B	4.0	198.5	188.5	195.5	
8	1-B	4.0	196.5	186.5	193.5	

1	Revised As-Built	PEO	9/15/06
Symbol	Description	Initials	Date

See Disclaimer Sheet 1 (Index sheet)

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PLAN NO. 96-00152.

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Coffin & Coffin

REVISIONS

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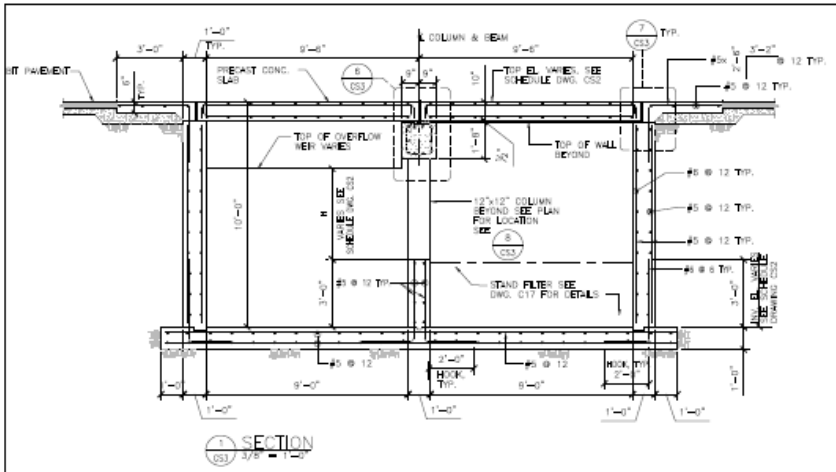
	5-11-96	PRINT FOR BIDDING
1	5-10-96	PERMIT REVISIONS

DRAWN MA
CHECKED MG

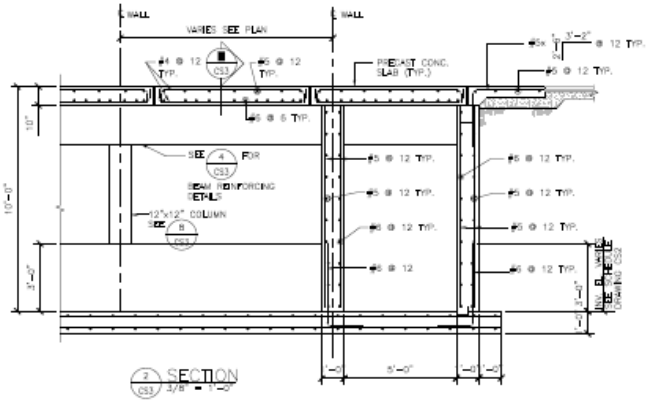
DRAWING TITLE
SAND FILTER PLANS, NOTES AND SCHEDULE

DATE 9-29-95

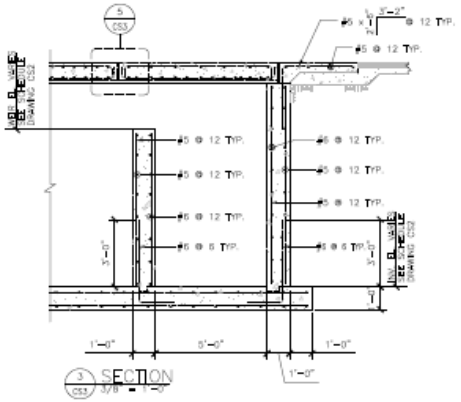
DRAWING NUMBER
CS-2



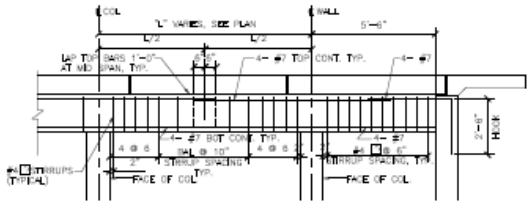
1 SECTION
3/8" = 1'-0"



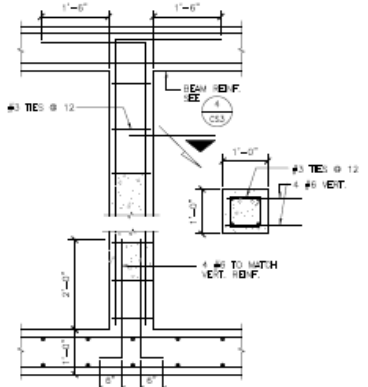
2 SECTION
3/8" = 1'-0"



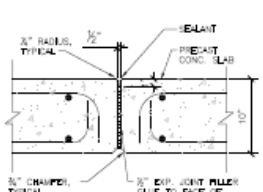
3 SECTION
3/8" = 1'-0"

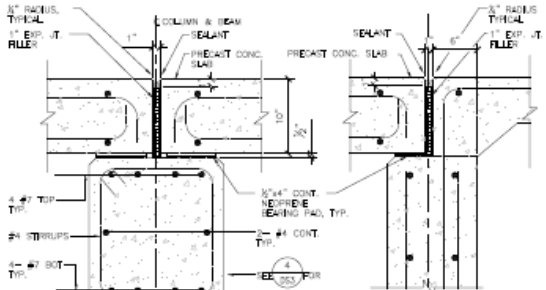


4 TYPICAL BEAM REINFORCING DETAIL
3/8" = 1'-0"



5 TYPICAL COLUMN DETAILS
3/4"=1'-0"

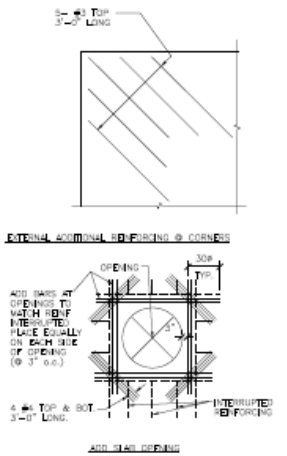




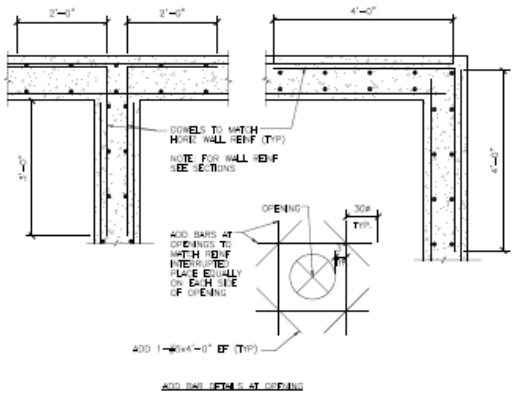
6 DETAIL
1 1/2" = 1'-0"

7 DETAIL
1 1/2" = 1'-0"

9 DETAIL
1 1/2" = 1'-0"



8 TYPICAL SLAB DETAILS
NOT TO SCALE



10 TYPICAL WALL REINFORCING DETAILS
3/4"=1'-0"

1	Revised As-Built	RSO	9/15/06
Symbol	Description	Initials	Date
See Disclaimer Sheet 1 (Index sheet)			

Gauthier, Alvarado & Associates, Inc.

Architecture Engineering Planning

PROJECT NO. 10085

PLAN NO. 96-00152

PROJECT TITLE

PRTC

POTOMAC AND RAPPAHANNOCK TRANSPORTATION COMMISSION

MULTI-PURPOSE TRANSIT CENTER

TRANSPORTATION CONSULTANTS:
SG Associates, Inc.

SITE ENGINEERS:
Springfield Engineering Corporation, P.C.

PLANNING LANDSCAPE AND SIGNAGE CONSULTANTS:
Coffin & Coffin

REVISIONS

NO.	DATE	DESCRIPTION
	3-11-96	PRINT FOR BIDDING
1	5-10-96	PERMIT REVISIONS

DRAWN MA

CHECKED MG

DRAWING TITLE

SAND FILTERS SECTIONS AND DETAILS

DATE 9-29-95

DRAWING NUMBER

CS-3

28 OF 29