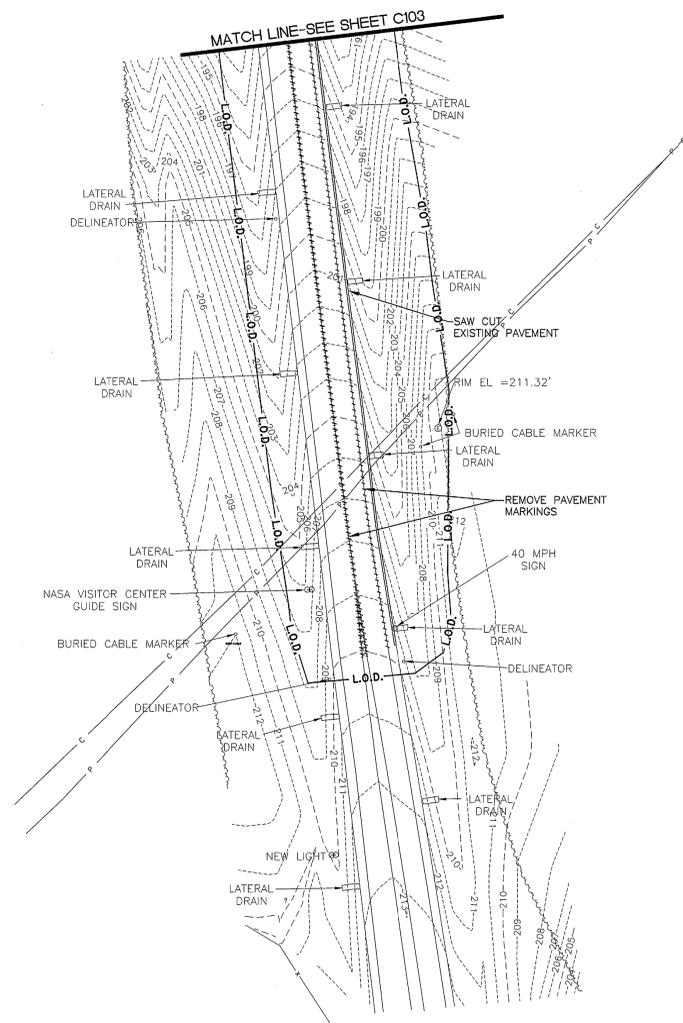
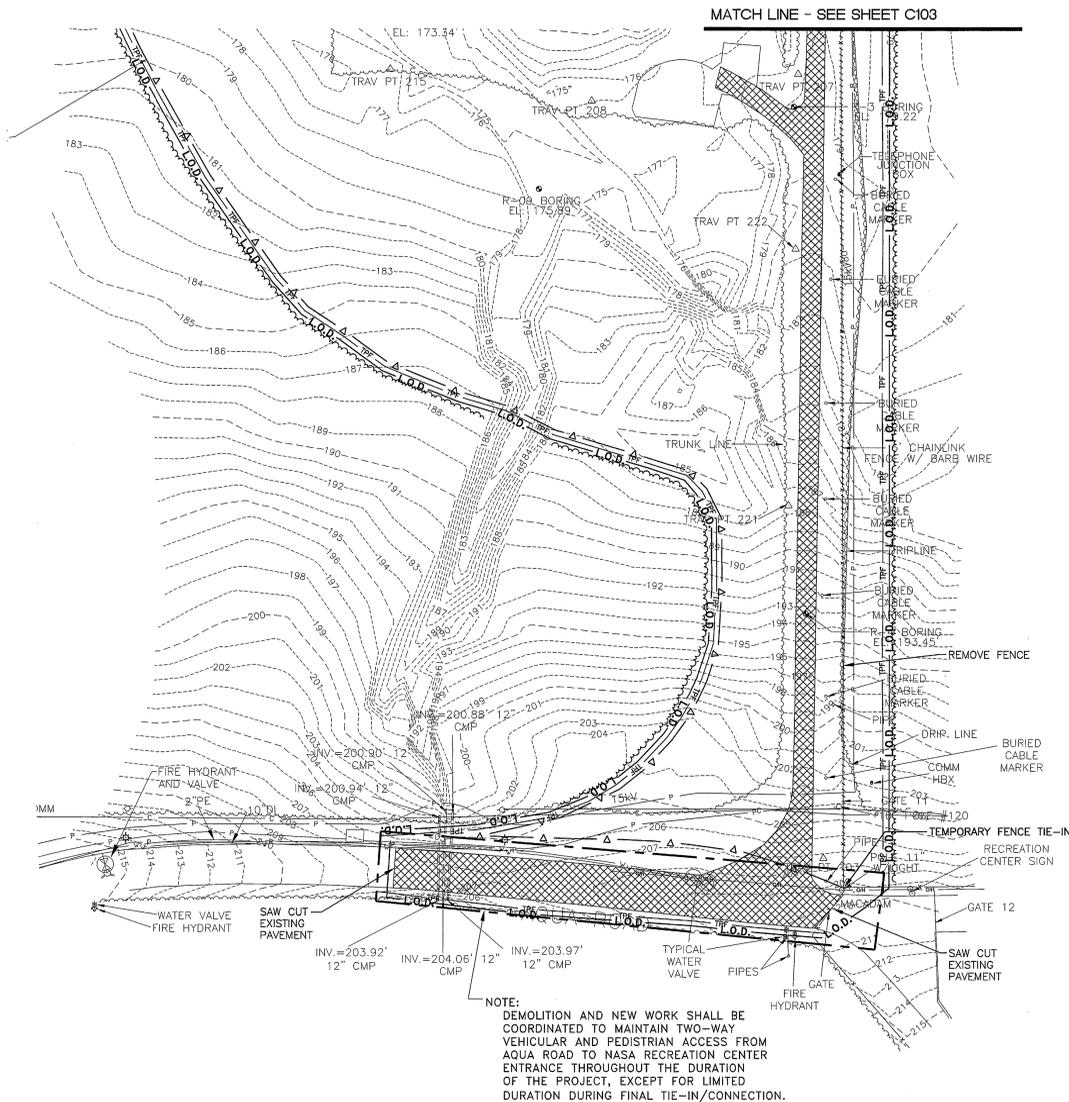
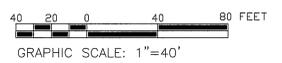


DEMOLITION NOTES

1. REMOVE EXISTING TREES WITHIN LIMIT OF DISTURBANCE.
2. REMOVE EXISTING ROAD PAVEMENT WITHIN LIMIT OF DISTURBANCE, EXCEPT SC ROAD.
3. REMOVE EXISTING FENCE ON EAST SIDE OF SERVICE ROAD.

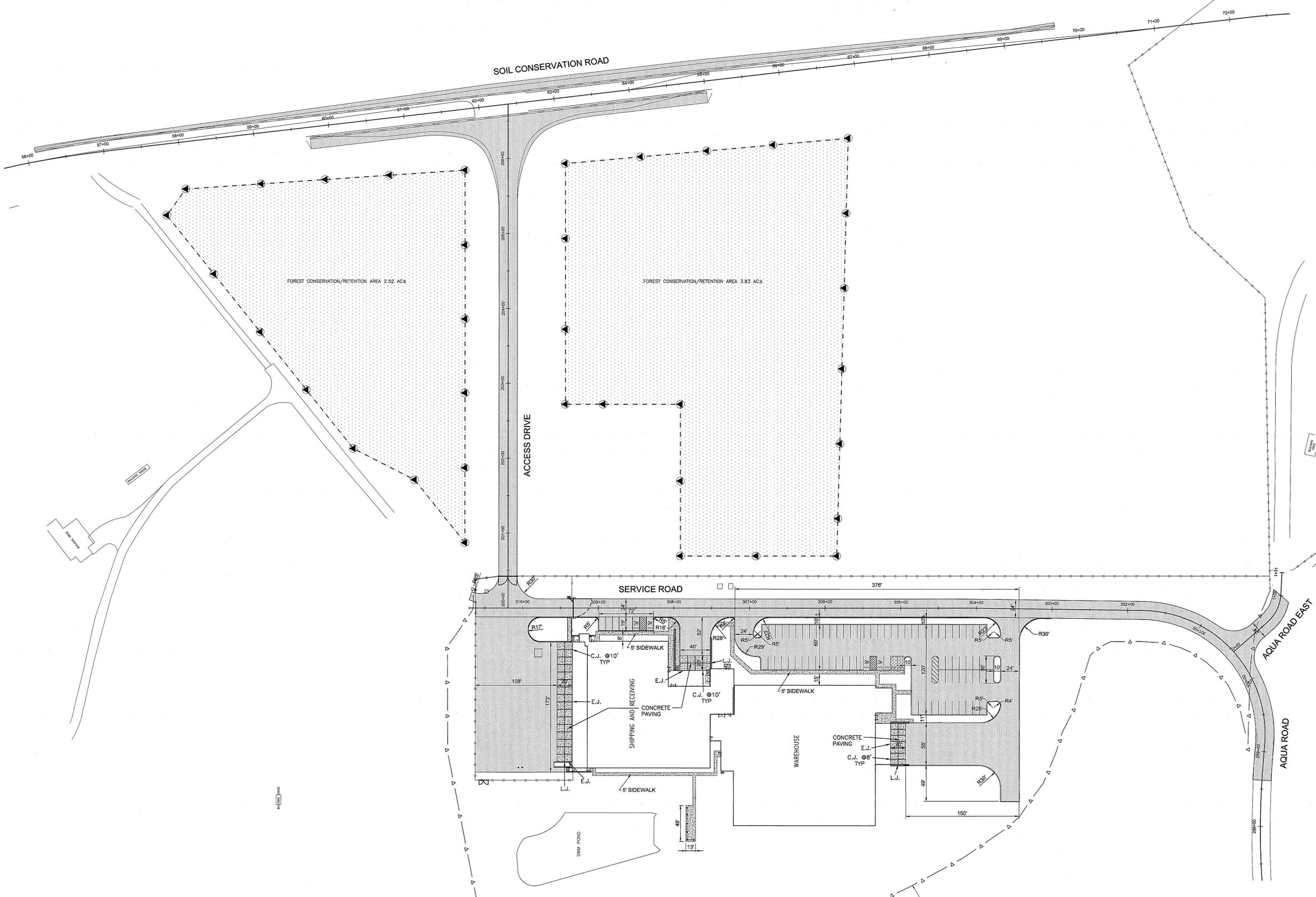


1 DEMOLITION PLAN II
 C104 SCALE: 1" = 40'



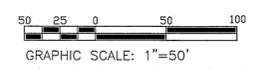
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 License No. 19533, Expiration Date: 02/05/2012

 PARSONS FACILITIES CONSULTING ENGINEERING & PROJECT SERVICES FMD-SFC-NASA	A 3/25/10 SOLICITATION CORRECTIONS. FHH 4/2/20
	REV DATE DESCRIPTION S&E BR. CUSTOMER PM SECT. HEAD
DRAWN DK 2-26-10 A-E KP 2-26-10 CHECKED BY HP 2-26-10 A-E MANAGER NASA A-E S&E BRANCH CM FM CUSTOMER SECTION HEAD	LOGISTICS FACILITY SITE AND SHELL SITE DEMOLITION PLAN 2 BUILDING 035 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND FACILITIES MANAGEMENT DIVISION
SEAL AREA 	DATE ISSUED 03-01-10 CIVIL C&P CODE OR WR# A6890 SHEET 7 OF 158 DRAWING NO. GF-035-33995



LAYOUT AND PAVING PLAN
SCALE: 1" = 50'

NOTE:
ALL DIMENSIONS ARE MEASURED FROM
FACE OF CURB TO FACE OF CURB.



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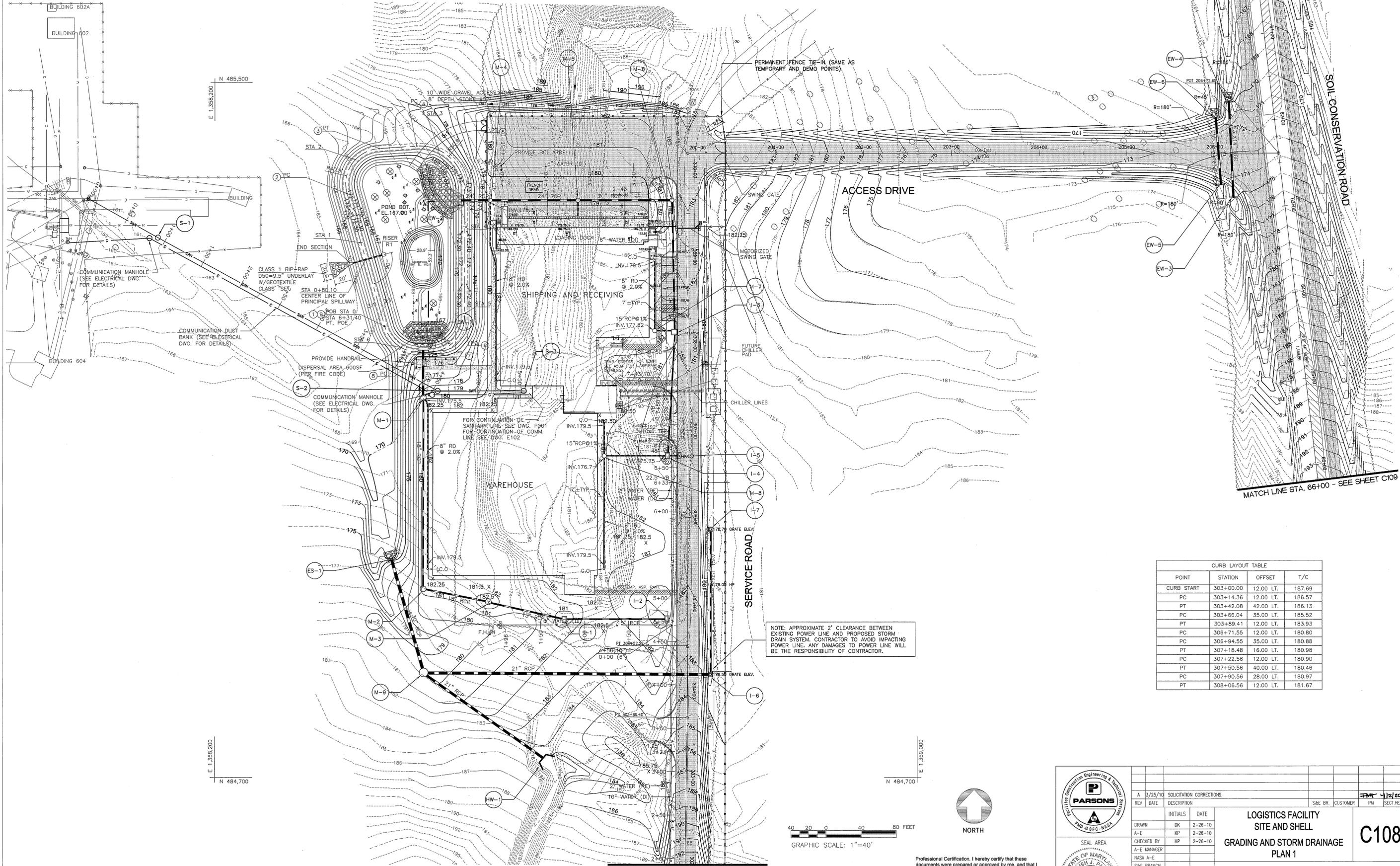


REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PI	SECT HEAD
A	3/25/10	SOLICITATION CORRECTIONS.				
DRWN	DK	2-26-10				
A-E	KP	2-26-10				
CHECKED BY	HP	2-26-10				
A-E MANAGER						
NASA A-E						
S&E BRANCH						
CM						
PM						
CUSTOMER						
SECTION HEAD						

SEAL AREA	
LOGISTICS FACILITY SITE AND SHELL SITE LAYOUT AND PAVING PLAN	
BUILDING 035	
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND	
FACILITIES MANAGEMENT DIVISION	
Civil	DATE ISSUED: 03-01-10
	DRW CODE OR REF: A6890
	SHEET 9 OF 158
	DRAWING NO. GF-035-33997

C106

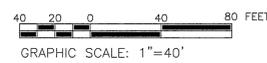
MATCH LINE STA. 60+00 - SEE SHEET 109



CURB LAYOUT TABLE

POINT	STATION	OFFSET	T/C
CURB START	303+00.00	12.00 LT.	187.69
PC	303+14.36	12.00 LT.	186.57
PT	303+42.08	42.00 LT.	186.13
PC	303+66.04	35.00 LT.	185.52
PT	303+89.41	12.00 LT.	183.93
PC	306+71.55	12.00 LT.	180.80
PC	306+94.55	35.00 LT.	180.88
PT	307+18.48	16.00 LT.	180.98
PC	307+22.56	12.00 LT.	180.90
PT	307+50.56	40.00 LT.	180.46
PC	307+90.56	28.00 LT.	180.97
PT	308+06.56	12.00 LT.	181.67

NOTE: APPROXIMATE 2' CLEARANCE BETWEEN EXISTING POWER LINE AND PROPOSED STORM DRAIN SYSTEM. CONTRACTOR TO AVOID IMPACTING POWER LINE. ANY DAMAGES TO POWER LINE WILL BE THE RESPONSIBILITY OF CONTRACTOR.



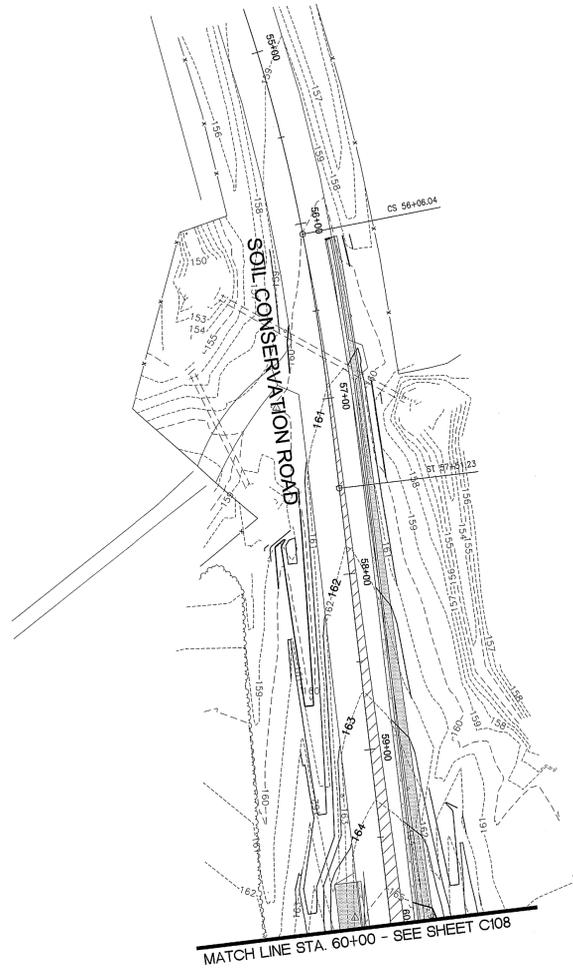
MATCH LINE STA. 302+00 - SEE SHEET C109

1 GRADING AND STORM DRAINAGE PLAN
SCALE: 1"=40'

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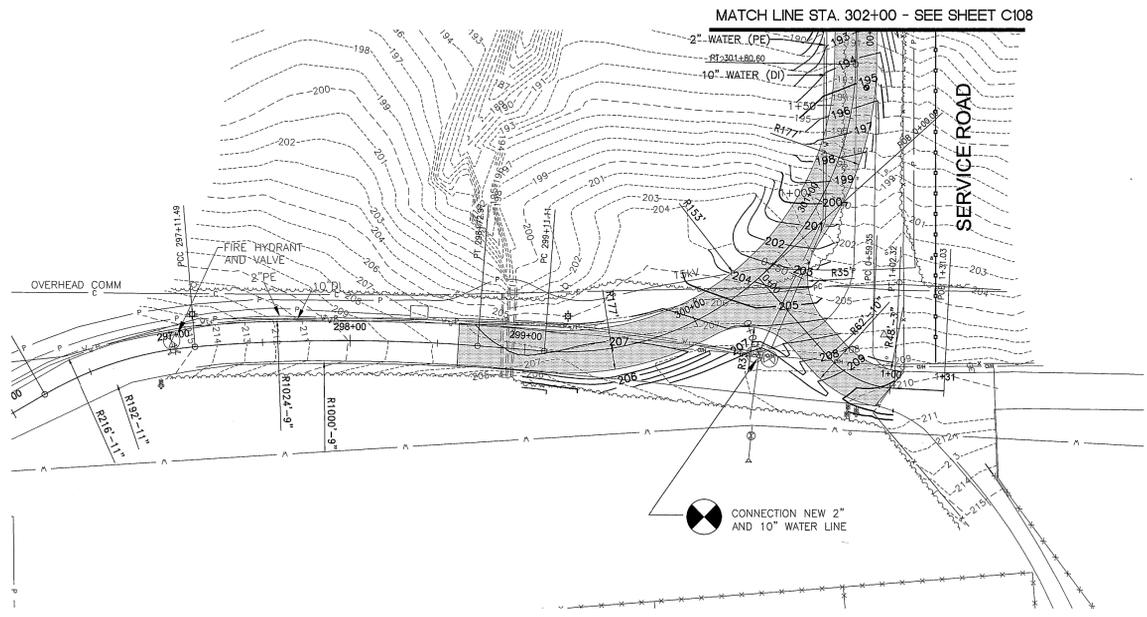
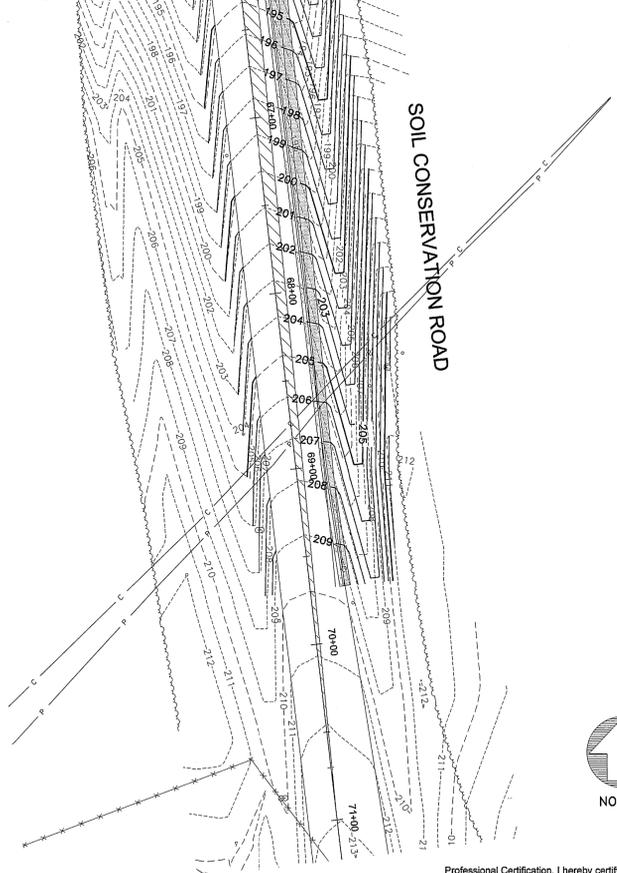


 PARSONS INCORPORATED 1000 SFC, N.A.S.A.	A 3/25/10 SOLICITATION CORRECTIONS. REV. DATE DESCRIPTION	S&E BR. CUSTOMER PM SECT. HEAD JMA 4/2/2010
	DRAWN DK 2-26-10 A-E KP 2-26-10 CHECKED BY HP 2-26-10 A-E MANAGER NASA A-E S&E BRANCH CM FM CUSTOMER SECTION HEAD	INITIALS DATE DK 2-26-10 KP 2-26-10 HP 2-26-10
SEAL AREA 	DATE ISSUED 03-01-10 C/D CODE OR W/F A6890 SHEET 11 OF 158 DRAWING NO. GF-035-33999	C108



MATCH LINE STA. 60+00 - SEE SHEET C108

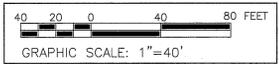
MATCH LINE STA. 66+00 - SEE SHEET C108



MATCH LINE STA. 302+00 - SEE SHEET C108

CONNECTION NEW 2" AND 10" WATER LINE

1 GRADING AND STORM DRAINAGE PLAN
C109 SCALE: 1"=40'



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License No. 19533 Expiration Date: 02/05/2012



A 3/25/10 SOLICITATION CORRECTIONS.		INITIALS	DATE	S&E BR. CUSTOMER		PM	SECT. HEAD
REV	DATE	DESCRIPTION					
DRAWN	DK	2-26-10					
A-E	KP	2-26-10					
CHECKED BY	HP	2-26-10					
A-E MANAGER							
NASA A-E							
S&E BRANCH							
CM							
PM							
CUSTOMER							
SECTION HEAD							
CIVIL							

LOGISTICS FACILITY SITE AND SHELL GRADING AND STORM DRAINAGE PLAN 2		C109
BUILDING 035		
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND FACILITIES MANAGEMENT DIVISION		
DATE ISSUED	03-01-10	
OF CODE OR W/F	A6890	
SHEET	12	OF 158
DRAWING NO.	GF-035-34000	

CONSTRUCTION SPECIFICATIONS

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-378. ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

SITE PREPARATION

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL. ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED. CHANNEL BANKS AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1. ALL TREES SHALL BE CLEARED AND GRUBBED WITHIN 15 FEET OF THE TOE OF THE EMBANKMENT.

AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS. TREES, BRUSH, AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE. FOR DRY STORMWATER MANAGEMENT PONDS, A MINIMUM OF A 25-FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED.

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. WHEN SPECIFIED, A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

EARTH FILL

MATERIAL - THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 6" FROZEN OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT, AND CUT OFF TRENCH SHALL CONFORM TO THE FOLLOWING CLASSIFICATION, SO, CH, OR CL AND MUST HAVE AT LEAST 30% PASSING THE #200 SIEVE. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGNED BY A GEOTECHNICAL ENGINEER. SUCH SPECIAL DESIGNS MUST HAVE CONSTRUCTION SUPERVISED BY A GEOTECHNICAL ENGINEER.

MATERIALS USED IN THE OUTER SHELL OF THE EMBANKMENT MUST HAVE THE CAPABILITY TO PREVENT EROSION OF THE EMBANKMENT.

PLACEMENT - AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWN-STREAM PORTIONS OF THE EMBANKMENT. THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.

COMPACTION - THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OR HEAVY EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIRED OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE, YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT.

WHEN REQUIRED BY THE REVIEWING AGENCY THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN +/-2% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99 (STANDARD PROCTOR).

CUT OFF TRENCH - THE CUTOFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE GOVERNED BY THE EQUIPMENT USED FOR EXCAVATION, WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1 TO 1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

EMBANKMENT CORE - THE CORE SHALL BE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE CORE SHALL BE A MINIMUM OF FOUR FEET. THE HEIGHT SHALL EXTEND UP TO AT LEAST THE 10 YEAR WATER ELEVATION OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHALL BE 1 TO 1 OR FLATTER. THE CORE SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. IN ADDITION, THE CORE SHALL BE PLACED CONCURRENTLY WITH THE OUTER SHELL OF THE EMBANKMENT.

STRUCTURE BACKFILL

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL NEEDS TO FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET TO ANY PART OF A STRUCTURE OR PIPE, UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE.

STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 313 AS MODIFIED. THE MIXTURE SHALL HAVE A 100-200 PSI; 28 DAY UNCONFINED COMPRESSIVE STRENGTH. THE FLOWABLE FILL SHALL HAVE A MINIMUM OF 4.0 AND A MINIMUM RESISTIVITY OF 2,000 OHM-CM. MATERIAL SHALL BE PLACED SUCH THAT A MINIMUM OF 6" (MEASURED PERPENDICULAR TO THE OUTSIDE OF THE PIPE) OF FLOWABLE FILL SHALL BE UNDER (BEDDING), OVER AND, ON THE SIDES OF THE PIPE. IT ONLY NEEDS TO EXTEND UP TO THE SPRING LINE FOR RIGID CONDUITS. AVERAGE SLUMP OF THE FILL SHALL BE 7" TO ASSURE FLOWABILITY OF THE MATERIAL. ADEQUATE MEASURES SHALL BE TAKEN (SAND BAGS, ETC.) TO PREVENT FLOATING THE PIPE, WHEN USING FLOWABLE FILL. ALL METAL PIPE SHALL BE BITUMINOUS COATED. ANY ADDITIONAL SOIL FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL SHALL COMPLETELY FILL ALL VOIDS ADJACENT TO THE FLOWABLE FILL ZONE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET TO ANY PART OF A STRUCTURE OR PIPE UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE. BACKFILL MATERIAL OUTSIDE THE STRUCTURE BACKFILL (FLOWABLE FILL) ZONE SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE CORE OF THE EMBANKMENT OR OTHER EMBANKMENT MATERIALS.

PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION. CORRUGATED METAL PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:

- MATERIALS** - (POLYMER COATED STEEL PIPE) - STEEL PIPES WITH POLYMERIC COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE. THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATIONS M-245 & M-248 WITH WATER-TIGHT COUPLING BANDS OR FLANGES.

MATERIALS - (ALUMINUM COATED STEEL PIPE) - THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-274 WITH WATER-TIGHT COUPLING BANDS OR FLANGES. ALUMINUM COATED STEEL PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL AND/OR WATER CONDITIONS WARRANT THE NEED FOR INCREASED DURABILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M-190 TYPE A. ANY ALUMINUM COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COMPOUND. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT.

MATERIALS - (ALUMINUM PIPE) - THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-196 OR M-211 WITH WATER-TIGHT COUPLING BANDS OR FLANGES. ALUMINUM PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL AND/OR WATER CONDITIONS WARRANT FOR INCREASED DURABILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M-190 TYPE A. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT. HOT DIP GALVANIZED BOLTS MAY BE USED FOR CONNECTIONS. THE TYPE OF THE SURROUNDING SOILS SHALL BE BETWEEN 4 AND 9.

- COUPLING BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC.**, MUST BE COMPOSED OF THE SAME MATERIAL AND COATINGS AS THE PIPE. METALS MUST BE INSULATED FROM DISSIPULAR MATERIALS WITH USE OF RUBBER OR PLASTIC INSULATING MATERIALS AT LEAST 24 MILS IN THICKNESS.

- CONNECTIONS** - ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATER-TIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL. ANTI-SEEP COLLARS SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER AS TO BE COMPLETELY WATER-TIGHT. COUPLING BANDS ARE NOT CONSIDERED TO BE WATER-TIGHT. ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS. THE END OF EACH PIPE SHALL BE RE-ROLLED AN ADEQUATE NUMBER OF CORRUGATIONS TO ACCOMMODATE THE BANDWIDTH. THE FOLLOWING TYPE CONNECTIONS ARE ACCEPTABLE FOR PIPES LESS THAN 24 INCHES IN DIAMETER. FLANGES ON BOTH ENDS OF THE PIPE, WITH A CIRCULAR 3/8 INCH CLOSED CELL NEOPRENE GASKET, PRE-PUNCHED TO THE FLANGE BOLT CIRCLE, SANDWICHED BETWEEN ADJACENT FLANGES; A 12-INCH WIDE STANDARD LAP TYPE BAND WITH 12-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET; AND A 12-INCH WIDE HUGGER TYPE BAND WITH O-RING GASKETS HAVING A MINIMUM DIAMETER

OF 1/8 INCH GREATER THAN THE CORRUGATION DEPTH. PIPES 24 INCHES IN DIAMETER AND LARGER SHALL BE CONNECTED BY A 24 INCH LONG ANNUULAR CORRUGATED BAND USING A MINIMUM OF 4 (FOUR) RODS AND LUGS, 2 ON EACH CONNECTING PIPE END. A 24-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET WILL BE INSTALLED WITH 12 INCHES ON THE END OF EACH PIPE. FLANGED JOINTS WITH 3/8 INCH CLOSED CELL CIRCULAR NEOPRENE GASKET WILL BE INSTALLED WITH 12 INCHES ON THE END OF THE FLANGE IS ALSO ACCEPTABLE.

HELICALLY CORRUGATED PIPE SHALL HAVE EITHER CONTINUOUSLY WELDED SEAMS OR HAVE LOCK SEAMS WITH INTERNAL CAULKING OR A NEOPRENE BEAD.

- BEDDING** - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.
- BACKFILLING** SHALL CONFORM TO "STRUCTURE BACKFILL".
- OTHER DETAILS** (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

REINFORCED CONCRETE PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFORCED CONCRETE PIPE:

- MATERIALS** - REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM C-361.
- BEDDING** - REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING / CRADLE FOR THEIR ENTIRE LENGTH. THIS BEDDING / CRADLE SHALL CONSIST OF HIGH SLUMP CONCRETE PLACED UNDER THE PIPE AND UP THE SIDES OF THE PIPE AT LEAST 50% OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 6 INCHES. WHERE A CONCRETE CRADLE IS NOT NEEDED FOR STRUCTURAL REASONS, FLOWABLE FILL MAY BE USED AS DESCRIBED IN THE "STRUCTURE BACKFILL" SECTION OF THIS STANDARD. GRADING BEDDING IS NOT PERMITTED.

LAYING PIPE - BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM. JOINTS SHALL BE MADE IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL. AFTER THE JOINTS ARE SEALED FOR THE ENTIRE LENGTH, THE BEDDING SHALL BE PLACED SO THAT ALL SPACES UNDER THE PIPE ARE FILLED. CARE SHALL BE EXERCISED TO PREVENT ANY DEVIATION FROM THE ORIGINAL LINE AND GRADE OF THE PIPE. THE FIRST JOINT MUST BE LOCATED WITHIN 4 FEET FROM THE RISER.

BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".

OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

PLASTIC PIPE - THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE:

- MATERIALS** - PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D-1785 OR ASTM D-2241, CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) PIPE. COUPLINGS AND FITTINGS SHALL CONFORM TO THE FOLLOWING: 4" - 10" INCH PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M252 TYPE S, AND 12" THROUGH 24" INCH SHALL MEET THE REQUIREMENTS OF AASHTO M294 TYPE S.
- JOINTS AND CONNECTIONS** TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATER-TIGHT.

- BEDDING** - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.
- BACKFILLING** SHALL CONFORM TO "STRUCTURE BACKFILL".
- OTHER DETAILS** (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

CONCRETE

CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414, MIX NO. 3.

ROCK RIPRAP

ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 311.

GEOTEXTILE SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 921.09, CLASS C.

CARE OF WATER DURING CONSTRUCTION

ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS SHALL BE REMOVED OR LEVELED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS AND SO AS NOT TO INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT WORKS. THE REMOVAL OF WATER FROM THE REQUIRED EXCAVATION AND THE FOUNDATION SHALL BE ACCOMPLISHED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND BOTTOM REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION OPERATIONS. DURING THE PLACING AND COMPACTING OF MATERIAL IN REQUIRED EXCAVATIONS, THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS WHICH MAY REQUIRE DRAINING THE WATER PUMPS FROM WHICH THE WATER SHALL BE PUMPED.

STABILIZATION

ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH THE NATURAL RESOURCES CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (M-142) OR AS SHOWN ON THE ACCOMPANYING DRAWINGS.

EROSION AND SEDIMENT CONTROL

CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES.

MAINTENANCE

THE OWNER OF THE PROPERTY, OR ANY OTHER PERSON OR AGENT IN CONTROL OF SUCH PROPERTY, ON WHICH WORK HAS BEEN DONE PURSUANT TO MDE GUIDELINES, SHALL MAINTAIN IN GOOD CONDITION AND PROMPTLY REPAIR AND RESTORE ALL GRADE SURFACES, WALLS, DRAINS, DAMS, AND STRUCTURES. VEGETATION, EROSION AND SEDIMENT CONTROL MEASURES, AND OTHER PROTECTIVE DEVICES. SUCH REPAIRS OR RESTORATION AND MAINTENANCE SHALL BE IN ACCORDANCE WITH APPROVED PLANS. AT A MINIMUM, MAINTENANCE SHALL BE PERFORMED AS FOLLOWS:

- OWNER SHALL MAKE A VISUAL INSPECTION ON THE POND, DAM EMBANKMENT AND RISER STRUCTURE AT LEAST TWICE A YEAR, ONCE IN THE SUMMER AFTER MOWING AND ONCE IN THE WINTER WHEN THE VEGETATION COVER IS DOMINANT. INSPECTIONS SHALL ALSO BE MADE AFTER EXTREME RAINFALL EVENTS.
- INSPECTIONS SHALL BE CONDUCTED FOR OVERTOPPING FAILURES, PIPING AND SEEPAGE FAILURES, AND STRUCTURAL FAILURES. IF ANY OF THE FOLLOWING CONDITIONS ARE NOTED EMERGENCY PROCEDURES ARE WARRANTED:
 - MUDDY WATER IS FLOWING FROM THE DOWNSTREAM SLOPE OF TOE;
 - CRACKS OR DEPRESSIONS ARE FORMING ON THE EMBANKMENT; OR
 - FLOOD FLOW OVER THE TOP OF THE EMBANKMENT IS IMMINENT.
- MOWING IS NECESSARY TO CONTROL THE ESTABLISHMENT OF WOODY GROWTH AND TO MAINTAIN VEGETATIVE COVER. MOWING SHALL BE DONE AT LEAST ONCE PER YEAR (MID TO LATE SUMMER) BUT MAY BE DONE MORE OFTEN. TREES AND SHRUBS WILL NOT BE ALLOWED ON THE EMBANKMENT AND SHALL BE REMOVED. VEGETATION SHALL BE INSPECTED IN THE EARLY SPRING AND LATE SUMMER, AND ANY BARE OR ERODED AREAS SHALL BE REPAIRED AND RESEDED. POTENTIALLY DAMAGING FALLEN TREES, DEBRIS, AND SEDIMENT SHALL BE REMOVED.
- SPILLWAY CONDUITS AND TRASH RACK SHALL BE INSPECTED ONCE A YEAR FOR IMPROPER ALIGNMENT (SAGGING), ELONGATION, DISPLACEMENT AT JOINTS, CRACKS, LEAKS, SURFACE WEAR, LOSS OF PROTECTIVE COATINGS, CORROSION, AND BLOCKAGE.
- OUTLETS SHALL BE INSPECTED SEASONALLY, AS WELL AS AFTER STORM EVENTS. DAMAGE TO THE RIP RAP CHANNELS SHALL BE REPAIRED PROMPTLY.
- IF BASIN OR FOREBAY FILLS WITH SEDIMENT TO WITHIN 1 1/2 FEET OF THE LOW FLOW OR RIP RAP WEIR (i.e., TO EL = 199.5), REMOVE THE SEDIMENT. PUMP THE WATER FROM THE BASIN OR FOREBAY BEFORE REMOVING THE SEDIMENT. WHEN PUMPING WATER OUT OF THE POND, AVOID PUMPING SEDIMENT LOADED WATER INTO THE STREAM BY USING A SUMP PIT AS DETAILED ON SHEET C502. ANY SOIL OR SEDIMENT REMOVED FROM THE POND SHALL BE DISPOSED OF PROPERLY AT A SITE WITH APPROVED SEDIMENT CONTROL MEASURES.

INSPECTION REQUIREMENTS DURING CONSTRUCTION FOR AS-BUILT CERTIFICATION

ALL INSPECTIONS SHALL BE ATTENDED BY THE APPROPRIATE NASA PERSONNEL (i.e. NASA'S CONTRACTING OFFICER AND QUALITY ASSURANCE MANAGER). IN ADDITION, ALL SHOP DRAWINGS WILL BE REVIEWED AND APPROVED BY NASA PERSONNEL PRIOR TO THE CONTRACTOR ORDERING AND/OR INSTALLING PRODUCTS WHICH REQUIRE SHOP DRAWINGS.

AT A MINIMUM, REGULAR INSPECTIONS SHALL BE MADE AND DOCUMENTED AT THE FOLLOWING SPECIFIED STAGES OF CONSTRUCTION:

- FOUNDATIONS:** (A) UPON COMPLETION OF EXCAVATION TO SUB-FOUNDATION AND WHEN REQUIRED, INSTALLATION OF STRUCTURAL SUPPORTS OR REINFORCEMENT FOR STRUCTURES, INCLUDING BUT NOT LIMITED TO:
 - CORE TRENCHES FOR STRUCTURAL EMBANKMENTS;
 - INLET AND OUTLET STRUCTURES, ANTI-SEEP COLLARS, OR DIAPHRAGMS, AND WATER-TIGHT CONNECTORS ON PIPES; AND
 - TRENCHES FOR ENCLOSED STORM DRAINAGE FACILITIES.
 (B) DURING PLACEMENT OF STRUCTURAL FILL, CONCRETE, AND INSTALLATION OF PIPING AND CATCHBASINS.
 (C) DURING BACKFILL OF FOUNDATIONS AND TRENCHES.
 (D) DURING EMBANKMENT CONSTRUCTION.
 (E) UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.
- FILTERING SYSTEMS:**
 - DURING EXCAVATION TO SUBGRADE;
 - DURING PLACEMENT OF GEOTEXTILES AND ALL FILTER MEDIA;
 - DURING CONSTRUCTION OF APPURTENANCE CONVEYANCE SYSTEMS SUCH AS FLOW DIVERSION STRUCTURES, PREFILTERS, INLETS, OUTLETS, ORIFICES, FLOW DISTRIBUTORS STRUCTURES; AND
 - UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.
- OPEN CHANNEL SYSTEMS:**
 - DURING EXCAVATION TO SUBGRADE;
 - DURING INSTALLATION OF DIAPHRAGMS, CHECK DAMS, OR WEIRS; AND
 - UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.

ONCE CONSTRUCTION IS COMPLETE, AS-BUILT PLAN CERTIFICATION SHALL BE SUBMITTED TO THE ADMINISTRATION BY EITHER A PROFESSIONAL ENGINEER OR PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF MARYLAND TO ENSURE THAT CONSTRUCTED STORMWATER MANAGEMENT PRACTICES AND CONVEYANCE SYSTEMS COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE APPROVED PLANS. AT A MINIMUM, AS-BUILT CERTIFICATION SHALL INCLUDE A SET OF DRAWINGS COMPARING AS-BUILT MANAGEMENT PLAN WITH WHAT WAS CONSTRUCTED. THE ADMINISTRATION MAY REQUIRE ADDITIONAL INFORMATION.

- FACILITY TYPE: SWM POND
- LOCATION: GREENBELT, MARYLAND
- STRUCTURE CLASSIFICATION: EMBANKMENT SWM POND, CLASS "g"
- STORAGE-HEIGHT PRODUCT: 1.4 AC-SQ.FT.
- WATERSHED AREA TO FACILITY: 7.0 ACRES
- LEVEL OF MANAGEMENT PROVIDED BY FACILITY: 10yr STORM
- FREEBOARD: 2.02 FT.
- WQ STORAGE REQUIRED = 9,595 CF
- WQ STORAGE PROVIDED = 12,780 CF
- WATERSHED NAME: 02-14-02 "WASHINGTON METROPOLITAN AREA"
- RECEIVING STREAM CLASSIFICATION: USE 1-P.
- COORDINATES OF FACILITY AT CENTROID:
 - NORTHING = 485298.27
 - EASTING = 1358434.14
- FACILITY OWNERSHIP AND MAINTENANCE RESPONSIBILITY: NASA GODDARD SPACE FLIGHT CENTER

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19533, EXPIRATION DATE: 02-05-2010
 P.E., R.L.S., R.L.A., or R.A. HARISH J. PATEL
 07-24-2008

DEVELOPER'S/LANDOWNER'S CERTIFICATION
 I/WE HEREBY CERTIFY THAT ALL PROPOSED WORK SHOWN ON THESE CONSTRUCTION DRAWING(S) AND ON THE APPROVED SEDIMENT CONTROL DRAWING(S) WILL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH THESE PLANS. I/WE ALSO UNDERSTAND THAT IT IS MY/OUR RESPONSIBILITY TO HAVE THE CONSTRUCTION SUPERVISED AND CERTIFIED, INCLUDING THE SUBMITTAL OF "AS-BUILT" PLANS CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER WITHIN THIRTY(30) DAYS OF COMPLETION OF WORK ON THE STORMWATER MANAGEMENT FACILITY/FACILITIES.
 SIGNATURE: *Timothy Regas* DATE: *March 23, 2010*
 PRINT NAME: Timothy Regas

AS - BUILT DATA FOR PONDS / WETLANDS		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY:	DESIGN	"AS-BUILT"
WQ STORAGE VOLUME	12,780 CU.FT.	
CP STORAGE VOLUME	17,125 CU.FT.	
2 YR STORAGE VOLUME	N/A	
10 YR STORAGE VOLUME	39,200 CU.FT.	
100 YR STORAGE VOLUME	167,000 CU.FT.	
WQ STORAGE ELEVATION	168.00	
CP STORAGE ELEVATION	N/A	
2 YR STORAGE ELEVATION	169.28	
10 YR STORAGE ELEVATION	170.28	
CP DISCHARGE	0.26ft	
2 YR DISCHARGE (CFS)	N/A	
10 YR DISCHARGE (CFS)	5.43 CFS	
100 YR DISCHARGE (CFS)	15.61 CFS	
CP CONTROL OPENING/ELEVATION	167.00	
2 YR CONTROL OPENING/ELEVATION	N/A	
10 YR CONTROL OPENING/ELEVATION	168.00	
PRINCIPAL SPILLWAY, ELEV. OUT / DAM LOGRADE	167.00/24"	
EMERGENCY SPILLWAY, WIDTH/LENGTH/ELEV.	N/A	
OUTLET PROTECTION LENGTH/WIDTH/STONE SIZE	20'/20'/C11,050-9.5"	
TOP OF CONSTRUCTED EMBANKMENT	172.80	
TOP OF SETTLED EMBANKMENT	172.50	
TD. ORifice DIAMETER	4"	

DATE AS-BUILT ACCEPTED BY MDE:

"AS-BUILT" CERTIFICATION REQUIREMENTS
 AS-BUILT PLANS & CERTIFICATION ARE REQUIRED FOR THIS STORMWATER MANAGEMENT FACILITY. THESE MUST BE PREPARED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 IN ORDER TO PREPARE THE REQUIRED AS-BUILT PLANS & CERTIFICATION, THIS STORMWATER MANAGEMENT FACILITY MUST BE INSPECTED BY THE ENGINEER AT SPECIFIC STAGES DURING CONSTRUCTION AS REQUIRED BY CURRENT MARYLAND STORMWATER MANAGEMENT ORDINANCE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ANY WORK SHOWN ON THESE PLANS.

"AS-BUILT" CERTIFICATION
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THESE PLANS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH PLANS APPROVED BY MDE, EXCEPT AS NOTED IN RED ON THE "AS BUILT" DRAWINGS.

SIGNATURE: _____ DATE _____
 PRINT NAME: _____ MD. LICENSE NO. _____

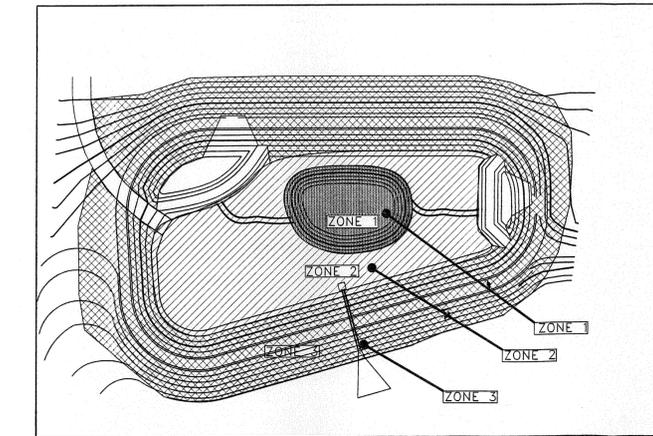
MDE No. 10-SF-0158

LOGISTICS FACILITY
 SITE AND SHELL
 SWM POND
 MD-378 SPECIFICATIONS & PLANTS

BUILDING 035
 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
 GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
 FACILITIES MANAGEMENT DIVISION

DATE ISSUED: 03-01-10
 SHEET: 15 OF 158
 DRAWING NO: CF-035-34003

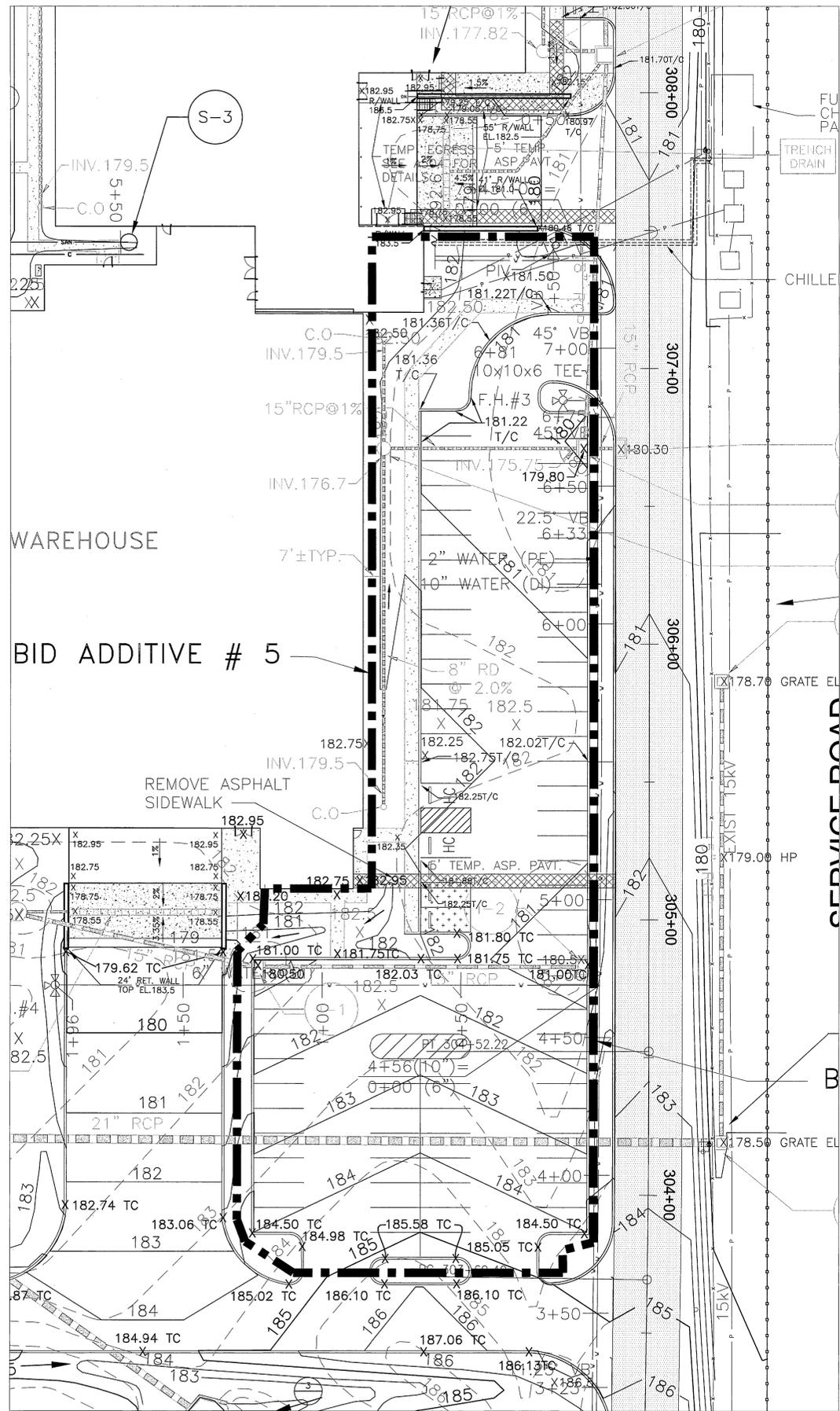
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 License No. 19533, Expiration Date: 02/05/2012



PLANTS WITHIN SWM POND	KEY QUANTITY	BOTANICAL NAME/COMMON NAME	SIZE/ROOT	SPACING
ZONE 1	POT.P.C. 780	POTAMOGETON PECTINATUS/SAGO POND WEED B.R.		PLANT AT 2' O
	MIXED	AREA 2,940 SQ. FT.		
	V.A.M. 778	VALLISNERIA AMERICANA/WILD CELERY TUBER/2" PLUG		PLANT AT 2' O.C
ZONE 2	SEED MIXES	TOTAL AREA 10,720 SQ. FT.		
		BIDENS CERNUA	10%	
		CAREX VULPINOIDEA	10%	
		ECHINOIDEA CRUGALLI FRUMENTACEA	20%	
		ELYMUS VIRGINICUS	10%	
		PANICUM AMARUM	10%	
		PANICUM VIRGATUM	10%	
		POA PALUSTRIS	15%	
		POLYGONOM PENSYLVANICUM	15%	
ZONE 3	SEED MIXES	TOTAL AREA 24,580 SQ. FT.		
		MEADOW MIX (DRY) -50%		
		RED TOP, PENSTEMON, ASTER, SOLIDAGO, DAUCUS, RUDBECKIA	-50%	

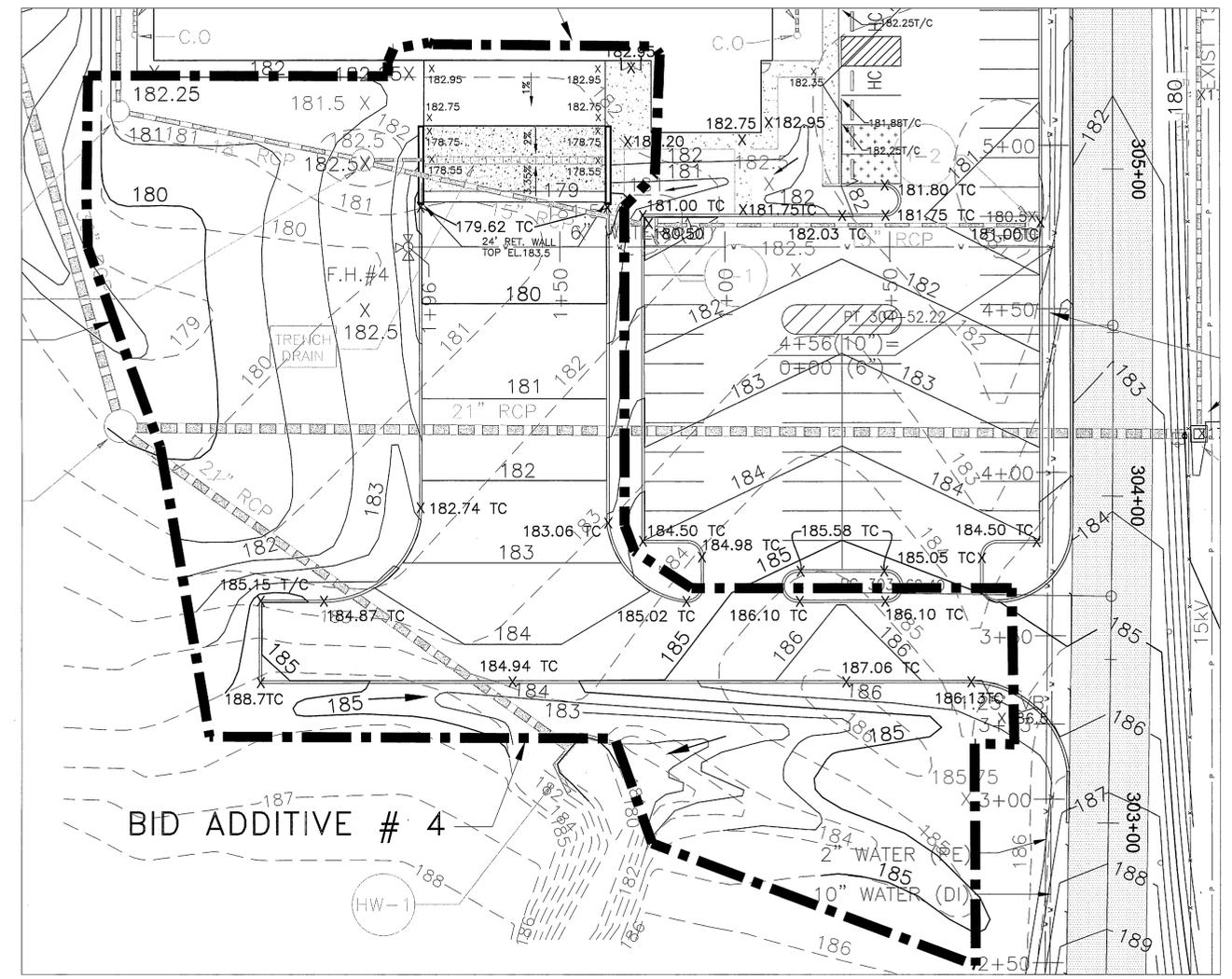
1 PLANTING PLAN
 C112 SCALE: 1" = 40'

DESIGN SUMMARY				
Step	Category	CU.FT. VOLUME REQUIRED	CU.FT. VOLUME PROVIDED	NOTES
1	WATER QUALITY VOLUME (WQV)	9,595 CF	12,780 CF	WSE = 167.0 (PERMANENT POOL)
2	RECHARGE VOLUME (REV)	3,371 CF	3,371 CF	
3	CHANNEL PROTECTION VOLUME (CPV)	17,105 CF	17,125 CF	WSE = 168.00
4	OVERBANK FLOOD PROTECTION (OP)	N/A	39,200 CF	WSE = 169.28 Q=5.43 cfs
5	EXTREME FLOOD VOLUME (QF)	N/A	57,930 CF	WSE = 170.28 Q=15.61 cfs



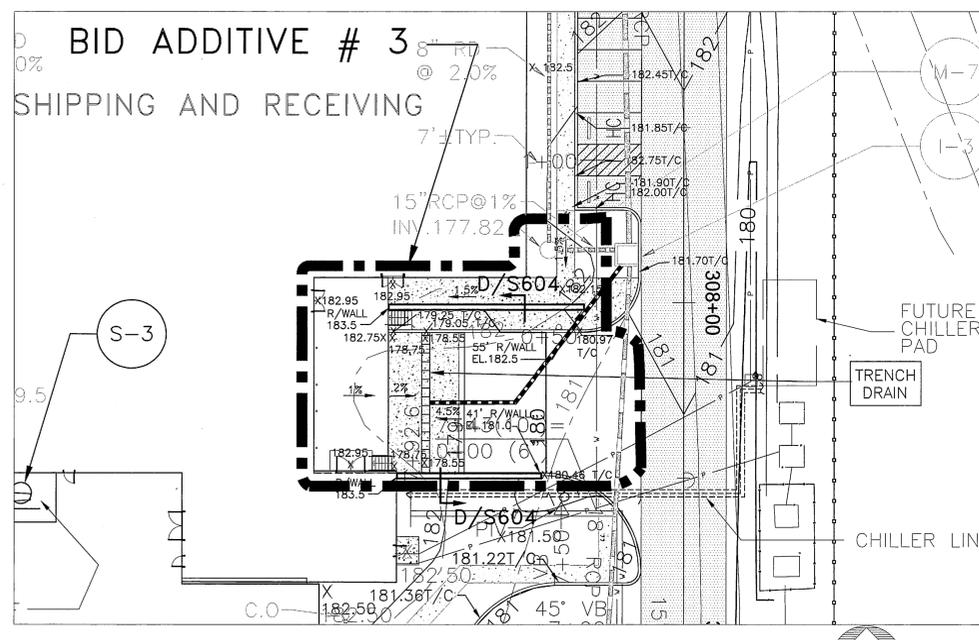
1 BID ADDITIVE #5
 C113 SCALE: 1"=20'

NOTE: IF BID ADDITIVE 4 IS NOT AWARDED, THEN ROUNDOFF CONTOURS TO EXISTING CONTOURS AT 3:1 SLOPE.

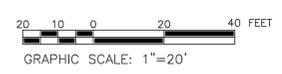


2 BID ADDITIVE #4
 C113 SCALE: 1"=20'

NOTE: IF BID ADDITIVE 5 IS NOT AWARDED, THEN ROUNDOFF CONTOURS TO EXISTING CONTOURS AT 3:1 SLOPE.



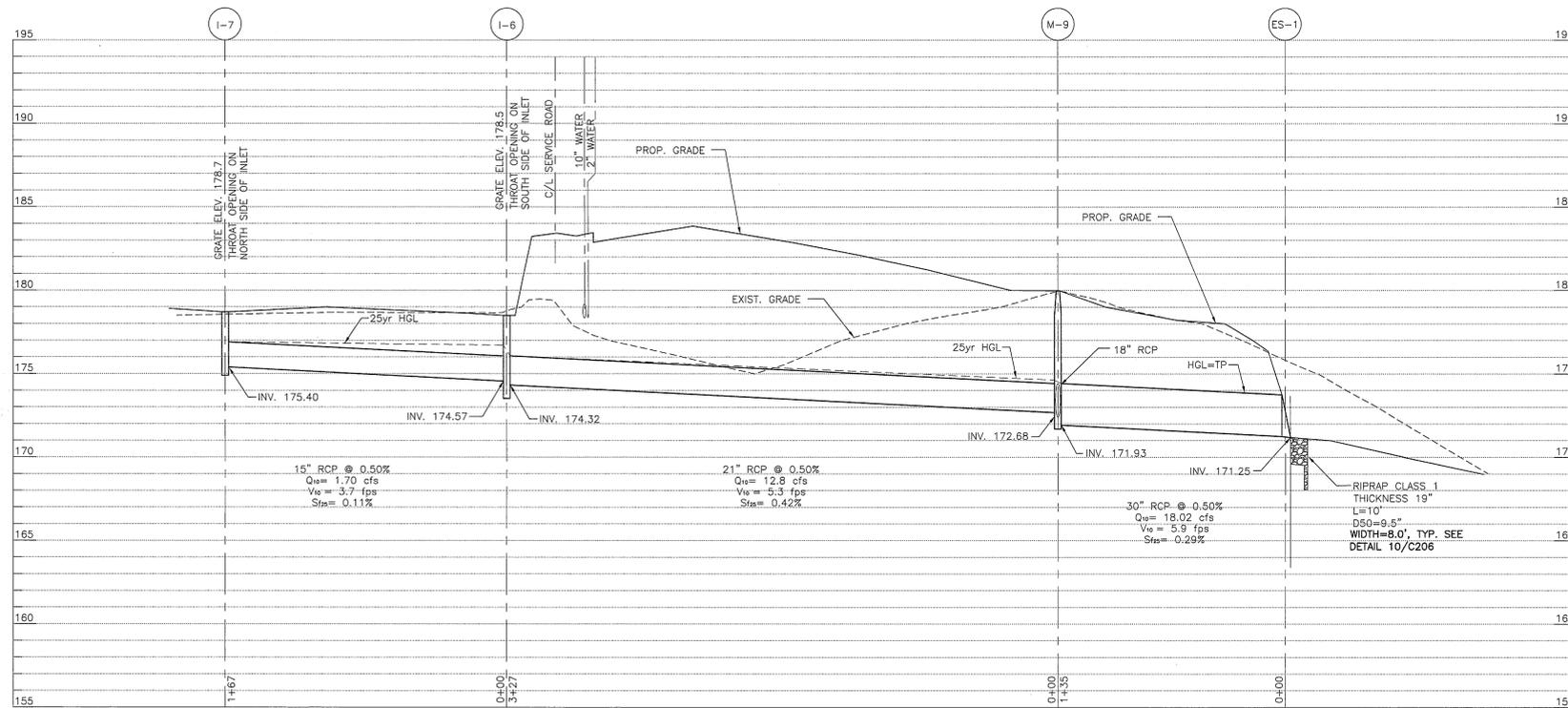
3 BID ADDITIVE #3
 C113 SCALE: 1"=20'



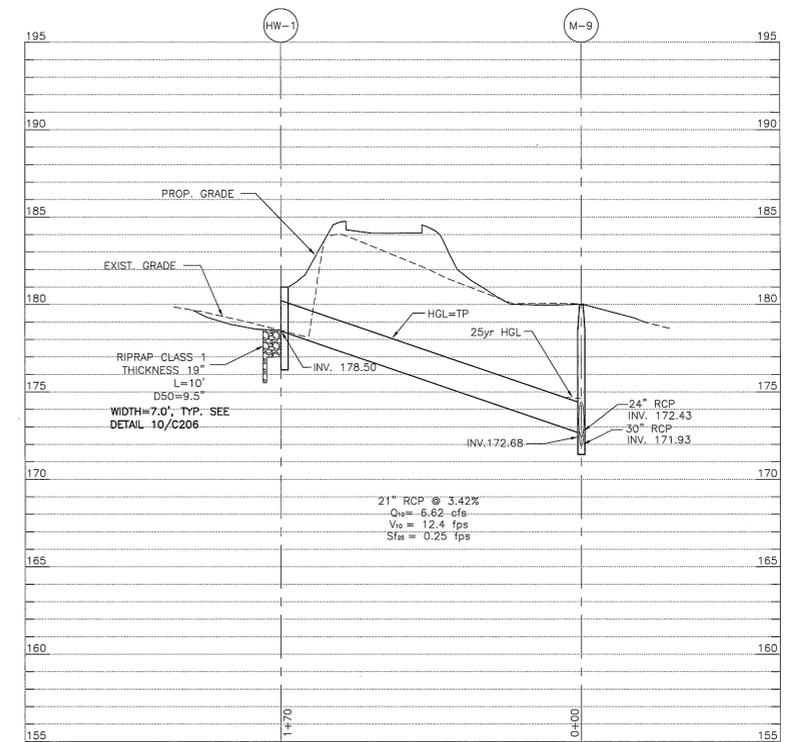
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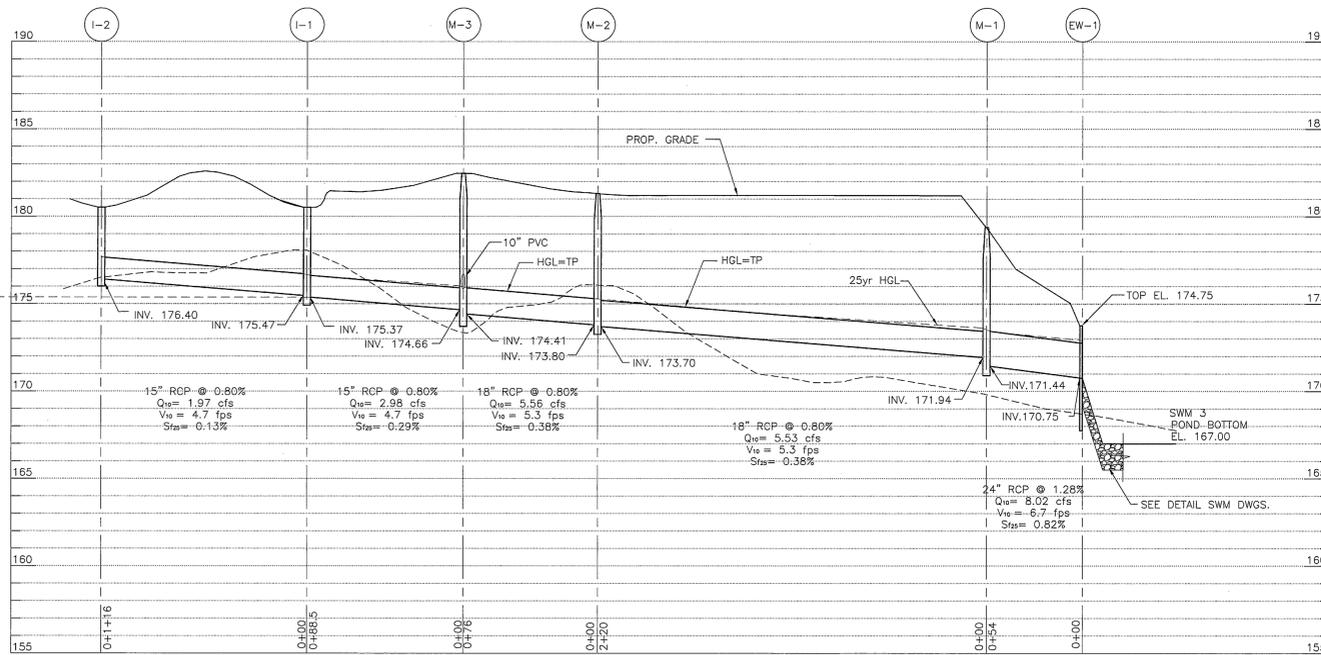
PARSONS FEDERAL ACQUISITION SERVICE CENTER 4801 BRIDGEWAY DRIVE BETHESDA, MD 20814		DATE: 3/25/10 REV: 1 DESCRIPTION: SOLICITATION CORRECTIONS. S&E BR: CUSTOMER: PM: SECT: HEAD:	
DRAWN: DK A-E: KP CHECKED BY: HP A-E MANAGER: HP NASA A-E: HP S&E BRANCH: HP CM: HP PM: HP CUSTOMER: HP SECTION HEAD: HP	INITIALS: DK DATE: 2-26-10 INITIALS: KP DATE: 2-26-10 INITIALS: HP DATE: 2-26-10	LOGISTICS FACILITY SITE AND SHELL GRADING AND STORM DRAINAGE BID ADDITIVES 3, 4, AND 5 BUILDING 035 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND FACILITIES MANAGEMENT DIVISION	
CIVIL		DATE ISSUED: 03-01-10 GCF CODE OR W/F: A6890 SHEET: 16 OF 158 DRAWING NO.: GF-035-34004	C113



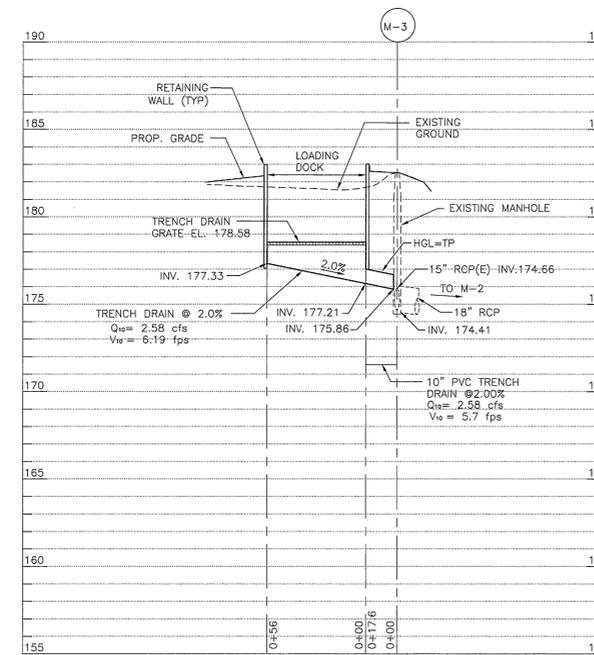
1 **STORM DRAIN PROFILE**
C119 SCALE: AS NOTED



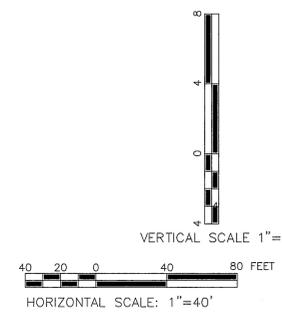
2 **STORM DRAIN PROFILE**
C119 SCALE: AS NOTED



3 **STORM DRAIN PROFILE**
C119 SCALE: AS NOTED



4 **TRENCH DRAIN-BID ADDITIVE NO. 4**
C119 SCALE: AS NOTED

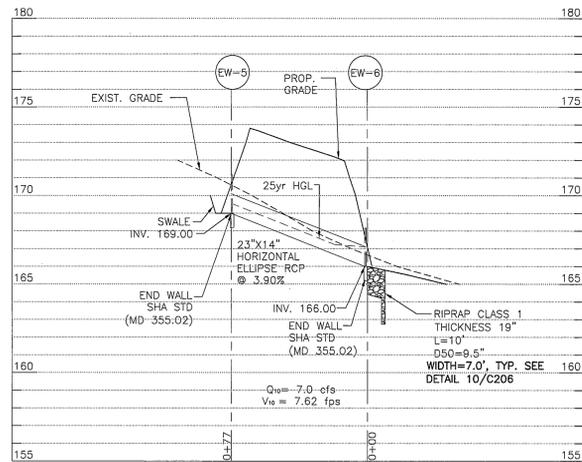


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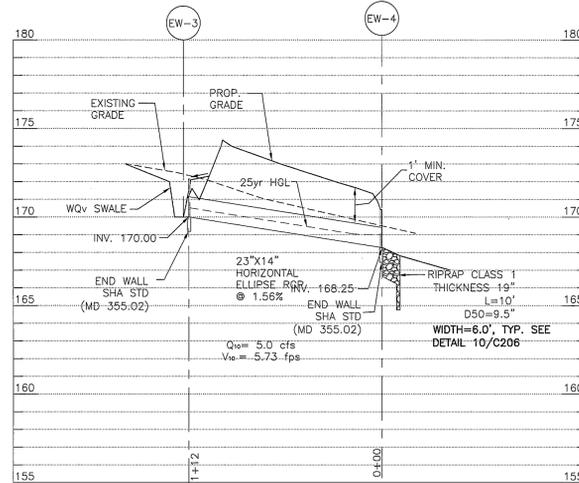


REV	DATE	DESCRIPTION	INITIALS	DATE	S&E BR.	CUSTOMER	PM	SECT HEAD
A	3/25/10	SOLICITATION CORRECTIONS.						
DRWN	DK	2-26-10						
A-E	KP	2-26-10						
CHECKED BY	HP	2-26-10						
A-E MANAGER								
NASA A-E								
S&E BRANCH								
CM								
PM								
CUSTOMER								
SECTION HEAD								

LOGISTICS FACILITY SITE AND SHELL STORM DRAINAGE PROFILES 2		C119
BUILDING 035 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND FACILITIES MANAGEMENT DIVISION		
CIVIL	DATE ISSUED 03-01-10	OUT CODE or REF A6890
	SHEET 22 OF 158	DRAWING NO. GF-035-34010



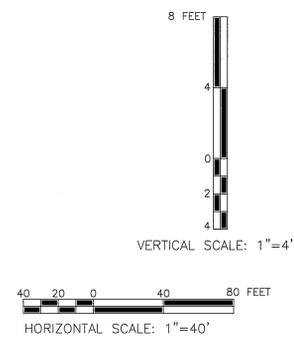
1 **STORM DRAIN PROFILE**
C120 SCALE: AS NOTED



2 **STORM DRAIN PROFILE**
C120 SCALE: AS NOTED

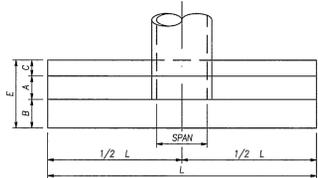
STORM DRAIN STRUCTURE SCHEDULE								
No	Type	Northing	Easting	Inv.In	Inv.Out	Elev. if Bid Additive 1 & 2 are not awarded	Top Elev. (Finish Grade)	Standard Detail No.
I-1	STANDARD TYPE "S" INLET	484882.49	1358598.22	175.47	175.37	180.37 GRATE	180.50 GRATE	SHA STD No. MD 374.71
I-2	STANDARD TYPE "S" INLET	484882.46	1358714.97	-	176.40	180.37 GRATE	180.50 GRATE	SHA STD No. MD 374.71
I-3	PRECAST WRM INLET	485213.22	1358726.76	174.33	174.08	-	181.25 GRATE	SHA STD No. MD 374.22
I-4	STANDARD TYPE "S" INLET	485070.50	1358715.350	175.72	175.47	179.67 GRATE	179.80 GRATE	SHA STD No. MD 374.71
I-5	STANDARD TYPE "S" INLET	485069.75	1358728.28	175.83	175.83	180.13 GRATE	180.30 GRATE	SHA STD No. MD 374.71
I-6	"K" INLET	484818.64	1358764.79	174.57	174.32	-	178.50 GRATE	SHA STD No. MD 378.03, MD 378.06
I-7	"K" INLET	484985.89	1358764.79	-	175.40	-	178.70 GRATE	SHA STD No. MD 378.03, MD 378.06
M-1	48" PRECAST MANHOLE	485137.40	1358437.27	171.94	171.44	-	179.75	SHA STD No. MD 384.01
M-2	48" PRECAST MANHOLE	484917.32	1358437.27	173.80	173.70	-	181.25	SHA STD No. MD 384.01
M-3	48" PRECAST MANHOLE	484902.37	1358511.47	174.66	174.41	-	182.50	SHA STD No. MD 384.01
M-4	48" PRECAST MANHOLE	485364.82	1358513.33	170.85	170.75	-	179.50	SHA STD No. MD 384.01
M-5	48" PRECAST MANHOLE	485364.82	1358613.33	171.90	171.65	-	179.18	SHA STD No. MD 384.01
M-6	48" PRECAST MANHOLE	485364.82	1358720.33	172.86	172.76	-	182.85	SHA STD No. MD 384.01
M-7	48" PRECAST MANHOLE	485211.68	1358700.77	-	176.48	-	182.15	SHA STD No. MD 384.01
M-8	48" PRECAST MANHOLE	485070.49	1358643.28	-	176.46	-	182.25	SHA STD No. MD 384.01
M-9	60" PRECAST MANHOLE	484820.93	1358437.94	172.68	171.93	-	180.25	SHA STD No. MD 384.03
EW-1	24" ENDWALL	485192.08	1358437.06	-	170.75	-	173.50	SHA STD No. MD 354.01
EW-2	24" ENDWALL	485364.82	1358480.24	-	170.00	-	172.75	SHA STD No. MD 354.01
EW-3	14"x23" ENDWALL CULVERT	485367.61	1359359.93	170.00	-	-	172.17	SHA STD No. MD 355.02
EW-4	14"x23" ENDWALL CULVERT	485494.50	1359353.95	-	168.25	-	170.42	SHA STD No. MD 355.02
EW-5	14"x23" ENDWALL CULVERT	485382.37	1359345.82	169.00	-	-	171.17	SHA STD No. MD 355.02
EW-6	14"x23" ENDWALL CULVERT	485460.37	1359339.90	-	166.00	-	168.17	SHA STD No. MD 355.02
ES-1	STANDARD END SECTION	484950.85	1358401.36	-	171.25	-	-	SHA STD No. MD 368.01
HW-1	HEADWALL	484722.53	1358573.93	178.50	-	-	181.00	BALTIMORE CO. STD No. D-1.01A

NOTE: WHERE CURB INLET REQUIRES CURB HEIGHT GREATER THAN ADJACENT CURB, PROVIDE 5' TRANSITION CURB.



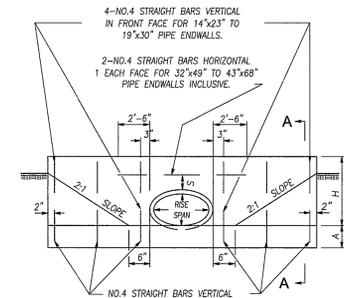
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License No. 19533 Expiration Date: 02/05/2012

 PARSONS AECOM FEDERAL AGENCY CONTRACTOR U.S. AIR FORCE U.S. NAVY U.S. MARINE CORPS U.S. ARMY U.S. AIR FORCE U.S. NAVY U.S. MARINE CORPS U.S. ARMY	3/25/10 SOLICITATION CORRECTIONS. REV DATE DESCRIPTION S&E BR. CUSTOMER PW SECT.HEAD	LOGISTICS FACILITY SITE AND SHELL STORM DRAINAGE PROFILES 3 C120
	INITIALS DATE DRAWN DK 2-26-10 A-E KP 2-26-10 CHECKED BY HP 2-26-10 A-E MANAGER NASA A-E S&E BRANCH CM PM CUSTOMER SECTION HEAD	



PLAN

DISPOSITION OF BARS DETAIL



ELEVATION

NO.4 STRAIGHT BARS HORIZONTAL @ 1'-0" C/C BOTH SIDES OF OPENING FOR 32"x49" TO 43"x64" PIPE ENDWALLS INCLUSIVE.

NO.4 STRAIGHT BARS HORIZONTAL @ 1'-0" C/C BOTH SIDES OF OPENING FOR 32"x49" TO 43"x64" PIPE ENDWALLS INCLUSIVE.

SECTION A-A

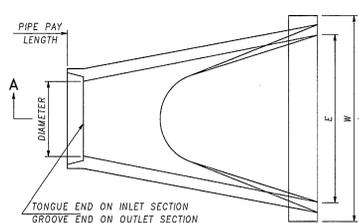
QUANTITIES FOR ESTIMATING PURPOSES ONLY

DIA.	AREA	DIMENSIONS						CONC. C.Y.	STEEL LBS.	
		A	B	C	E	F	L			
14X23	1.8	9"	8"	6"	1'-11"	12"	2'-2"	8'-7"	0.88	56
18X30	3.3	9"	8"	6"	1'-11"	12"	2'-6"	10'-6"	1.15	63
22X34	4.1	9"	14"	6"	2'-5"	13"	2'-11"	12'-6"	1.74	100
24X38	5.1	9"	14"	6"	2'-5"	13"	3'-1"	13'-6"	1.92	116
27X42	6.3	9"	14"	6"	2'-5"	13"	3'-4"	14'-10"	2.19	124
29X45	7.4	9"	14"	10"	2'-9"	14"	3'-7"	16'-0"	2.61	141
32X49	8.8	12"	16"	10"	3'-2"	14"	3'-10"	17'-0"	4.08	202
34X53	10.2	12"	16"	10"	3'-2"	14"	4'-0"	18'-0"	4.40	210
38X60	12.9	12"	16"	10"	3'-2"	15"	4'-5"	20'-4"	5.23	266
43X68	16.6	12"	20"	12"	3'-8"	15"	4'-10"	22'-8"	6.52	307

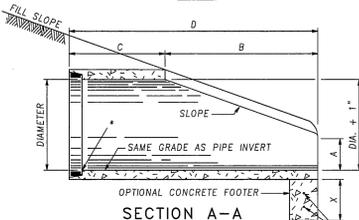
'S' DISTANCES

GENERAL NOTES

STANDARD TYPE C ENDWALL HORIZONTAL ELLIPTICAL CONCRETE PIPE STANDARD NO. MD 355.02



PLAN

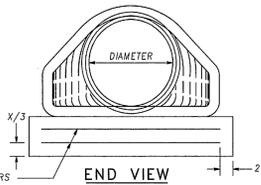


SECTION A-A

NOTES

- CONTRACTOR HAS OPTION OF FURNISHING END SECTIONS CONFORMING TO DETAILS ON THIS SHEET OR END SECTIONS CONFORMING TO DETAILS ON STANDARD MD 368.02.
- END SECTIONS MUST BE REINFORCED TO CONFORM TO CLASS III PIPE.
- CONCRETE FOOTER SHALL BE USED WHEN SPECIFIED ON THE PLANS. COST OF CONCRETE FOOTER TO BE INCLUDED IN PRICE OF END SECTION. CONCRETE TO BE MIX. NO.2. REINFORCEMENT TO BE NO.3 BARS.

* INVERT ELEVATION TO BE AT THE PIPE END OF THE STANDARD END SECTION. ELEVATIONS TO BE NOTED ON THE CONSTRUCTION PLANS.

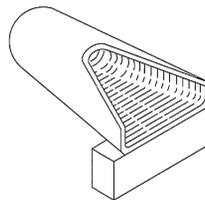


END VIEW

QUANTITIES FOR ESTIMATING PURPOSES ONLY

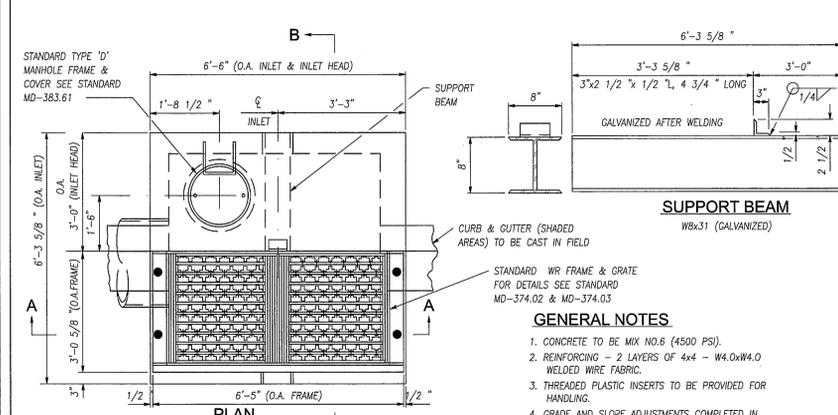
DIA.	SLOPE	CONCRETE END SECTION						CONCRETE FOOTER			STEEL LBS.
		A	B	C	D	E	W	X	Y		
12"	3:1	4"	2'-0"	4'-0"	6'-0"	2'-0"	3'-0"	12"	9"	0.08	24.00
15"	3:1	6"	2'-4"	3'-10"	6'-2"	2'-6"	3'-6"	12"	9"	0.10	26.50
18"	3:1	8"	2'-2"	4'-0"	6'-2"	3'-0"	4'-0"	12"	9"	0.11	33.00
21"	3:1	9"	3'-0"	3'-10"	6'-10"	3'-6"	4'-6"	12"	9"	0.13	37.50
24"	3:1	11"	3'-7"	2'-8"	6'-3"	4'-0"	5'-0"	15"	9"	0.17	42.00
27"	3:1	10"	4'-10"	2'-0"	6'-10"	4'-6"	5'-6"	15"	9"	0.19	46.50
30"	3:1	11"	4'-5"	1'-10"	6'-3"	5'-0"	6'-0"	15"	9"	0.21	51.00
33"	3:1	1'-2"	4'-7"	2'-2"	6'-9"	5'-6"	6'-6"	15"	9"	0.23	55.50
36"	3:1	1'-30"	5'-3"	3'-1"	8'-10"	6'-0"	7'-3"	15"	9"	0.25	62.25
42"	3:1	1'-90"	5'-5"	2'-10"	8'-3"	6'-6"	7'-9"	15"	9"	0.27	66.75
48"	3:1	2'-1"	6'-0"	8'-2"	7'-0"	8'-6"	8'-12"	12"	4"	0.47	73.50
54"	2.4:1	2'-5"	5'-2"	2'-10"	8'-0"	7'-6"	9'-0"	18"	12"	0.50	78.00
60"	2:1	2'-7"	4'-11"	3'-8"	8'-7"	8'-0"	9'-6"	18"	12"	0.53	82.50
66"	2:1	2'-4"	6'-6"	1'-9"	8'-3"	8'-6"	10'-0"	18"	12"	0.56	87.00
72"	2:1	2'-10"	6'-6"	1'-9"	8'-3"	9'-0"	10'-9"	18"	12"	0.60	93.75

SEE NOTE 3 ABOVE FOR CONCRETE FOOTER

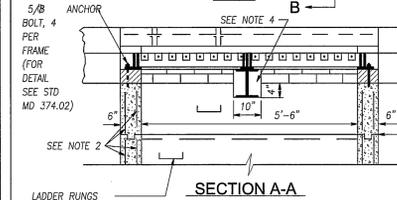


ISOMETRIC VIEW

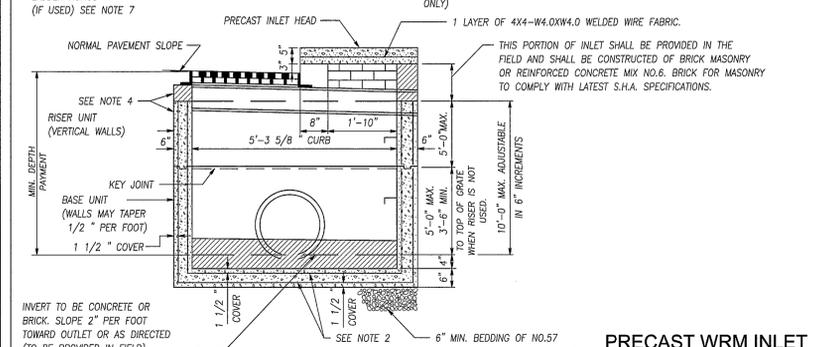
STANDARD CONCRETE END SECTION ROUND CONCRETE PIPE STANDARD NO. MD 368.01



PLAN

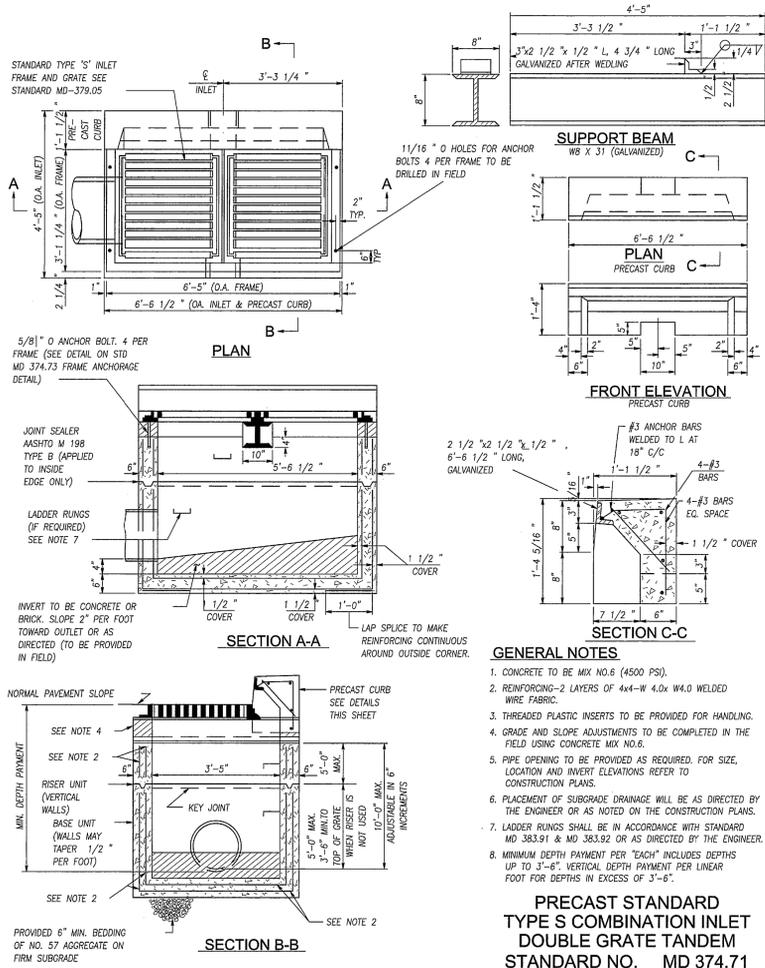


SECTION A-A



SECTION B-B

PRECAST WRM INLET STANDARD NO. MD 374.22



GENERAL NOTES

- CONCRETE TO BE MIX NO.6 (4500 PSI).
- REINFORCING - 2 LAYERS OF 4x4-W 4.0x4.0 WELDED WIRE FABRIC.
- THREADED PLASTIC INSERTS TO BE PROVIDED FOR HANDLING.
- GRADE AND SLOPE ADJUSTMENTS TO BE COMPLETED IN THE FIELD USING CONCRETE MIX NO.6.
- PIPE OPENING TO BE PROVIDED AS REQUIRED. FOR SIZE, LOCATION AND INVERT ELEVATIONS REFER TO CONSTRUCTION PLANS.
- PLACEMENT OF SUBGRADE DRAINAGE WILL BE AS DIRECTED BY THE ENGINEER OR AS NOTED ON THE CONSTRUCTION PLANS.
- LADDER RUNGS SHALL BE IN ACCORDANCE WITH STANDARD MD 383.91 & MD 383.92 OR AS DIRECTED BY THE ENGINEER.
- MINIMUM DEPTH PAYMENT PER "EACH" INCLUDES DEPTHS UP TO 3'-6". VERTICAL DEPTH PAYMENT PER LINEAR FOOT FOR DEPTHS IN EXCESS OF 3'-6".

PRECAST STANDARD TYPE S COMBINATION INLET DOUBLE GRATE TANDEM STANDARD NO. MD 374.71

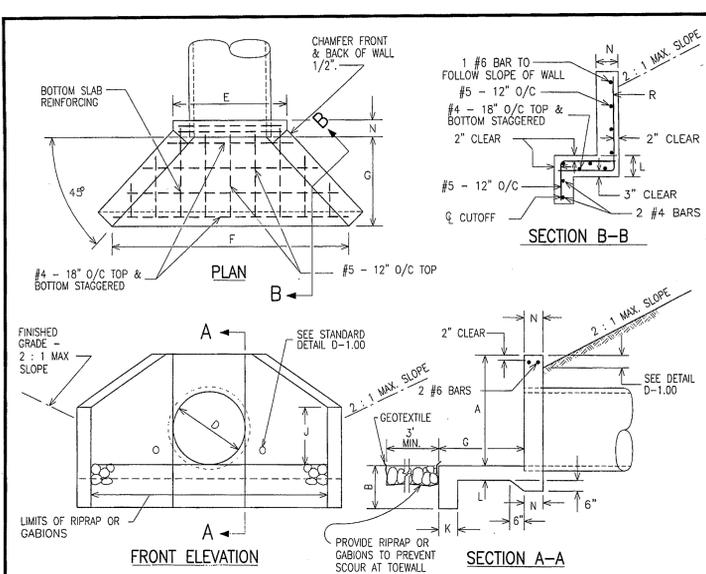


TABLE OF DIMENSIONS AND VOLUMES FOR TYPE A HEADWALL

D	A	B	E	F	G	J	K	L	N	R	AVOL. C.Y.	
15'	18"	3'-0"	2'-0"	3'-0"	7'-6"	3'-0"	2'-0"	8"	10"	8"	#5-12" O/C	1.70
21'	3'-3"	2'-0"	3'-4"	7'-9"	3'-0"	2'-0"	8"	10"	8"	#5-12" O/C	1.80	
24'	3'-6"	2'-0"	3'-8"	8'-0"	3'-0"	2'-0"	8"	10"	8"	#5-12" O/C	1.90	
27'	3'-9"	2'-6"	3'-11"	8'-3"	3'-0"	2'-0"	8"	10"	8"	#5-12" O/C	2.1	
30'	4'-0"	2'-6"	4'-2"	8'-6"	3'-0"	2'-0"	8"	10"	10"	#5-12" O/C	3.15	
36'	4'-6"	3'-0"	4'-8"	10'-0"	3'-6"	2'-3"	9"	10"	10"	#5-12" O/C	3.43	
42"	5'-0"	3'-0"	5'-3"	11'-6"	4'-0"	2'-9"	9"	10"	10"	#5-12" O/C	4.19	
48"	5'-6"	3'-0"	5'-10"	13'-0"	4'-6"	3'-0"	9"	10"	12"	#5-12" O/C	5.44	
54"	6'-0"	3'-0"	6'-5"	14'-6"	5'-0"	3'-3"	9"	12"	12"	#5-12" O/C	6.90	
60"	6'-6"	3'-0"	7'-0"	16'-0"	5'-6"	3'-6"	9"	12"	12"	#5-12" O/C	8.42	
66"	7'-0"	3'-0"	7'-7"	17'-6"	6'-0"	3'-9"	9"	12"	14"	#5-12" O/C	9.58	
72"	7'-6"	3'-0"	8'-2"	19'-0"	6'-6"	4'-3"	9"	12"	14"	#5-12" O/C	11.63	

DEPARTMENT OF PUBLIC WORKS STORM DRAINAGE DETAILS TYPE "A" HEADWALL CIRCULAR PIPE D-1.01A

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LOGISTICS FACILITY SITE AND SHELL STORM DRAINAGE DETAILS 1

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

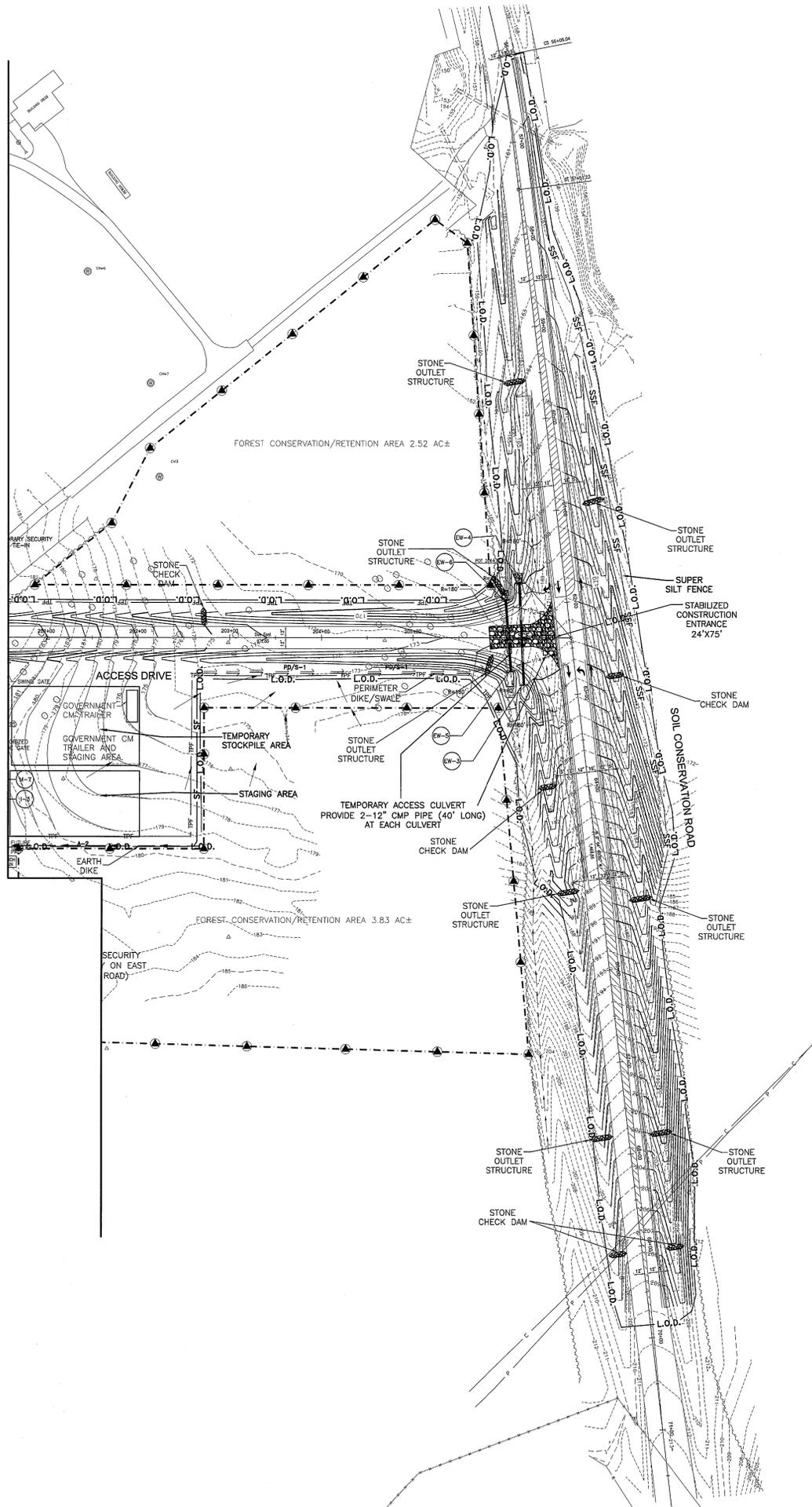
C121

DATE ISSUED: 03-01-10

SHEET: 24 OF 158

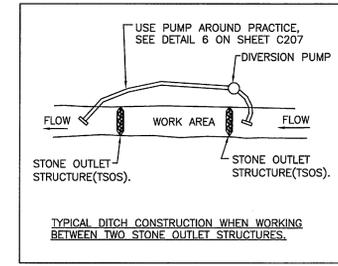
FILE NAME: I:\pms-c118-c122-32-Prod\dwg FILE DATE: 4/17/2010

SEE SHEET 203
FOR CONTINUATION



1 REVISED SEQUENCE NO. 18

1 REVISED SEQUENCE NO. 25 AND 26



1 ADDED SCHEMATIC DETAIL FOR PUMP AROUND PRACTICE.

- SEQUENCE OF CONSTRUCTION**
- OBTAIN ALL NECESSARY PERMITS.
 - THE CONTRACTOR SHALL EXECUTE AN NPDES CONSTRUCTION ACTIVITY TRANSFER OF AUTHORIZATION FORM WITH NASA PRIOR TO STARTING CONSTRUCTION
 - LAYOUT THE LOD/TEMPORARY SECURITY FENCE/TREE PROTECTION FENCE/EROSION & SEDIMENT CONTROL PERIMETER, AND LIMIT OF GRADING LINES. THESE LINES SHALL BE FIELD INSPECTED, ADJUSTED IF NECESSARY, AND APPROVED AT THE PRE-CONSTRUCTION MEETING WITH WMA, DNR, AND NASA.
 - NOTIFY THE WATER MANAGEMENT ADMINISTRATION (WMA) AT 410-537-3510 AND THE DEPARTMENT OF NATURAL RESOURCES (DNR) AT 410-360-9774 SEVEN (7) DAYS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND HOLD A PRE-CONSTRUCTION MEETING BETWEEN PROJECT REPRESENTATIVES AND A REPRESENTATIVE OF WMA, DNR, AND NASA.
 - INSTALL TEMPORARY SECURITY FENCE/TREE PROTECTION FENCE THROUGHOUT THE ENTIRE SITE EXTENTS. THE TEMPORARY FENCES SHALL ISOLATE AND SECURE THE NASA SITE AND THE CONSTRUCTION AREA.
 - INSTALL STABILIZED CONSTRUCTION ENTRANCES AS SHOWN ON THE PLAN.
 - CLEAR AND GRUB SITE AREA REQUIRED FOR STAGING AREA, INSTALLATION OF EROSION AND SEDIMENT CONTROL DEVICES, AND CONSTRUCTION OF ACCESS DRIVE AND IMPROVEMENTS TO THE SOIL CONSERVATION (SC) ROAD.
 - INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLAN.
 - INSTALL STORM DRAIN CULVERTS AND PERFORM GRADING FOR THE SC ROAD AND ACCESS DRIVE.
 - MAINTAIN EROSION AND SEDIMENT CONTROL DEVICES ALL THE TIME.
 - CONSTRUCT IMPROVEMENTS TO SC ROAD AND INSTALL GRAVEL BASE FOR ACCESS DRIVE.
 - GRADING FOR SC ROAD AND ACCESS DRIVE SHALL BEGIN AT UPSTREAM END AND AREA UPSTREAM OF "TSOS" SHALL BE STABILIZED BEFORE CONTINUING WORK DOWNSTREAM OF INSTALLED "TSOS".
 - STABILIZE ALL DISTURBED AREA ALONG SC ROAD.
 - WITH THE APPROVAL OF MDE ENFORCEMENT DIVISION, REMOVE SEDIMENT CONTROL DEVICES INSTALLED ALONG SC ROAD AND STABILIZE ALL DISTURBED AREAS WHERE SEDIMENT CONTROL DEVICES HAVE BEEN REMOVED.
 - INSTALL THE SSF ALONG THE EXTREME WESTERN EDGE OF THE SITE, THEN INSTALL THE SEDIMENT BASIN.
 - CLEAR AND GRUB SITE AREA REQUIRED FOR REMAINDER OF SITE.
 - INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLAN INCLUDING DIVERSION DIKES.
 - CONSTRUCT THE CHANNEL DOWNSTREAM OF ES-1 AND STABILIZE PRIOR TO CONSTRUCTION OF STORMDRAIN. INSTALL STORM DRAIN SYSTEM FROM END SECTION ES-1 TO HEADWALL HW-1, MANHOLE M-9 TO INLET I-6 TO MANHOLE AND ASSOCIATED RIPRAP. INSTALL DOWN STREAM SWALE FOR POSITIVE DRAINAGE AND STABILIZE DISTURBED AREA.
 - PERFORM GRADING FOR THE NEW BUILDING, ASSOCIATED PARKING LOT, LOADING DOCK, AND SERVICE ROAD.
 - AREA SOUTH AND WEST OF WAREHOUSE SHALL BE GRADED ON A DRY DAY AND STABILIZED THE SAME DAY. THE SIZE OF THE DAILY DISTURBANCES SHALL BE LIMITED TO AN AREA THAT CAN BE STABILIZED BY THE END OF THE WORKDAY
 - INSTALL AND MAINTAIN INLET PROTECTIONS.
 - COMPLETE ALL REMAINING PROJECT WORK INCLUDING SERVICE ROAD CONNECTION.
 - STABILIZE THE DISTURBED AREA WITH TEMPORARY SEEDING AND/OR GRAVEL BASE.
 - MAINTAIN EROSION AND SEDIMENT CONTROL DEVICES ALL THE TIME.
 - CLEAN ALL THE STORM DRAIN SYSTEM. STABILIZE ALL AREAS DRAINING TO SWM POND.
 - DEWATER SEDIMENT BASIN. CONVERT SEDIMENT BASIN TO STORMWATER MANAGEMENT POND. REMOVE THE DRAW-DOWN DEVICE AND INSTALL ORIFICE PLATE.
 - STABILIZE ALL DISTURBED AREA.
 - WITH THE APPROVAL OF MDE ENFORCEMENT DIVISION, REMOVE SEDIMENT CONTROL DEVICES AND STABILIZE ALL DISTURBED AREAS WHERE ESC DEVICES HAVE BEEN REMOVED.

NOTES FOR UTILITY CONSTRUCTION

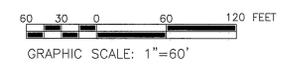
OVERNIGHT TRENCH DEWATERING: IN THE EVENT A TRENCH SECTION IS LEFT OPEN OVERNIGHT AND REQUIRES DEWATERING, ALL SEDIMENT LADEN WATER SHALL BE PUMPED THROUGH A PROPERLY MAINTAINED FILTER BAG. IF A TRENCH IS LEFT OPEN OVERNIGHT THEN SILT FENCING IS REQUIRED TO BE INSTALLED. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO AN MDE APPROVED SEDIMENT CONTROL DEVICE.

SILT FENCE: NO SILT FENCE SHOWN. THE CONTRACTOR HAS THE OPTION OF INSTALLING SILT FENCE ON THE DOWNHILL SIDE OF THE TRENCHES, OR STABILIZING ALL DISTURBANCES BY THE END OF EACH WORKDAY. IF SILT FENCE IS NOT PROVIDED, ALL DISTURBED AREAS SHALL BE STABILIZED BY THE END OF THE WORKDAY, THE SIZE OF THE DAILY DISTURBANCES SHALL BE LIMITED TO AN AREA THAT CAN BE STABILIZED BY THE END OF THE WORKDAY, AND NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO AN MDE APPROVED SEDIMENT CONTROL DEVICE. IF THE CONTRACTOR CHOOSES THE OPTION TO LEAVE DISTURBED AREAS UNSTABILIZED OVERNIGHT, THEN SILT FENCE MUST BE INSTALLED ON THE DOWNHILL SIDE OF THE DISTURBED AREA PER MDE STD FOR SILT FENCE AND STANDARD NOTE 22.

NOTE: TREE PROTECTION SIGNAGE SHALL REMAIN PERMANENTLY.

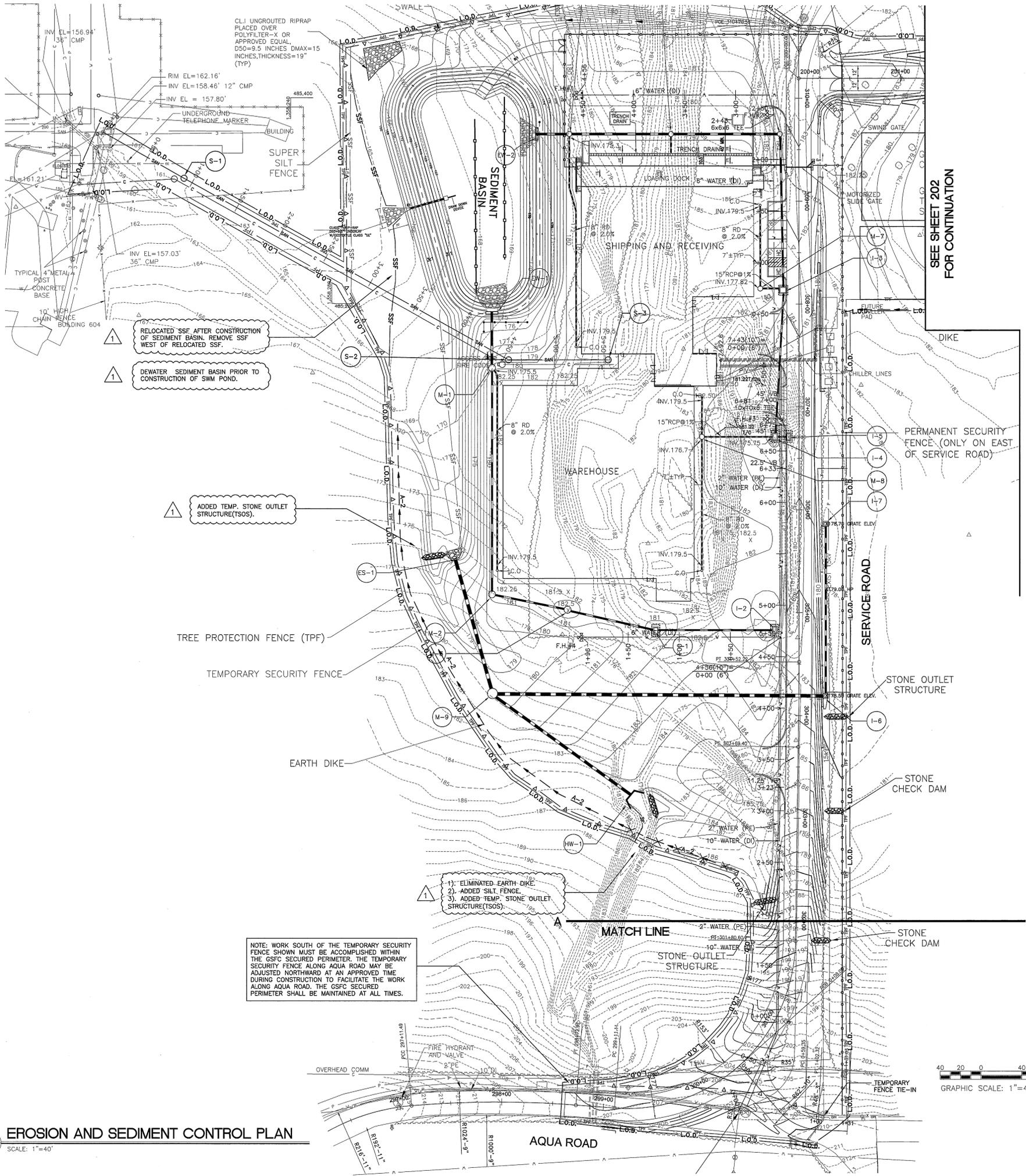


1 EROSION AND SEDIMENT CONTROL PLAN
SCALE: 1"=60'



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 PARSONS FLD-B SFC - NASA	1 3/22/10 REVISED PER MDE COMMENTS REV DATE DESCRIPTION	INITIALS DATE DK 2-26-10 KP 2-26-10 HP 2-26-10	S&E BR. CUSTOMER PM (S&E) HEAD
	DRAWN A-E CHECKED BY A-E MANAGER NASA A-E S&E BRANCH CM PM CUSTOMER SECTION HEAD	LOGISTICS FACILITY SITE AND SHELL EROSION AND SEDIMENT CONTROL INITIAL STAGE PLAN	BUILDING 035 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND FACILITIES MANAGEMENT DIVISION
	CIVIL	DATE ISSUED 03-01-10 C&P CODE OR REF A6890	SHEET 29 OF 158 DRAWING NO. GF-035-34017



RELOCATED SSF AFTER CONSTRUCTION OF SEDIMENT BASIN. REMOVE SSF WEST OF RELOCATED SSF.

DEWATER SEDIMENT BASIN PRIOR TO CONSTRUCTION OF SWM POND.

ADDED TEMP. STONE OUTLET STRUCTURE (TSOS).

TREE PROTECTION FENCE (TPF)

TEMPORARY SECURITY FENCE

EARTH DIKE

- 1) ELIMINATED EARTH DIKE
- 2) ADDED SILT FENCE
- 3) ADDED TEMP. STONE OUTLET STRUCTURE (TSOS)

NOTE: WORK SOUTH OF THE TEMPORARY SECURITY FENCE SHOWN MUST BE ACCOMPLISHED WITHIN THE GSFC SECURED PERIMETER. THE TEMPORARY SECURITY FENCE ALONG AQUA ROAD MAY BE ADJUSTED NORTHWARD AT AN APPROVED TIME DURING CONSTRUCTION TO FACILITATE THE WORK ALONG AQUA ROAD. THE GSFC SECURED PERIMETER SHALL BE MAINTAINED AT ALL TIMES.

SEE SHEET 202 FOR CONTINUATION

PERMANENT SECURITY FENCE (ONLY ON EAST OF SERVICE ROAD)

MATCH LINE

EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1"=40'

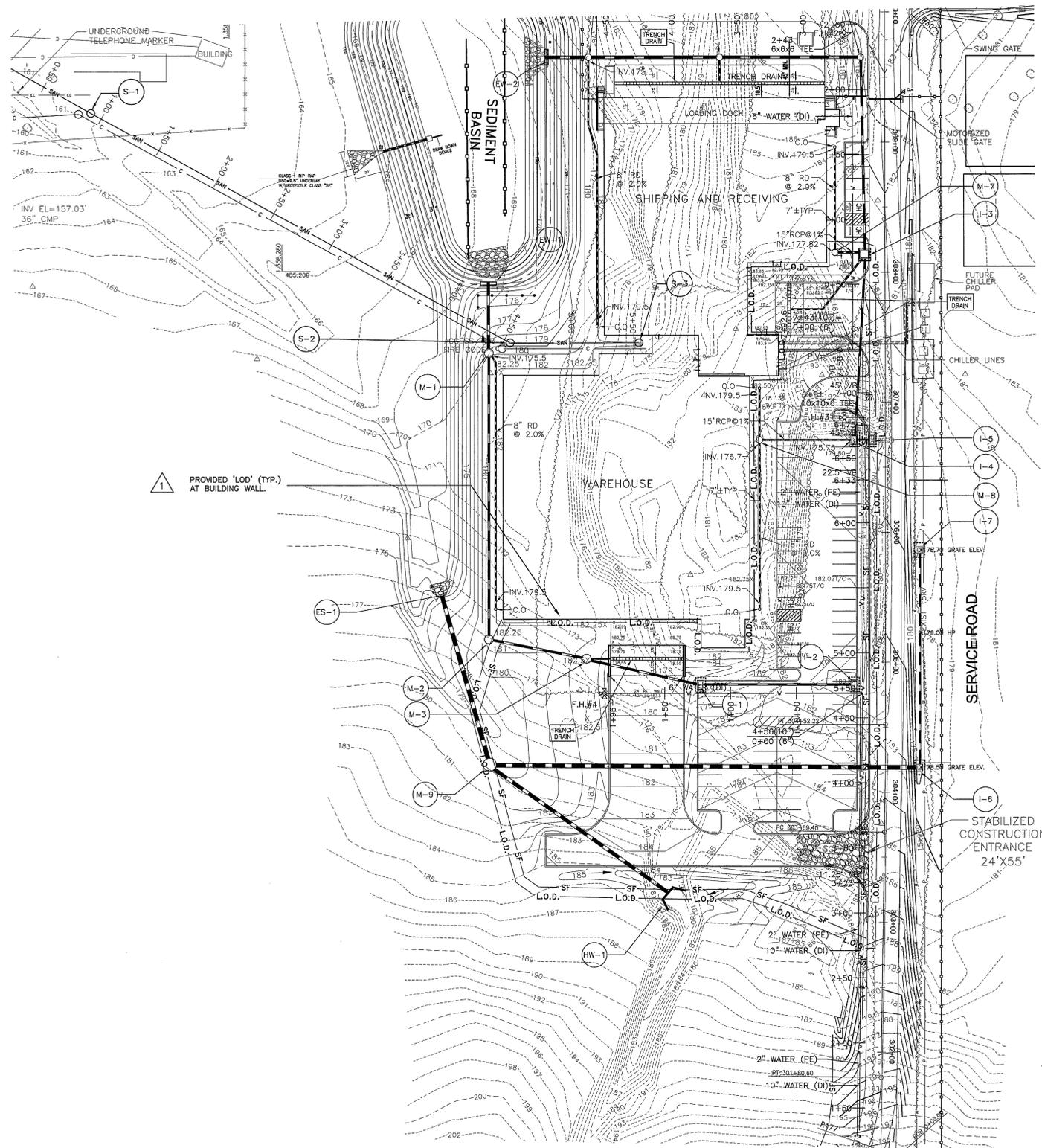


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1 3/22/10 REVISED PER MDE COMMENTS		SAE BR.	CUSTOMER	PM	SECT. HEAD
REV	DATE	DESCRIPTION			
DRAWN	DK	2-26-10			
A-E	KP	2-26-10			
CHECKED BY	HP	2-26-10			
A-E MANAGER					
NASA A-E					
SAE BRANCH					
CM					
PM					
CUSTOMER					
SECTION HEAD					

LOGISTICS FACILITY SITE AND SHELL EROSION AND SEDIMENT CONTROL FINAL STAGE PLAN		C204
BUILDING 035 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND FACILITIES MANAGEMENT DIVISION		
DATE ISSUED	03-01-10	
Code of WEP	A6890	
SHEET	31	OF 158
DRAWING NO.	GF-035-34019	



1 PROVIDED 'LOD' (TYP.) AT BUILDING WALL

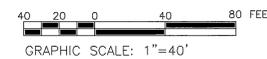
1 BID ADDITIVE WORK, IF AWARDED, WILL BE PERFORMED DURING ADJACENT SITE WORK.

THIS DRAWING IS NOT REQUIRED AS ALL EROSION AND SEDIMENT CONTROL NECESSARY TO COMPLETE BID ADDITIVE 3, 4, OR 5 (IF AWARDED) IS INCLUDED IN THE BASIC REQUIREMENT.

1 EROSION AND SEDIMENT CONTROL PLAN-BID ADDITIVE INITIAL/FINAL STAGE
C205 SCALE: 1"=40'

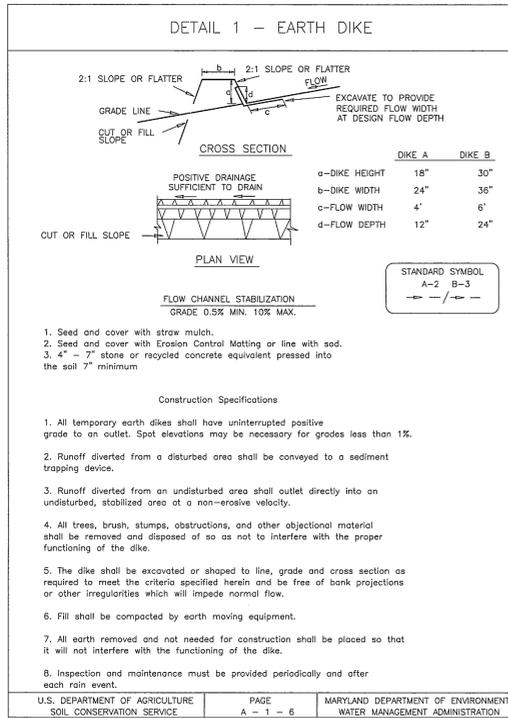


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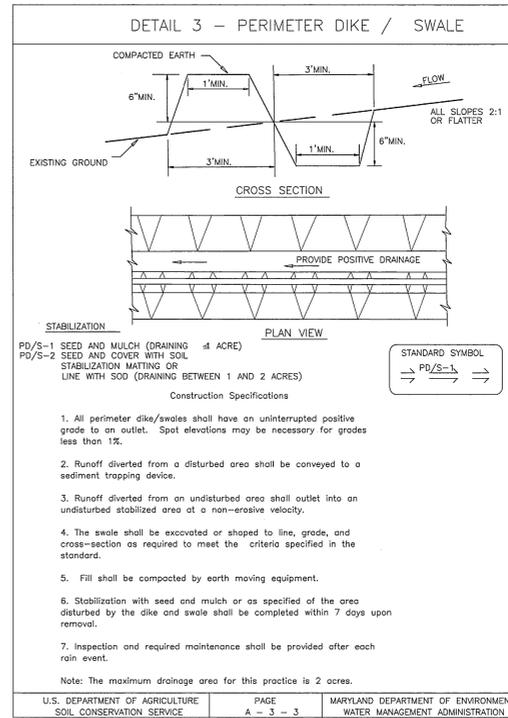


REV	DATE	DESCRIPTION	INITIALS
1	3/22/10	REVISED PER MDC COMMENTS	
DRAWN		OK	2-26-10
A-E		KP	2-26-10
CHECKED BY		HP	2-26-10
A-E MANAGER			
NASA A-E			
SAE BRANCH			
CM			
FM			
CUSTOMER			
SECTION HEAD			
CIVIL			

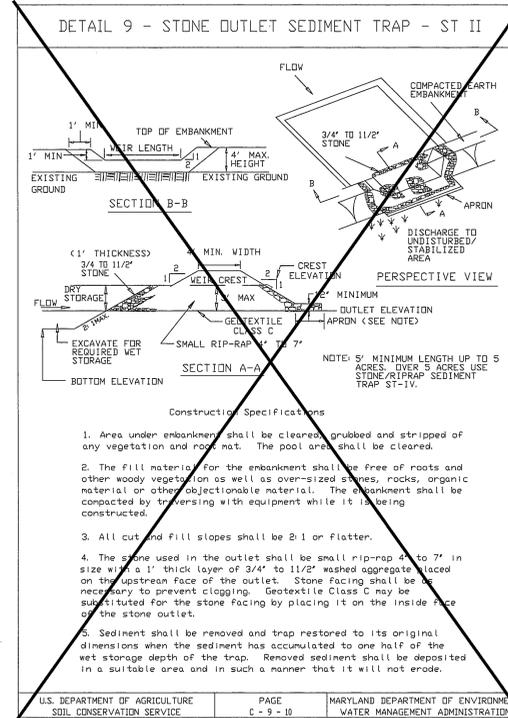
LOGISTICS FACILITY SITE AND SHELL EROSION AND SEDIMENT CONTROL BID ADDITIVE PLAN	C205		
BUILDING 035 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND FACILITIES MANAGEMENT DIVISION			
DATE ISSUED	CDF CODE OR WRF	SHEET	DRAWING NO.
03-01-10	A6890	32 OF 158	GF-035-34020



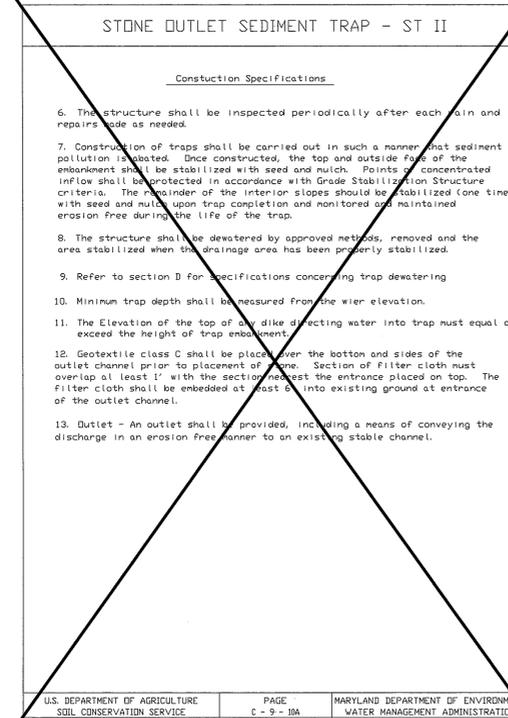
1 DETAIL SCALE: NTS



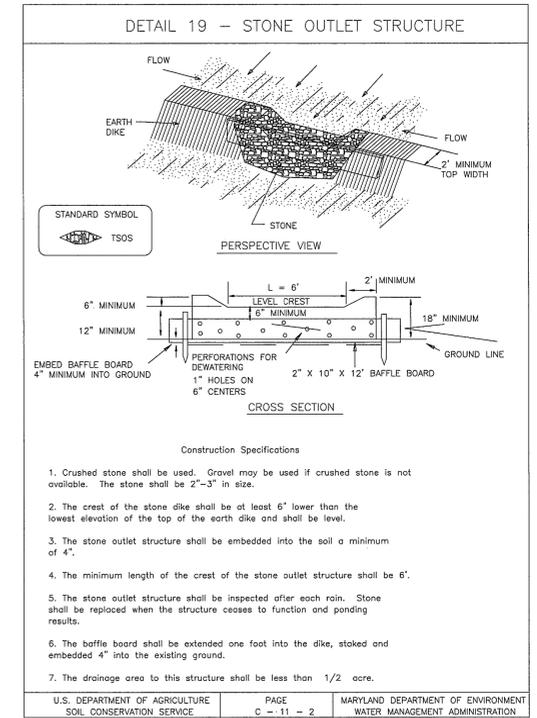
2 DETAIL SCALE: NTS



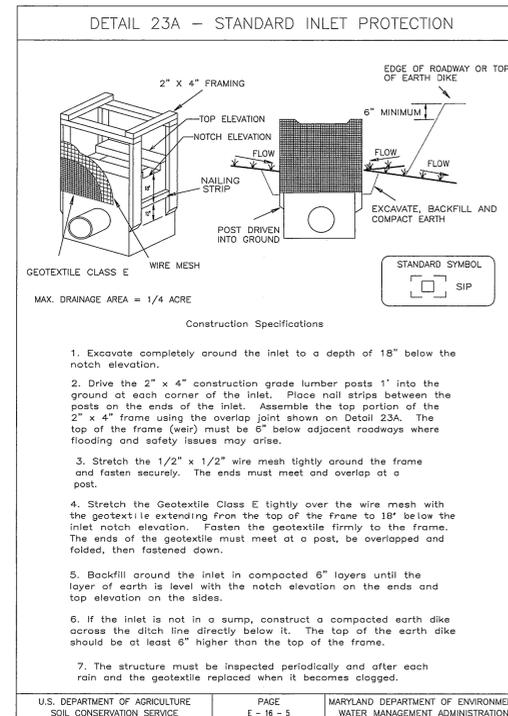
3 DETAIL SCALE: NTS



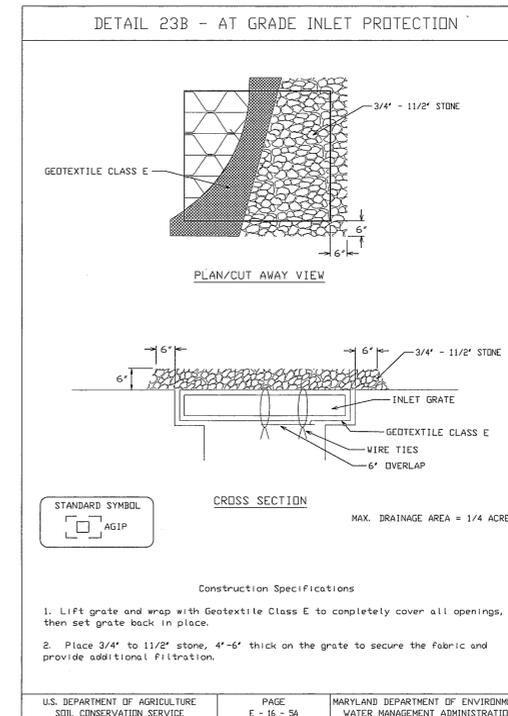
4 DETAIL SCALE: NTS



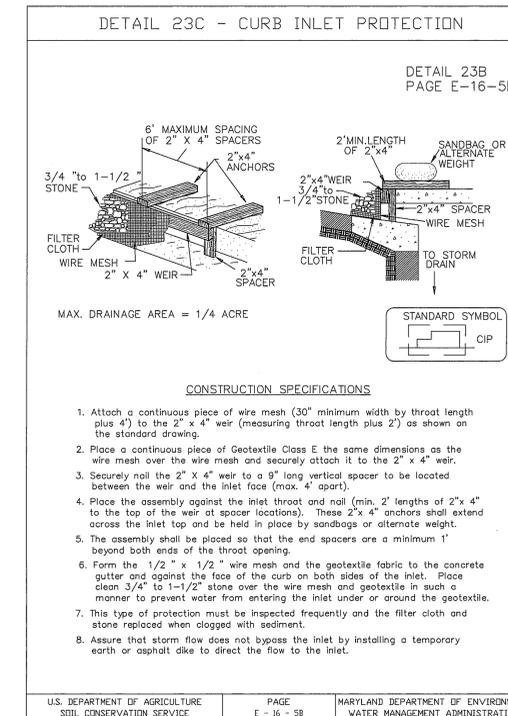
5 DETAIL SCALE: NTS



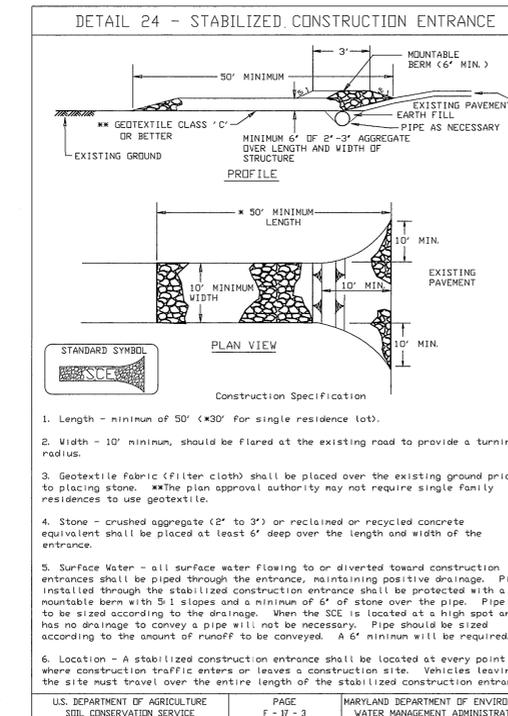
6 DETAIL SCALE: NTS



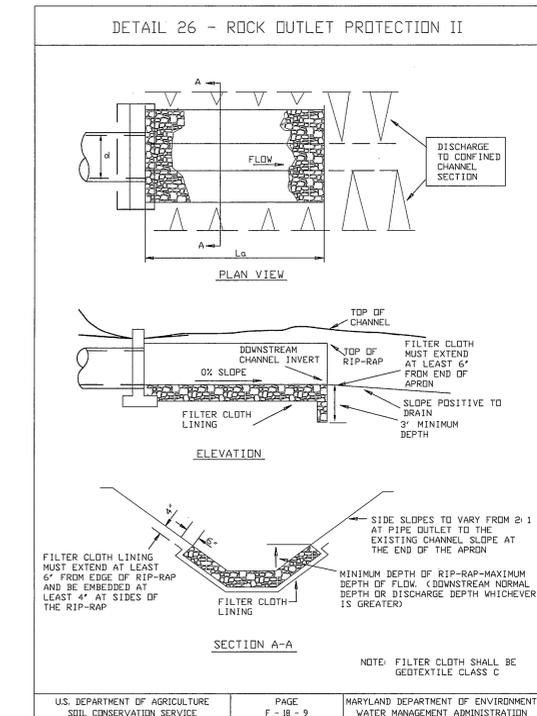
7 DETAIL SCALE: NTS



8 DETAIL SCALE: NTS



9 DETAIL SCALE: NTS



10 DETAIL SCALE: NTS

	1 3/22/10 REVISED PER MDE COMMENTS	S&E BR. CUSTOMER	PM
	DRAWN: OK 2-26-10 A-E: KP 2-26-10 CHECKED BY: HP 2-26-10	INITIALS: _____ DATE: _____	S&E BR. CUSTOMER: _____ PM: _____
SEAL AREA 	LOGISTICS FACILITY SITE AND SHELL EROSION AND SEDIMENT CONTROL STANDARD MDE DETAILS 1		
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND FACILITIES MANAGEMENT DIVISION	BUILDING 035 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND FACILITIES MANAGEMENT DIVISION		
CIVIL	DATE ISSUED: 03-01-10 Cof. CODE or W/F: A6890	SHEET: 33 OF 158	DRAWING NO.: GF-035-34021

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 19533, Expiration Date: 02/05/2012

STANDARD EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE ADMINISTRATION (WMA) AT (410) 537-3510 SEVEN (7) DAYS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY THE ADMINISTRATION, SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN PROJECT REPRESENTATIVES AND A REPRESENTATIVE OF WMA.
2. THE CONTRACTOR MUST NOTIFY WMA IN WRITING AND BY TELEPHONE AT THE FOLLOWING POINTS:
 - A. THE REQUIRED PRE-CONSTRUCTION MEETING.
 - B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES.
 - C. DURING THE INSTALLATION OF SEDIMENT BASINS (TO BE CONVERTED INTO PERMANENT STORMWATER MANAGEMENT STRUCTURES) AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION OF EACH STEP IS MANDATORY.
 - D. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
 - E. PRIOR TO REMOVAL OF ALL SEDIMENT CONTROL DEVICES.
 - F. PRIOR TO FINAL ACCEPTANCE.
3. THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE AND SHALL HAVE THEM INSPECTED AND APPROVED BY THE AGENCY INSPECTOR OR WMA INSPECTOR PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES. MINOR SEDIMENT CONTROL DEVICE LOCATION ADJUSTMENTS MAY BE MADE IN THE FIELD WITH THE APPROVAL OF THE WMA INSPECTOR. THE CONTRACTOR SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES, AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURES WITHOUT PRIOR PERMISSION FROM WMA INSPECTOR AND AGENCY INSPECTOR. THE CONTRACTOR MUST OBTAIN PRIOR AGENCY AND WMA APPROVAL FOR CHANGES TO THE SEDIMENT CONTROL PLAN AND/OR SEQUENCE OF CONSTRUCTION.
4. THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADS. ALL MATERIALS DEPOSITED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY.
5. THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIMES AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM WMA INSPECTOR AND AGENCY INSPECTOR.
6. ALL SEDIMENT BASINS, TRAP EMBANKMENTS AND SLOPES, PERIMETER DIKES, SWALES AND ALL DISTURBED SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SOD OR SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES, AS SOON AS POSSIBLE BUT NO LATER THAN SEVEN (7) CALENDAR DAYS AFTER ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. (REQUIREMENT FOR STABILIZATION MAY BE REDUCED TO THREE (3) DAYS FOR SENSITIVE AREAS.)
7. THE CONTRACTOR SHALL APPLY SOD OR SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS AND STOCKPILES WITHIN FOURTEEN (14) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED IN THE AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. (REQUIREMENT MAY BE REDUCED TO SEVEN (7) DAYS FOR SENSITIVE AREAS.)
8. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE CONTRACTOR SHALL STABILIZE AND HAVE ESTABLISHED PERMANENT STABILIZATION FOR ALL CONTRIBUTORY DISTURBED AREAS USING SOD OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOIL AMENDMENTS AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHERE THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED AS SOON AS POSSIBLE, BUT NO LATER THAN FOURTEEN (14) CALENDAR DAYS AFTER ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, TEMPORARY SEED AND ANCHORED STRAW MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE APPLIED BY MARCH 15 OR EARLIER IF GROUND AND WEATHER CONDITIONS ALLOW.
9. THE SITE'S APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, DAILY LOG BOOKS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF WMA AND AGENCY RESPONSIBLE FOR PROJECT.
10. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING PROTECTIVE DEVICES TO LOWER THE WATER DOWNSLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. PROTECTIVE METHODS MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.

11. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING, RIPRAP OR BY OTHER APPROVED STABILIZATION MEASURES.
12. TEMPORARY SEDIMENT CONTROL DEVICES MAY BE REMOVED, WITH PERMISSION OF WMA INSPECTOR AND AGENCY INSPECTORS, WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION AND ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.
13. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON-MAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW-MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.
14. FOR FINISHED GRADING, THE CONTRACTOR SHALL PROVIDE ADEQUATE GRADIENTS TO PREVENT WATER FROM PONDING FOR MORE THAN TWENTY FOUR (24) HOURS AFTER THE END OF A RAINFALL EVENT. DRAINAGE COURSES AND SWALE FLOW AREAS MAY TAKE AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL EVENT TO DRAIN. AREAS DESIGNED TO HAVE STANDING WATER SHALL NOT BE REQUIRED TO MEET THIS REQUIREMENT.
15. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A FOUNDATION WHICH IS EXISTING OR UNDER CONSTRUCTION. NO STRUCTURE MAY BE CONSTRUCTED WITHIN 20 FEET OF AN ACTIVE SEDIMENT TRAP OR BASIN.
16. THE WMA INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SAFETY OR SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.
17. ALL TRAP DEPTH DIMENSIONS ARE RELATIVE TO THE OUTLET ELEVATION. ALL TRAPS MUST HAVE A STABLE OUTFALL. ALL TRAPS AND BASINS SHALL HAVE STABLE INFLOW POINTS.
18. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. REFER TO APPROPRIATE SPECIFICATIONS FOR TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING, SODDING AND GROUND COVERS.
19. SEDIMENT SHALL BE REMOVED AND THE TRAP OR BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE QUARTER OF THE TOTAL DEPTH OF THE TRAP OR BASIN. TOTAL DEPTH SHALL BE MEASURED FROM THE TRAP OR BASIN BOTTOM TO THE CREST OF THE OUTLET.
20. SEDIMENT REMOVED FROM TRAPS (AND BASINS) SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND OR TREE-SAVE AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE MUST BE DIRECTED TO A SEDIMENT TRAPPING DEVICE PRIOR TO RELEASE FROM THE SITE. A SUMP PIT MAY BE USED IF SEDIMENT TRAPS THEMSELVES ARE BEING PUMPED OUT.
21. ALL WATER REMOVED FROM EXCAVATED AREAS (e.g. UTILITY TRENCHES) SHALL BE PASSED THROUGH AN APPROVED DEWATERING PRACTICE OR PUMPED TO A SEDIMENT TRAP OR BASIN PRIOR TO DISCHARGE FROM THE SITE (i.e. via FUNCTIONAL STORM DRAIN SYSTEM OR TO STABLE GROUND SURFACE).
22. SEDIMENT CONTROL FOR UTILITY CONSTRUCTION FOR AREAS OUTSIDE OF DESIGNED CONTROLS OR AS DIRECTED BY ENGINEER OR WMA INSPECTOR.
 - (A) CALL "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO THE START OF WORK.
 - (B) EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH.
 - (C) TRENCHES FOR UTILITY INSTALLATION SHALL BE BACKFILLED, COMPACTED AND STABILIZED AT THE END OF EACH WORKING DAY. NO MORE TRENCH SHALL BE OPENED THAN CAN BE COMPLETED THE SAME DAY, UNLESS;
 - (D) TEMPORARY SILT FENCE SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED FOR MORE THAN ONE DAY.
23. WHERE DEEMED APPROPRIATE BY THE ENGINEER OR INSPECTOR, SEDIMENT BASINS AND TRAPS MAY NEED TO BE SURROUNDED WITH AN APPROVED SAFETY FENCE. THE FENCE MUST CONFORM TO LOCAL ORDINANCES AND REGULATIONS. THE DEVELOPER OR OWNER SHALL CHECK WITH LOCAL BUILDING OFFICIALS ON APPLICABLE SAFETY REQUIREMENTS. WHERE SAFETY FENCE IS DEEMED APPROPRIATE AND LOCAL ORDINANCES DO NOT SPECIFY FENCING SIZES AND TYPES, THE FOLLOWING SHALL BE USED AS A MINIMUM STANDARD: THE SAFETY FENCE MUST BE MADE OF WELDED WIRE AND AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THAN 2 INCHES IN WIDTH AND 4 INCHES IN HEIGHT WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED AND IN GOOD CONDITION AT ALL TIMES.

24. OFF-SITE SPOIL OR BORROW AREAS ON STATE OR FEDERAL PROPERTY MUST HAVE PRIOR APPROVAL BY WMA AND OTHER APPLICABLE STATE, FEDERAL, AND LOCAL AGENCIES OTHERWISE, APPROVAL MUST BE GRANTED BY THE LOCAL AUTHORITIES. ALL WASTE AND BORROW AREAS OFF-SITE MUST BE PROTECTED BY SEDIMENT CONTROL MEASURES AND STABILIZED.
25. SITES WHERE INFILTRATION DEVICES ARE USED FOR THE CONTROL OF STORMWATER, EXTREME CARE MUST BE TAKEN TO PREVENT RUNOFF FROM UNSTABILIZED AREAS FROM ENTERING THE STRUCTURE DURING CONSTRUCTION. SEDIMENT CONTROL DEVICES PLACED IN INFILTRATION AREAS MUST HAVE BOTTOM ELEVATIONS AT LEAST TWO (2) FEET HIGHER THAN THE FINISH GRADE BOTTOM ELEVATION OF THE INFILTRATION PRACTICE. WHEN CONVERTING A SEDIMENT TRAP TO AN INFILTRATION DEVICE, ALL ACCUMULATED SEDIMENT MUST BE REMOVED AND DISPOSED OF PRIOR TO FINAL GRADING OF INFILTRATION DEVICE.
26. WHEN A STORM DRAIN SYSTEM OUTFALL IS DIRECTED TO A SEDIMENT TRAP OR SEDIMENT BASIN AND THE SYSTEM IS TO BE USED FOR TEMPORARILY CONVEYING SEDIMENT LADEN WATER, ALL STORM DRAIN INLETS IN NON-SUMP AREAS SHALL HAVE TEMPORARY ASPHALT BERMS CONSTRUCTED AT THE TIME OF BASE PAVING TO DIRECT GUTTER FLOW INTO THE INLETS TO AVOID SURCHARGING AND OVERFLOW OF INLETS IN SUMP AREAS.
27. SITE INFORMATION:

TOTAL AREA OF SITE	1270 Acres	±
AREA DISTURBED	14.84 Acres	±
AREA TO BE ROOFED OR PAVED	35 Acres	±
TOTAL CUT	10,783 CY	±
TOTAL FILL	25,445 CY	±
OFFSITE WASTE/BORROW		±

(NOT TO BE USED FOR BIDDING)

STANDARD STABILIZATION NOTE:

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND FOURTEEN DAYS (14) AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

OWNER'S / DEVELOPER'S CERTIFICATION

I / WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION, AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT. I HEREBY AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT, COMPLIANCE INSPECTORS.

March 23, 2010
DATE

06542
CARD No.

[Signature]
OWNER / DEVELOPER SIGNATURE

Timothy Regan / ARA Project Manager
PRINTED NAME AND TITLE

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME I & II AND THE MARYLAND DEPARTMENT OF THE ENVIRONMENT EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT REGULATIONS.

03/22/2010
DATE

[Signature]
DESIGNER'S SIGNATURE

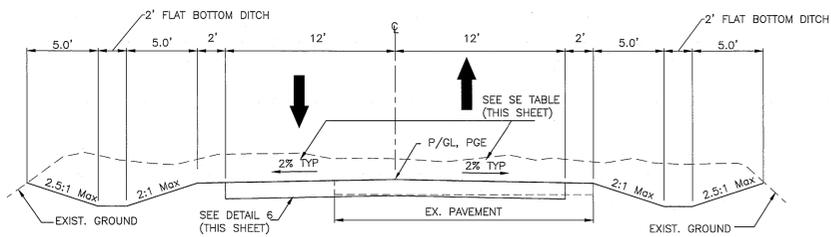
Md. REGISTRATION No. 19533
R.L.S., R.L.A. or R.A. (CIRCLE ONE)
PRINTED NAME

	1 3/22/10 REVISED PER MDE COMMENTS REV DATE DESCRIPTION S&E BR. CUSTOMER PM SECT/HEAD	INITIALS DATE DRAWN DK 2-26-10 A-E KP 2-26-10 CHECKED BY HP 2-26-10 A-E MANAGER NASA A-E S&E BRANCH CM PM CUSTOMER SECTION HEAD	LOGISTICS FACILITY SITE AND SHELL EROSION AND SEDIMENT CONTROL STANDARD MDE 27 NOTES BUILDING 035 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND FACILITIES MANAGEMENT DIVISION	C208
	CIVIL DATE ISSUED 03-01-10 C&P CODE or REF A6890 SHEET 35 OF 158 DRAWING NO. GF-035-34023			

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

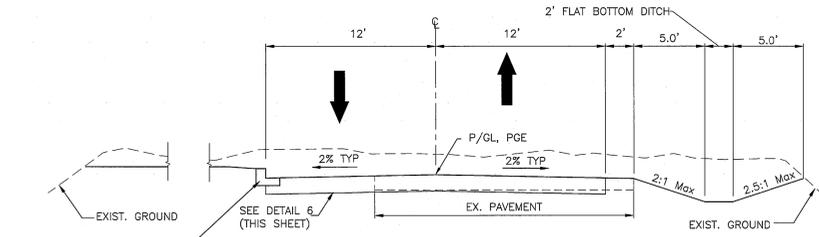
License No. 19533, Expiration Date: 02/05/2012

SUPER ELEVATION TABLE						
FROM	TO	LEFT		RIGHT		REMARKS
298+72.97	299+33.97	0	0	0%	4%	Right Begin Transition
298+72.97	299+35.97	2%	4%			Left Begin Transition
298+72.97	301+50.60			4%	4%	Right Begin Transition
299+35.97	301+50.60	4%	4%	0		Left Begin Transition
301+50.60	302+50.60	4%	2	4%	-2	End Transition



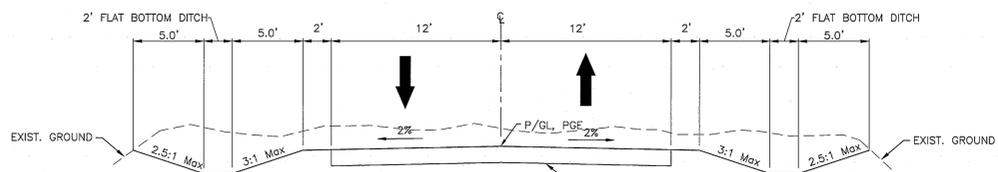
SERVICE ROAD TYPICAL

1A
C302
STA. 298+61.51 TO STA.
303+01.87
SCALE: 1"=5'



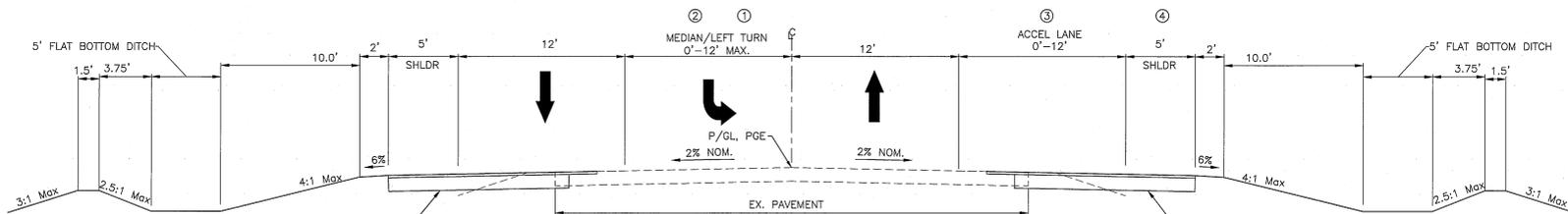
SERVICE ROAD TYPICAL

1B
C302
STA. 303+01.87 TO STA.
310+62.20
SCALE: 1"=5'



ACCESS ROAD TYPICAL

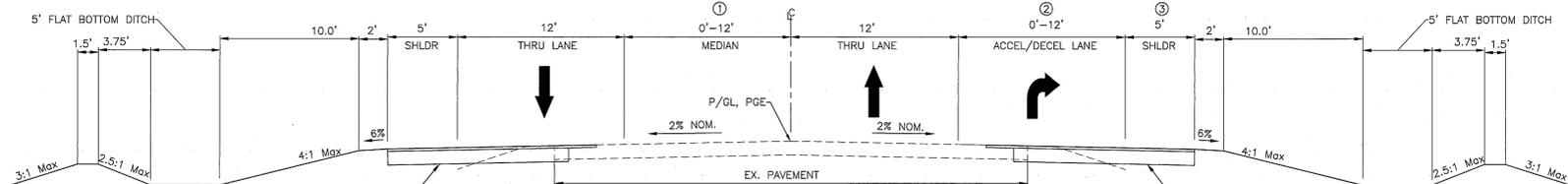
2
C302
STA. 200+00.00 TO STA.
208+72.65
SCALE: 1"=5'



SOIL CONSERVATION ROAD TYPICAL

3
C302
STA. 62+38.86 TO STA. 71+01.26
SCALE: 1"=5'

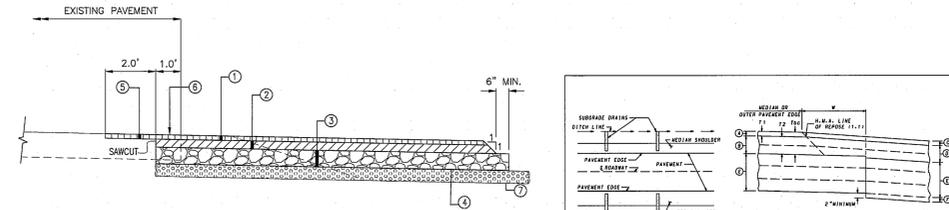
Station Range	Description
62+38.86 TO 64+99.06	1 FLUSH MEDIAN 0'-12'
62+38.86 TO 62+64.06	12'
64+99.06 TO 71+01.26	12'-0"
62+64.06 TO 63+99.06	2 LEFT TURN LANE 12'-0"
63+99.06 TO 64+99.06	12'-0"
62+48.10 TO 63+99.06	3 ACCEL LANE 12'-0"
63+99.06 TO 64+99.06	12'-0"
63+99.06 TO 64+99.06	4 SHOULDER 5'-17'



SOIL CONSERVATION ROAD TYPICAL

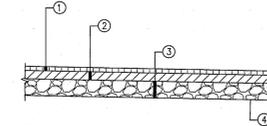
4
C302
STA. 56+11.11 TO STA. 62+38.86
SCALE: 1"=5'

Station Range	Description
56+11.11 TO 61+93.49	1 FLUSH MEDIAN 0'-12'
61+93.49 TO 62+38.86	12'
59+73.62 TO 60+73.62	2 DECEL LANE 0'-12'
60+73.62 TO 62+23.93	12'
59+73.62 TO 60+73.62	3 SHOULDER 17'-5"



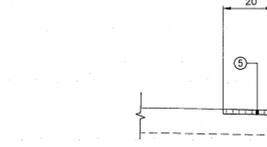
FULL DEPTH SECTION FOR SC RD WIDENING

5
C302
SCALE: NTS



FULL DEPTH SECTION FOR ACCESS/SERVICE RD

6
C302
SCALE: NTS

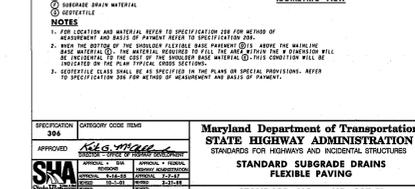
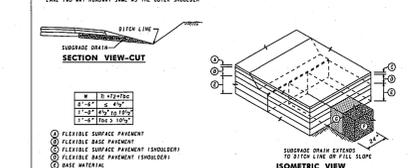
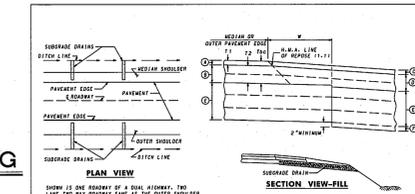


MILL/OVERLAY DETAIL FOR AQUA RD/SERVICE RD/AQUA RD EAST AT TIE-INS

7
C302
SCALE: NTS

NOTES FOR DETAILS 5, 6 AND 7

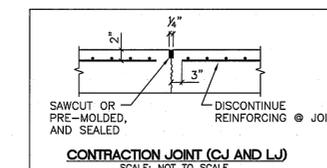
- 2" HMA SUPERPAVE 9.5mm, PG 64-22 LEVEL 2
- 4" HMA SUPERPAVE 19mm, PG 64-22 LEVEL 2
- 8" GRADED AGGREGATE BASE
- COMPACTED SUBGRADE TO 95% DENSITY
- 2" MILL WITH 2" SUPERPAVE 9.5mm PG 64-22 LEVEL 2
- REMOVE 1' WIDTH OF EXISTING PAVEMENT FOR RECONSTRUCTION
- EXTEND EXISTING UNDERDRAINS AS PER DETAIL MSHA DETAIL 387.51. SEE C101.C102 FOR EXISTING LOCATIONS



FULL DEPTH SECTION FOR PARKING LOT

8
C302
SCALE: NTS

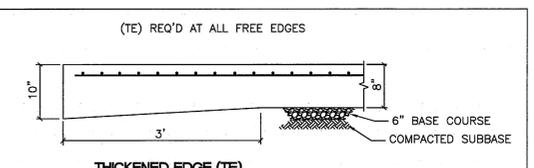
NOTE:
THE TOP 18 INCHES OF THE PAVEMENT SUBGRADE AT THE ENTIRE NORTH LOADING AREA, APPROXIMATELY 207'X128' REQUIRES MIXING WITH A PROPORTIONED QUANTITY OF PORTLAND CEMENT TO PRODUCE A CEMENT MODIFIED SOIL (CMS). THE REQUIRED CEMENT CONTENT IS 4 PERCENT BY VOLUME. THE MIXTURE SHOULD BE PLACED IN 8-INCH LIFTS AND COMPACTED TO THE DENSITY SPECIFIED IN THE CONTRACT DOCUMENTS FOR THIS PROJECT. THE CEMENT SHOULD BE THOROUGHLY AND EVENLY MIXED INTO THE TOP 18 INCHES OF THE SOIL SUBGRADE. A MOISTURE-DENSITY RELATIONSHIP SHOULD BE PERFORMED IN THE LABORATORY TO DETERMINE THE COMPACTION CHARACTERISTICS OF THE CMS PRIOR TO USE IN THE FIELD.



CONTRACTION JOINT (CJ AND LJ)

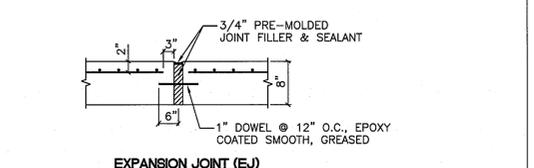
SCALE: NOT TO SCALE

- NOTES:**
- REINFORCING IS 6"X6" W2.9XW2.9
 - F_c = 4500 PSI
 - BASE COURSE=6" #57 STONE
 - COMPACT SUBBASE TO 95% DENSITY



THICKENED EDGE (TE)

SCALE: NOT TO SCALE



EXPANSION JOINT (EJ)

SCALE: NOT TO SCALE

CONCRETE PAVEMENT FOR LOADING DOCK

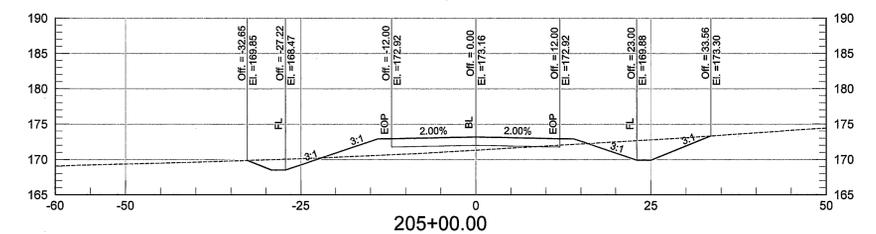
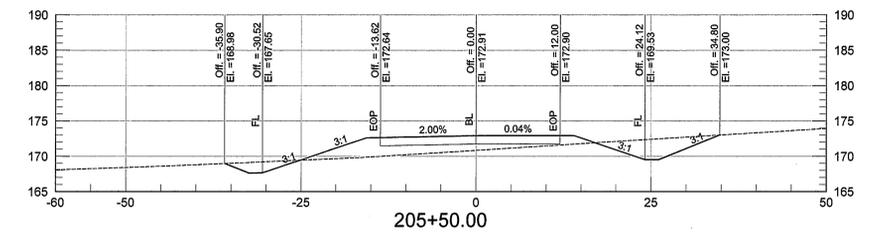
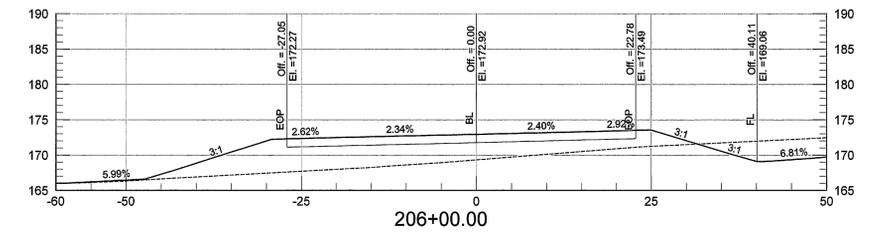
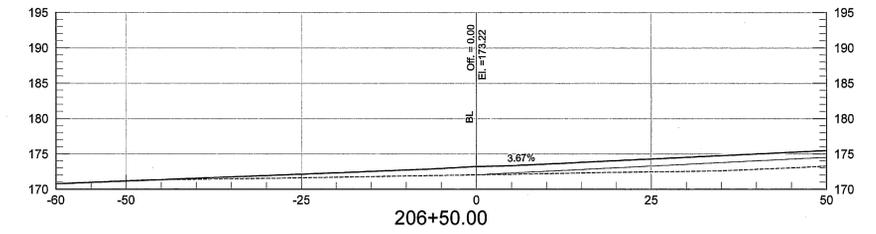
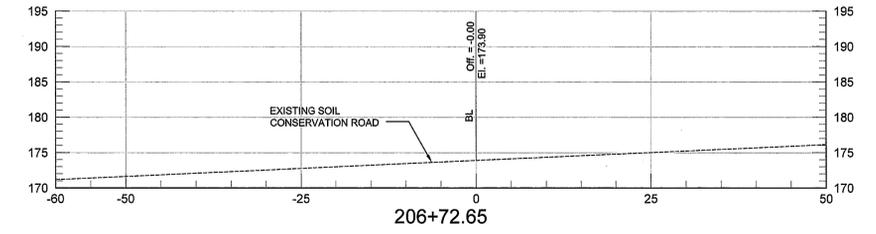
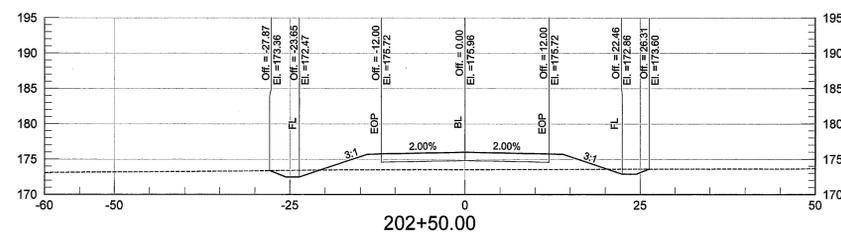
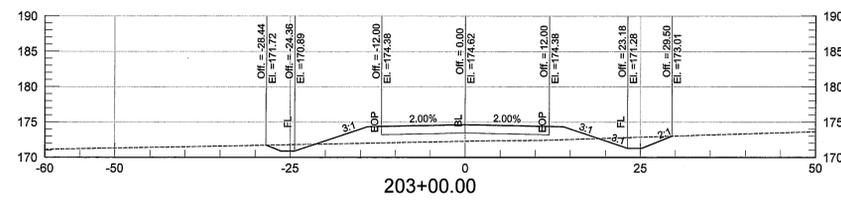
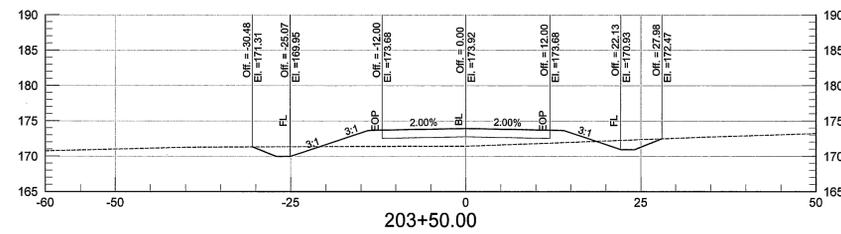
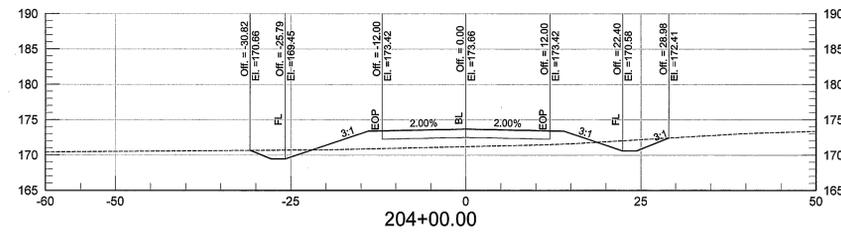
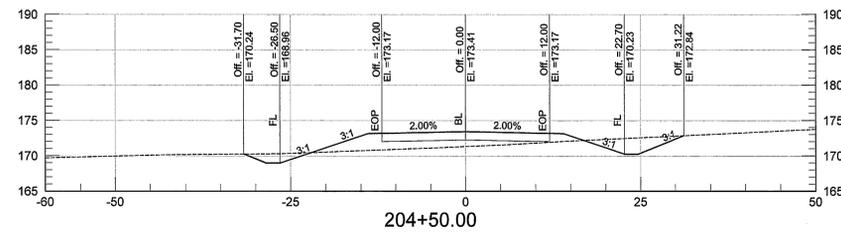
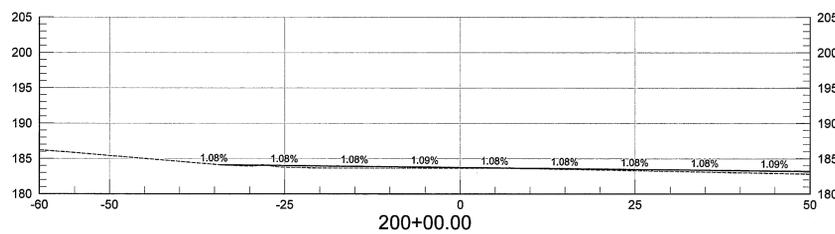
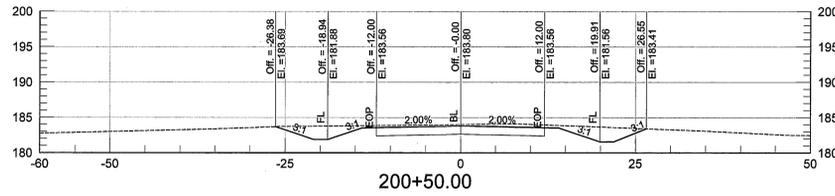
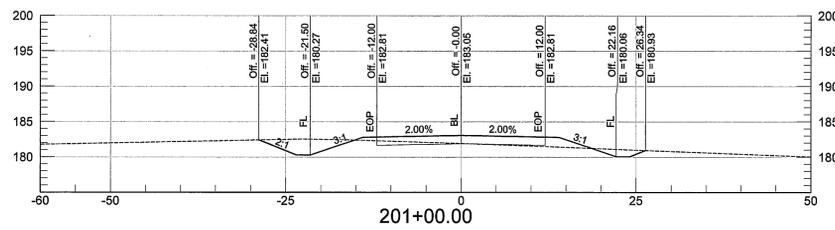
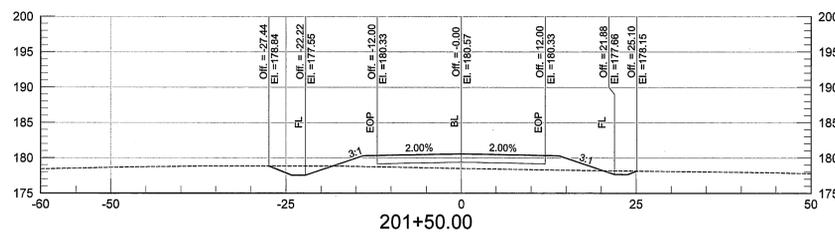
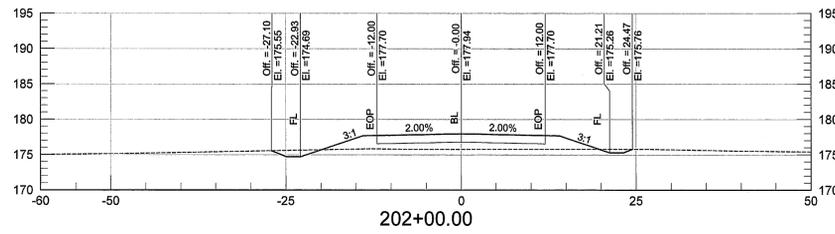
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C302
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GRAPHIC SCALE: 1"=5'

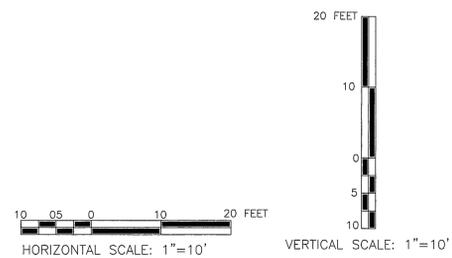
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 24509, Expiration Date: 9/21/2011

	3/25/10 SOLICITATION CORRECTIONS. REV DATE DESCRIPTION S&E BR. CUSTOMER PM SECT. HEAD A-E DB 2-26-10 A-E HP 2-26-10 A-E S&E BRANCH CM PM CUSTOMER SECTION HEAD CIVIL	LOGISTICS FACILITY SITE AND SHELL ROADWAYS TYPICAL SECTIONS	C302
	BUILDING 035 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND FACILITIES MANAGEMENT DIVISION	DATE ISSUED 03-01-10 Cof CODE or REF A6890 SHEET 38 of 158 DRAWING NO. GF-035-34026	

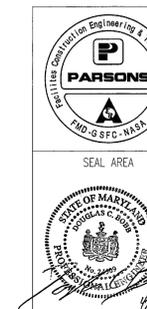


ABBREVIATIONS
 FS : FORESLOPE
 EOP : EDGE OF PAVEMENT
 FL : FLOWLINE
 BL : BASELINE

LEGEND
 - - - - - EXISTING SURFACE
 ——— PROPOSED SURFACE
 - - - - - BID ADDITIVE GRADE



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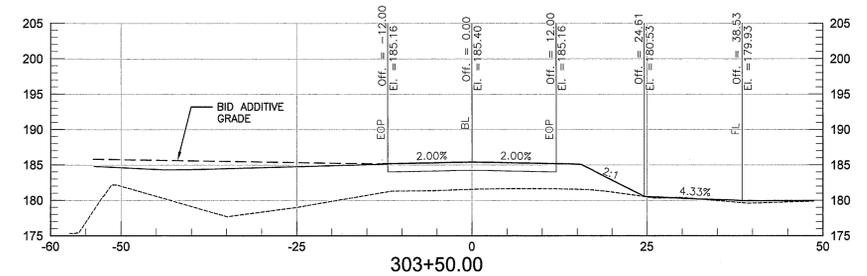
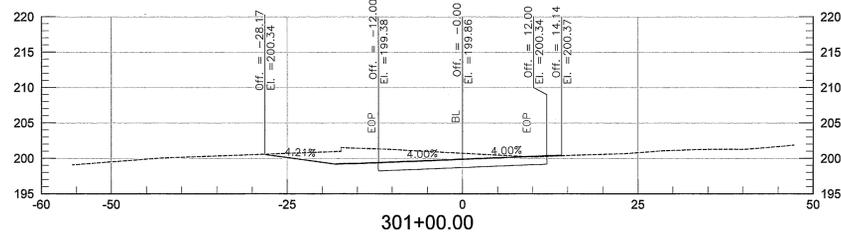
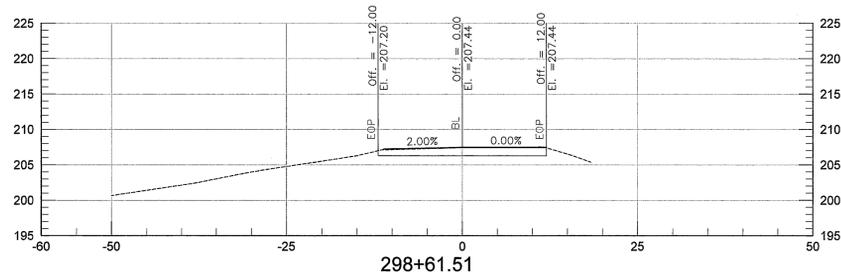
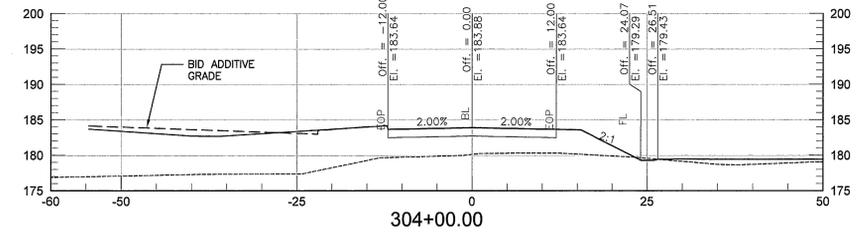
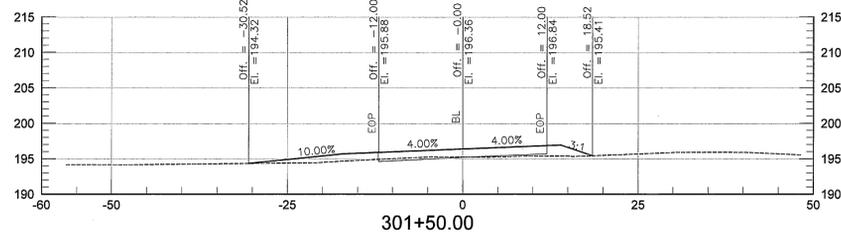
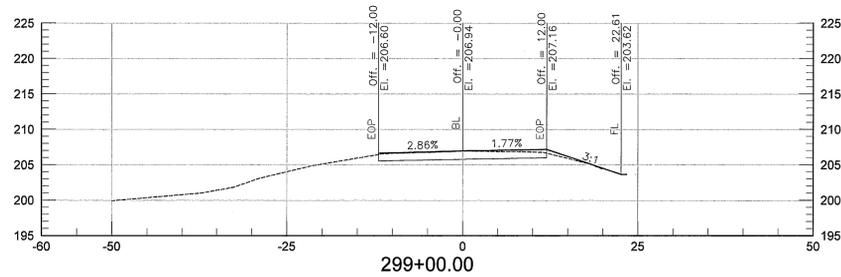
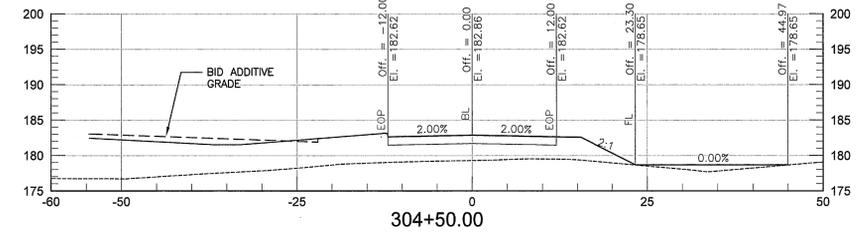
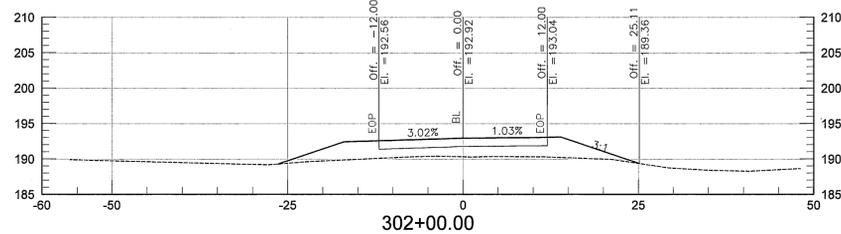
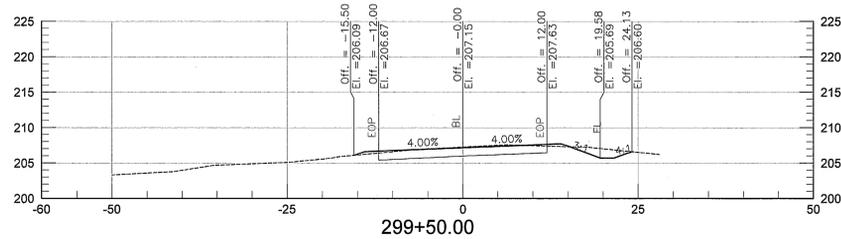
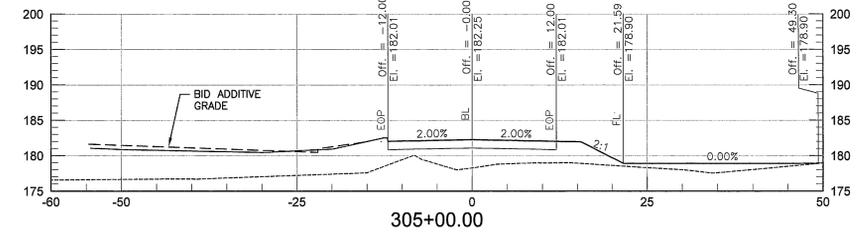
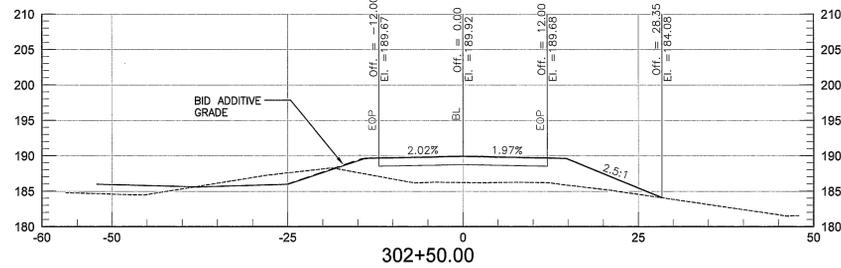
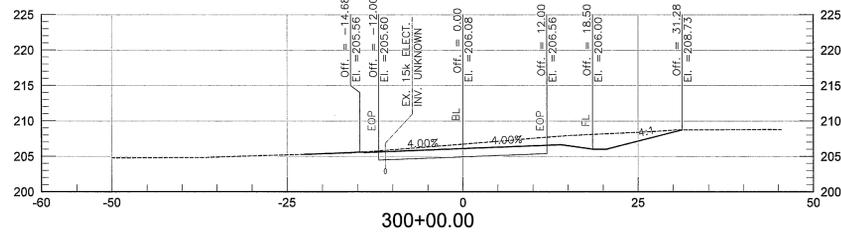
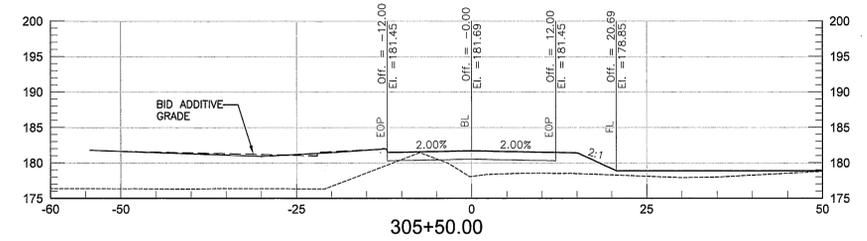
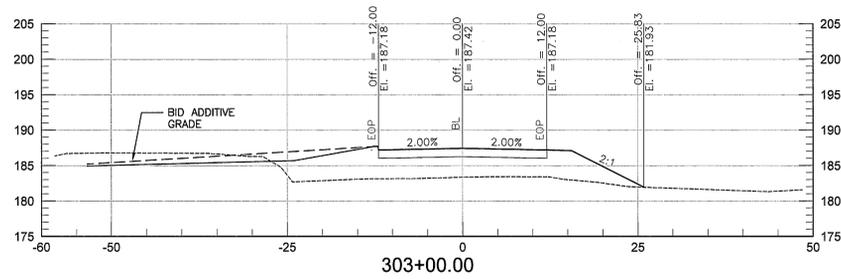
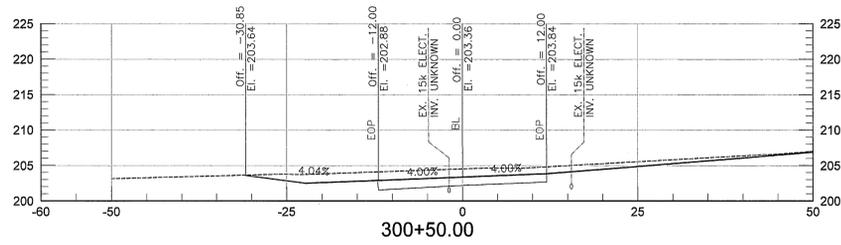
A 3/25/10 SOLICITATION CORRECTIONS.		S&E BR.	CUSTOMER	PK	SECT HEAD
REV	DATE	DESCRIPTION	INITIALS	DATE	
DRAWN	DK, GK	2-28-10			
A-E	DB	2-28-10			
CHECKED BY	HP	2-28-10			
A-E MANAGER					
NASA A-E					
S&E BRANCH					
CM					
CUSTOMER					
SECTION HEAD					

LOGISTICS FACILITY
 SITE AND SHELL
 ACCESS ROAD
 CROSS SECTIONS

C306

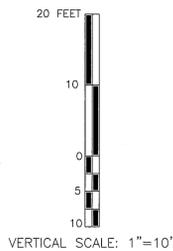
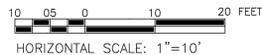
BUILDING 035
 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
 GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
 FACILITIES MANAGEMENT DIVISION

DATE ISSUED: 03-01-10
 SHEET: 42 OF 158
 DRAWING NO.: GF-035-34030



ABBREVIATIONS
 FS : FORESLOPE
 EOP: EDGE OF PAVEMENT
 FL : FLOWLINE
 BL : BASELINE

LEGEND
 --- EXISTING SURFACE
 --- PROPOSED SURFACE
 --- BID ADDITIVE GRADE



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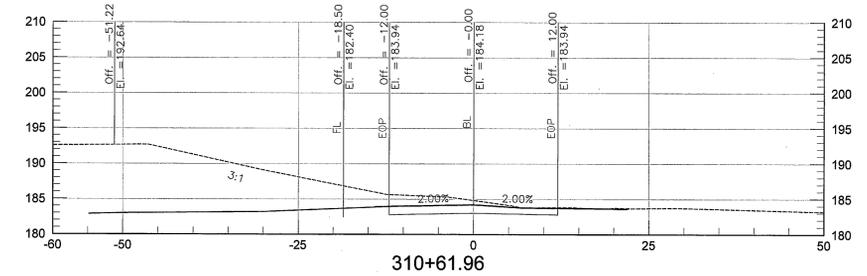
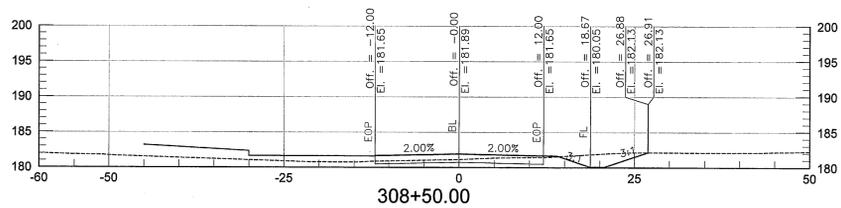
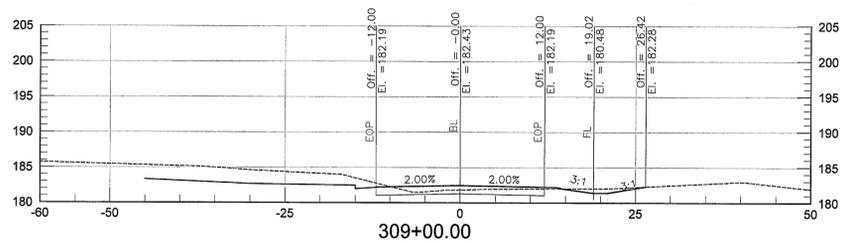
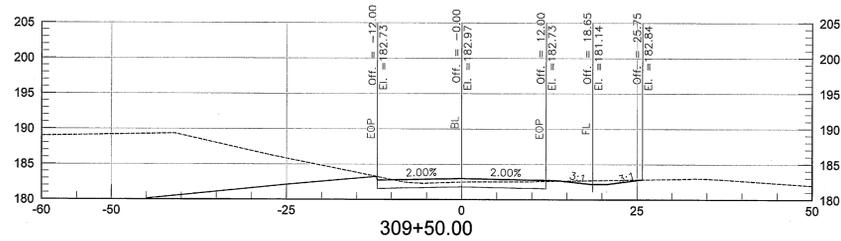
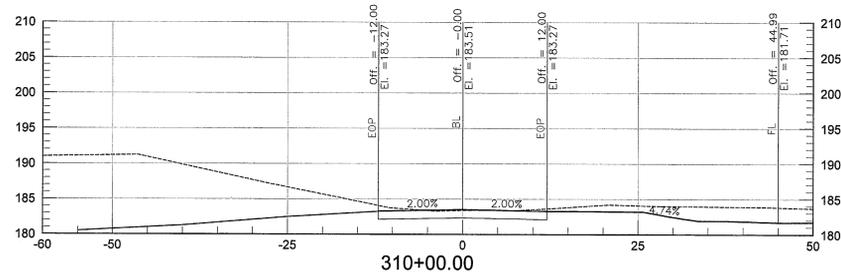
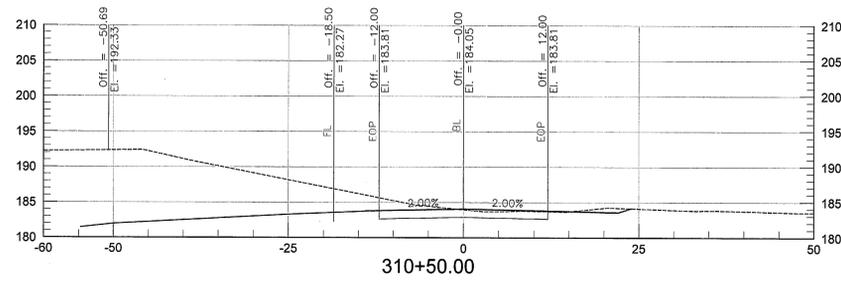
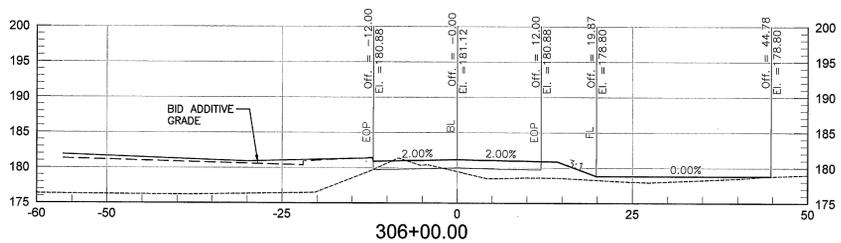
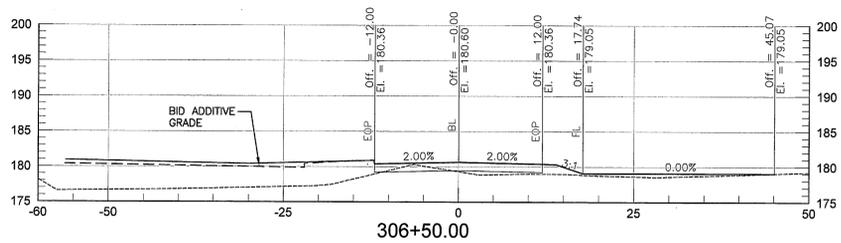
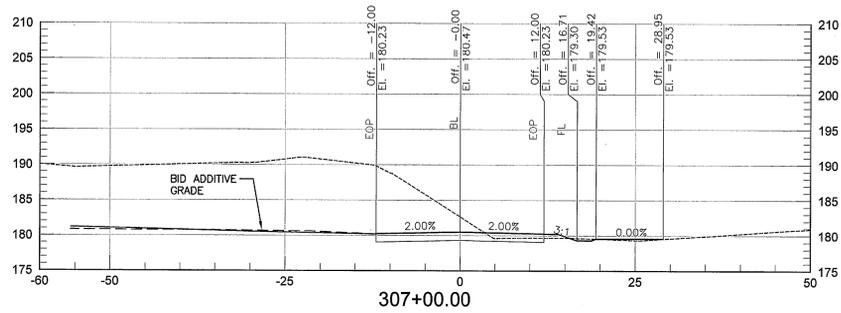
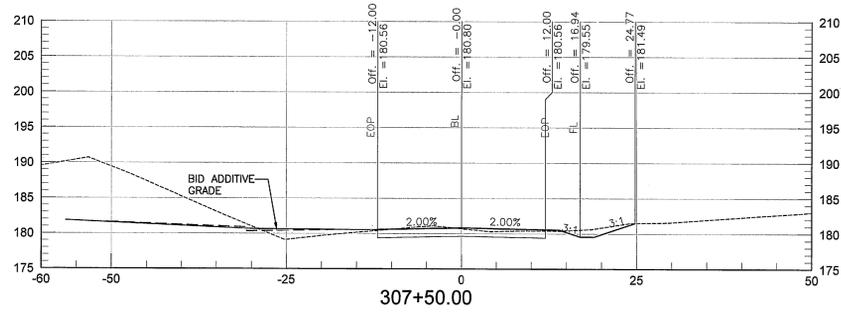
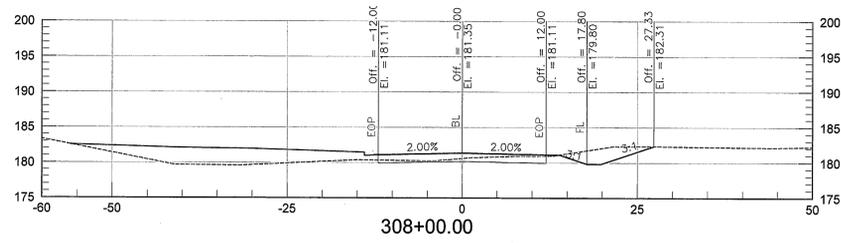


A 3/25/10 SOLICITATION CORRECTIONS.		S&E BR.	CUSTOMER	FW	SECT. HEAD
REV	DATE	DESCRIPTION			
INITIALS	DATE				
DK, GK	2-28-10				
A-E					
CHECKED BY	HP	2-28-10			
A-E MANAGER					
NASA A-E					
S&E BRANCH					
CM					
PN					
CUSTOMER					
SECTION HEAD					
CIVIL		DATE ISSUED	03-01-10	Sheet	43 of 158
		of CODE or W/P	A6890	DRAWING NO.	GF-035-34031

LOGISTICS FACILITY
 SITE AND SHELL
 SERVICE ROAD
 CROSS SECTIONS 1

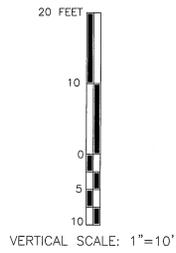
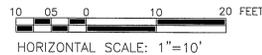
C307

BUILDING 035
 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
 GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
 FACILITIES MANAGEMENT DIVISION



ABBREVIATIONS
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 FL : FLOWLINE
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LEGEND
 --- EXISTING SURFACE
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REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT. HEAD
A	3/25/10	SOLICITATION CORRECTIONS.				
INITIALS	DATE					
DK,GK	2-28-10					
DB	2-28-10					
HP	2-28-10					
LOGISTICS FACILITY SITE AND SHELL SERVICE ROAD CROSS SECTIONS 2						
BUILDING 035 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND FACILITIES MANAGEMENT DIVISION						
SECTION HEAD						
CMIL						
DATE ISSUED		C&P CODE OR REF		SHEET		DRAWING NO.
03-01-10		A6890		44 OF 158		GF-035-34032

C308