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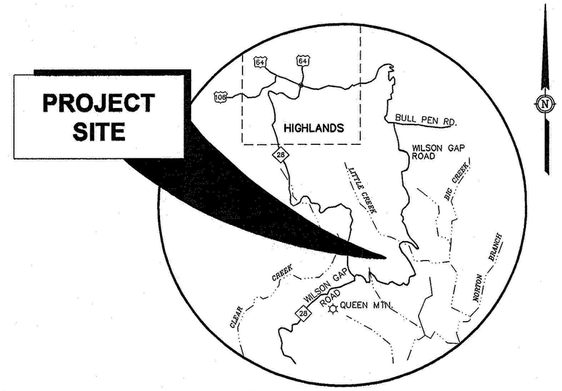
MACON COUNTY
MSW/C&D TRANSFER STATION
AT THE HIGHLANDS C&D LANDFILL

MACON COUNTY, NORTH CAROLINA



VICINITY MAP
NO SCALE

SCHEDULE OF DRAWINGS

G1 ..... COVER SHEET
G2 ..... GENERAL NOTES & LEGEND
C1 ..... OVERALL SITE PLAN
C2 ..... SITE PLAN
C3 ..... GRADING, DRAINAGE & EROSION CONTROL PLAN
D1 ..... MISCELLANEOUS DETAILS
D2 ..... MISCELLANEOUS DETAILS
D3 ..... MISCELLANEOUS DETAILS

McGill ASSOCIATES
ENGINEERING · PLANNING · FINANCE
55 BROAD STREET ASHEVILLE, NC PH. (828) 252-0575

NORTH CAROLINA PROFESSIONAL SEAL 23574 ENGINEER JEFFREY R. BISHOP
9 NOV 07

SEPTEMBER 2007

PERMIT DRAWINGS
FOR REGULATORY REVIEW

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GENERAL NOTES:

1. ALL CONSTRUCTION OUTSIDE RIGHTS-OF-WAY SHALL TAKE PLACE WITHIN THE PERMANENT AND TEMPORARY ACCESS EASEMENTS SHOWN.
2. CONTRACTOR SHALL REPAIR ALL DISTURBED AREAS TO EQUAL OR BETTER CONDITION THAN THE ORIGINAL SITE, OR AS NOTED.
3. LOCATIONS OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE ONLY. EXACT LOCATIONS ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. AT LEAST THREE DAYS PRIOR TO CONSTRUCTION, CONTRACTOR MUST NOTIFY EXISTING UTILITY OWNERS. CALL BEFORE YOU DIG. NORTH CAROLINA ONE CALL (1-800-632-4949).
4. ALL WORK NEAR AND AROUND WATERWAYS MUST CONFORM TO THE RULES OF THE STATE OF NORTH CAROLINA.
5. CONTRACTOR MUST PROVIDE EROSION CONTROL DEVICES TO CONTROL RUNOFF FROM THE CONSTRUCTION SITE. CONTRACTOR WILL BE RESPONSIBLE FOR ANY FINES THAT MAY BE LEVIED DUE TO POLLUTION CREATED DURING CONSTRUCTION.
6. CONTRACTOR SHALL FOLLOW ALL FEDERAL, STATE AND LOCAL HEALTH AND SAFETY REGULATIONS PERTAINING TO CONSTRUCTION OPERATIONS.
7. WATER LINES SHALL HAVE 3'-0" MINIMUM COVER UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
8. WATER AND SEWER LINES SHALL HAVE A MINIMUM 10' HORIZONTAL SEPARATION OR A MINIMUM 18" VERTICAL SEPARATION WITH THE WATER OVER SEWER, OR BOTH WATER AND SEWER LINES SHALL BE DUCTILE IRON PIPE 10' EITHER SIDE OF THE CROSSING.
9. WATER AND STORM SEWER LINES SHALL HAVE A MINIMUM 12" VERTICAL SEPARATION.
10. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.
11. LEGAL DESCRIPTIONS FOR PROPOSED EASEMENTS BY OTHERS.
12. CONTRACTOR SHALL NOTIFY THE PROPER LOCAL AUTHORITIES 24 HOURS PRIOR TO ANY ROAD BEING CLOSED FOR CONSTRUCTION, INCLUDING BUT NOT LIMITED TO LOCAL NEWSPAPER, RADIO STATION, FIRE DEPARTMENT, COUNTY SHERIFF'S DEPARTMENT, AMBULANCE, AND COUNTY EMERGENCY AGENCY. ALL TRAFFIC CONTROL SHALL CONFORM TO THE REQUIREMENTS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION.
13. CONTRACTOR SHALL NOTIFY THE ENGINEER AFTER EXISTING BURIED UTILITIES HAVE BEEN LOCATED AND 24 HOURS PRIOR TO CONSTRUCTION.
14. ALL FENCE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH LIKE MATERIALS IN A WORKMANLIKE MANNER AND IN ACCORDANCE WITH STANDARD FENCE CONSTRUCTION PRACTICES AT THE CONTRACTOR'S EXPENSE.
15. CONTRACTOR SHALL FIELD LOCATE ALL BURIED TELEPHONE LINE IN CONFLICT WITH THE PROPOSED WATER LINE. WHERE NECESSARY, EXISTING BURIED TELEPHONE LINE SHALL BE TEMPORARILY MOVED DURING CONSTRUCTION OF THE PROPOSED WATER LINE AND RE-LAID AT NO ADDITIONAL COST TO THE OWNER.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING ROADS DURING CONSTRUCTION AND SHALL REPAIR ROADS PER REQUIREMENTS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION. NO OPEN CUTS OF EXISTING ROADS SHALL BE ALLOWED EXCEPT WHERE INDICATED ON THE DRAWINGS OR WHERE SPECIFIC PERMISSION IS GRANTED BY THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION. SAND OR A SIMILAR MATERIAL APPROVED BY THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION SHALL BE PLACED AS A PROTECTIVE BARRIER BETWEEN TRACK EQUIPMENT AND THE ROAD AND CLEANED UP PROPERLY AFTER CONSTRUCTION.
17. ALL ROADS TO BE STABILIZED WITH ABC STONE IMMEDIATELY AFTER FINALE GRADING. LIMIT ROADWORK TO 1500 LINER FEET AT A TIME.
18. ALL CONTOURS ARE SHOWN AT 4' INTERVALS. ALSO NOTE ALL PROPOSED FILL SLOPE ARE AT 2:1 AND ALL CUT SLOPES ARE BETWEEN 2:1 AND 1.5:1. ALL SLOPES 2:1 OR STEEPER SHALL BE COVERED BY EROSION CONTROL MATTING.

NORTH CAROLINA LAND QUALITY SECTION EROSION CONTROL NOTES

GENERAL: ALL EROSION CONTROL MEASURES ARE TO BE PERFORMED IN STRICT ACCORDANCE WITH REQUIREMENTS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF LAND RESOURCES, LAND QUALITY SECTION. THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE COMPLIED WITH FOR ALL WORK.

1. – OBTAIN GRADING PERMIT.
2. – INSTALL ALL EROSION CONTROL MEASURES AS REQUIRED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF LAND RESOURCES, LAND QUALITY SECTION.
3. – OBTAIN CERTIFICATE OF COMPLIANCE THROUGH ON-SITE INSPECTION BY A REPRESENTATIVE OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF LAND RESOURCES, LAND QUALITY SECTION.
4. – PROCEED WITH GRADING, CLEARING AND GRUBBING.
5. – SEED AND MULCH DENUDED AREA WITHIN 15 DAYS AFTER FINISHED GRADES ARE ESTABLISHED. SEED AND SOIL AMENDMENTS SHALL BE PLACED ON A PREPARED SEEDBED AT THE FOLLOWING RATES PER ACRE.

SUMMER (PERMANENT) SEEDING (MAY 15 TO AUGUST 15)

LIME	4,000 LBS
FERTILIZER (10-10-10)	1,000 LBS
KY-31 FESCUE	100 LBS
STRAW MULCH	4,000 LBS. (ANCHORED)
GERMAN MILLET	40 LBS.
(OR SMALL-STEMMED SUDAN GRASS @ 40 LBS.)	

WINTER (TEMPORARY) SEEDING (AUGUST 15 TO MAY 15) MOUNTAINS

LIME	4,000 LBS
FERTILIZER (10-10-10)	1,000 LBS
KY-31 FESCUE	100 LBS
STRAW MULCH	4,000 LBS. (ANCHORED)
RYE (GRAIN)	120 LBS.

FOR ALL SLOPES 2:1 OR STEEPER ADD TO THE ABOVE:

SERICEA LESPEDEZA (KOREAN)	50 LBS

IF HYDROSEEDING, WOOD CELLULOSE MAY BE USED IN ADDITION TO STRAW MULCH AT THE RATE OF 1,000 LBS PER ACRE.

ALL SEEDING SHALL BE MAINTAINED, WATERED, ETC., UNTIL A PERMANENT VEGETATIVE GROUND COVER IS ESTABLISHED OVER ALL DISTURBED AREAS.

ALL SLOPES 2:1 OR STEEPER SHALL BE COVERED BY EROSION CONTROL MATTING.

6. – MAINTAIN SOIL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
7. – REMOVE SOIL EROSION CONTROL MEASURES AND STABILIZE THESE AREAS.
8. – REQUEST FINAL APPROVAL BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF LAND RESOURCES, LAND QUALITY SECTION.

EROSION CONTROL MEASURES MAINTENANCE SCHEDULE

1. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY OR AFTER EACH SIGNIFIGANT RAINFALL EVENT (1/2-INCH OR GREATER)
2. ALL MEASURES SHALL BE REPAIRED/REPLACED AS NECESSARY AFTER EACH RAINFALL EVENT OR WHEN THEY EXCEED 1/2 THEIR EFFECTIVE CAPACITY.
3. ALL MEASURES SHALL BE REPAIRED/REPLACED AS NECESSARY AFTER EACH RAINFALL EVENT OR WHEN THEY EXCEED 1/2 THEIR EFFECTIVE CAPACITY.
4. GROUND COVER SUFFICIENT TO RESTRAIN EROSION MUST BE ACCOMPLISHED WITHIN 15 WORKING DAYS OR 90 CALENDER DAYS FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT, WHICHEVER PERIOD IS SHORTER, IF DENUDED AREAS WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 21 CALENDER DAYS THEN THE TEMPORARY SEDDING PLAN WILL BE IMPLEMENTED.

NPDES STORMWATER PHASE II REQUIREMENTS FOR CONSTRUCTION SITES

FEDERAL NPDES STORMWATER PHASE II REQUIREMENTS SHALL BE MET BY THE CONTRACTOR FOR ALL CONSTRUCTION SITES LARGER THAN 1 ACRE EFFECTIVE MARCH 10, 2003. THESE REQUIREMENTS ARE SUMMARIZED AS FOLLOWS:

1. – IMPLEMENT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN AND KEEP A COPY OF THE PLAN ON SITE. DEVIATION FROM THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN WILL BE CONSIDERED A VIOLATION OF THE FEDERAL NPDES GENERAL PERMIT.
2. – PREVENT SPILLING OF FUELS, LUBRICANTS, COOLANTS, HYDRAULIC FLUIDS, AND ANY OTHER PETROLEUM PRODUCTS ONTO THE GROUND OR INTO SURFACE WATERS. DISPOSE OF SPENT FUELS APPROPRIATELY.
3. – USE HERBICIDES, PESTICIDES, AND FERTILIZER IN A MANNER CONSISTENT WITH THE FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT AND IN ACCORDANCE WITH LABEL RESTRICTIONS.
4. – CONTROL MANAGEMENT AND DISPOSAL OF LITTER AND SANITARY WASTE FROM THE SITE SO THAT NO ADVERSE IMPACTS TO WATER QUALITY OCCUR.
5. – INSPECT ALL EROSION AND SEDIMENTATION CONTROL FACILITIES EVERY SEVEN CALENDAR DAYS (TWICE IN SEVEN CALENDAR DAYS FOR STORMWATER DISCHARGES TO STREAMS ON THE LATEST EPA-APPROVED 303(d) LIST) AND WITHIN 24 HOURS OF ANY STORM EVENT OF MORE THAN 0.5 INCH OF RAIN IN A 24-HOUR PERIOD. MAINTAIN A RAIN GAUGE ON SITE AND KEEP A RECORD OF THE RAINFALL AMOUNTS AND DATES.
6. – OBSERVE STORMWATER RUNOFF DISCHARGES AND LOOK FOR CLARITY, FLOATING SOLIDS, SUSPENDED OILS, OIL SHEEN AND OTHER OBVIOUS INDICATORS OF POLLUTION AND EVALUATE THE EFFECTIVENESS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES. IF SEDIMENTATION IS LEAVING THE DISTURBED AREA, TAKE IMMEDIATE ACTION TO CONTROL THE DISCHARGE.
7. – KEEP A RECORD OF INSPECTIONS. RECORD ANY VISIBLE SEDIMENTATION FOUND OUTSIDE THE DISTURBED LIMIT AND RECORD MEASURES TAKEN TO CLEAN UP THE SEDIMENT. MAKE THESE RECORDS AVAILABLE TO THE DIVISION OF WATER QUALITY OR ITS AUTHORIZED AGENT UPON REQUEST.
8. – MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES TO KEEP THEM OPERATING AT OPTIMUM EFFICIENCY.

CONTACT THE ENGINEER FOR A COPY OF THE GENERAL PERMIT TO DISCHARGE STORMWATER UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM.

VIOLATIONS OF THE NPDES STORMWATER RULES CONSTITUTE A VIOLATION OF THE FEDERAL CLEAN WATER ACT AND ARE SUBJECT TO CIVIL PENALTIES OF UP TO $27,000 PER DAY. UNDER STATE LAW, A DAILY CIVIL PENALTY OF $10,000 PER VIOLATION CAN BE ASSESSED FOR VIOLATION OF TERMS OF THE PERMIT.

GENERAL CONSTRUCTION NOTES

1. FINISH GRADE TOLERANCES SHALL BE AS NOTED IN THE SPECIFICATIONS. THE ENGINEER MAY MAKE GRADE CHANGES AS REQUIRED IN THE FIELD WITHOUT EFFECTING THE UNIT BID PRICE FOR UNCLASSIFIED EXCAVATION.
2. UNLESS OTHERWISE STATED, ALL FILL AREAS SHALL BE CONSTRUCTED IN LAYERS OF 8" MAXIMUM THICKNESS WITH WATER ADDED OR SOIL CONDITIONED TO THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE ENGINEER AND COMPACTED WITH A SHEEP'S FOOT ROLLER TO A COMPACTION EQUAL TO OR GREATER THEN 95% (100% IN THE TOP 2' OF THE SUB GRADE BELOW ROADWAY'S AND PARKING LOTS) OF THE DENSITY OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH THE STANDARD PROCTOR METHOD OF MOISTURE-DENSITY RELATIONSHIP TEST, ASTM D698 OR AASHTO-99 UNLESS SPECIFIED IN OTHER SPECIFICATIONS.
3. ENTIRE AREA TO BE GRADED SHALL BE CLEARED AND GRUBBED. NO FILL SHALL BE PLACED ON ANY AREA NOT CLEARED OR GRUBBED.
4. ALL SOIL EROSION CONTROL MEASURES REQUIRED BY THE GRADING PLAN SHALL BE PERFORMED PRIOR TO GRADING, CLEARING OR GRUBBING. ALL EROSION CONTROL DEVICES SUCH AS SILT FENCES, TEMPORARY SEDIMENT TRAPS, ETC., SHALL BE MAINTAINED IN WORKABLE CONDITION FOR THE LIFE OF THE PROJECT AND SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT ONLY ON THE ENGINEER'S APPROVAL. ALL EROSION CONTROL DEVICES SHALL BE INSPECTED AFTER ANY PRECIPITATION EVENT EXCEEDING 1/2" OF RAINFALL OR AT LEAST WEEKLY. SEDIMENT SHALL BE REMOVED TO RE-ESTABLISH ORIGINAL DESIGN DIMENSIONS AFTER EACH PRECIPITATION EVENT EXCEEDING THE 1/2" THRESHOLD. PAYMENT SHALL BE CONSIDERED INCIDENTAL TO CLEARING AND GRUBBING. IF DURING THE LIFE OF THE PROJECT, A STORM CAUSES SOIL EROSION WHICH CHANGES FINISH GRADES OR CREATES "GULLIES" AND "WASHED AREAS", THESE SHALL BE REPAIRED AT NO EXTRA COST AND ALL SILT WASHED OFF THE PROJECT SITE ONTO ADJACENT PROPERTY SHALL BE REMOVED AS DIRECTED BY THE ENGINEER AT NO EXTRA COST. THE CONTRACTOR SHALL ADHERE TO ANY APPROVED EROSION CONTROL PLANS WHETHER INDICATED IN THE CONSTRUCTION PLANS OR UNDER SEPARATE COVER.
5. DISPOSABLE MATERIAL
   - A. CLEARING AND GRUBBING WASTES SHALL BE REMOVED FROM THE SITE AND PROPERTY DISPOSED OF BY THE CONTRACTOR AT HIS EXPENSE, UNLESS SPECIFIED OTHERWISE.
   - B. SOLID WASTES TO BE REMOVED, SUCH AS SIDEWALKS, CURBS, PAVEMENT, ETC., MAY BE PLACED IN SPECIFIED DISPOSAL AREAS DELINEATED ON THE PLANS OR REMOVED FROM THE SITE AS REQUIRED BY THE SPECIFICATIONS. THIS MATERIAL SHALL HAVE A MINIMUM COVER OF 2'. THE CONTRACTOR SHALL MAINTAIN SPECIFIED COMPACTION REQUIREMENTS IN THESE AREAS. WHEN DISPOSAL SITES ARE NOT PROVIDED, THE CONTRACTOR SHALL REMOVE THIS WASTE FROM THE SITE AND PROPERLY DISPOSE OF IT AT HIS EXPENSE.
   - C. ABANDONED UTILITIES SUCH AS CULVERTS, WATER PIPE, HYDRANTS, CASTINGS, PIPE APPURTENANCES, UTILITY POLES, ETC., SHALL BE THE PROPERTY OF THE SPECIFIED UTILITY AGENCY, OR COMPANY HAVING JURISDICTION. BEFORE THE CONTRACTOR CAN REMOVE, DESTROY, SALVAGE, REUSE, SELL OR STORE FOR HIS OWN USE ANY ABANDONED UTILITY, HE MUST PRESENT TO THE OWNER WRITTEN PERMISSION FROM THE UTILITY INVOLVED.
   - D. ON SITE BURNING IS AN ACCEPTABLE METHOD OF DISPOSING OF FLAMMABLE WASTES. WHEN BURNING IS ANTICIPATED, THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND MEET GOVERNING CODES.

     AFTER BURNING IS COMPLETED, PURE ASH MAY BE DISPOSED OF BY MIXING WITH FILL DIRT. ALL MATERIAL NOT TOTALLY BURNED SHALL BE DISPOSED OF AS SPECIFIED IN "B" ABOVE. THE CONTRACTOR SHALL NOT HOLD UP WORK PROGRESS FOR THE PURPOSE OF WAITING FOR A "BURNING DAY".
6. IN THE EVENT EXCESSIVE GROUNDWATER OR SPRINGS ARE ENCOUNTERED WITHIN THE LIMITS OF CONSTRUCTION, THE CONTRACTOR SHALL INSTALL NECESSARY UNDER DRAINS AND STONE AS DIRECTED BY THE ENGINEER, ALL WORK SHALL BE PAID BASED UPON UNIT BIDS UNLESS SPECIFIED OTHERWISE.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ADJUSTMENT OF ALL UTILITY SURFACE ACCESSES WHETHER HE PERFORMS THE WORK OR A UTILITY COMPANY PERFORMS THE WORK.
8. THE CONTRACTOR SHALL CONTROL ALL "DUST" BY PERIODIC WATERING AND SHALL PROVIDE ACCESS AT ALL TIMES FOR PROPERTY OWNERS WITHIN THE PROJECT AREA AND FOR EMERGENCY VEHICLES. ALL OPEN DITCHES AND HAZARDOUS AREAS SHALL BE CLEARLY MARKED IN ACCORDANCE WITH THE SPECIFICATIONS.
9. ALL AREAS WHERE THERE IS EXPOSED DIRT SHALL BE SEEDED, FERTILIZED AND MULCHED ACCORDING TO THE SPECIFICATIONS. THE FINISHED SURFACE SHALL BE TO GRADE AND SMOOTH, FREE OF ALL ROCKS LARGER THAN 3", EQUIPMENT TRACKS, DIRT CLODS, BUMPS, RIDGES AND GOUGES PRIOR TO SEEDING. THE SURFACE SHALL BE LOOSENED TO A DEPTH OF ±4"-6" TO ACCEPT SEED. THE CONTRACTOR SHALL NOT PROCEED WITH SEEDING OPERATIONS WITHOUT FIRST OBTAINING THE ENGINEER'S APPROVAL OF THE GRADED SURFACE. ALL SEEDING SHALL BE PERFORMED BY A MECHANICAL "HYDRO-SEEDER". HAND SEEDING SHALL BE AUTHORIZED ON AN AREA BY AREA APPROVAL BY THE ENGINEER.
10. WHERE SPECIFIED, STORM DRAIN PIPE SHALL BE CORRUGATED METAL PIPE (CMP) CONFORMING TO AASHTO M-36, WITH REROLLED ENDS TO ACCOMMODATE CORRUGATED COUPLING BANDS. 18" PIPE SHALL BE 16 GAUGE, 24" AND 30" PIPE SHALL BE 14 GAUGE AND 36" PIPE AND OVER SHALL BE 12 GAUGE AS SPECIFIED ON THE PLANS. PIPE AND COUPLING BANDS SHALL CONFORM TO NCDOT 1023-3 FOR PLAIN PIPE OR 1032-4 (A) FOR BITUMINOUS COATED AND PARTIALLY PAVED PIPE. DIMPLE BANDS SHALL NOT BE USED.

    WHERE SPECIFIED, STORM DRAIN PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP) CONFORMING TO AASHTO M-170, AS CONTAINED IN NCDOT STANDARD SPECIFICATION 1032-9 FOR WALL "B" TYPE.

    WHERE SPECIFIED, ALL STORM DRAIN PIPE SHALL BE HIGH DENSITY POLYETHELENE (HDPE). SMOOTH WALL INTERIOR, WITH WATER TIGHT JOINTS, BACKFILLED WITH #57 WASHED STONE UP TO MIN. 6" OVER THE TOP OF THE PIPE. HDPE PIPE USED FOR STORM DRAINAGE DETENTION SYSTEMS SHALL BE "HANCOR BLUE SEAL" OR APPROVED EQUAL.

    ALL CORRUGATED METAL STORM DRAIN PIPE (CMP) SHALL BE ALUMINIZED TYPE 2 CORRUGATED STEEL MANUFACTURED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO M-36. THE PIPE SHALL BE MANUFACTURED FROM ALUMINIZED STEEL TYPE 2 MATERIAL CONFORMING TO THE REQUIREMENTS OF AASHTO M-274. ALL PIPE SHALL BE FURNISHED WITH REROLLED ENDS AND SHALL BE JOINED WITH HUGGER BANDS. THE USE OF DIMPLE BANDS WILL NOT BE ALLOWED. PIPE THROUGH 24" DIAMETER SHALL BE 16 GAUGE, PIPE THROUGH 42" DIAMETER SHALL BE 14 GAUGE, PIPE THROUGH 54" DIAMETER SHALL BE 12 GAUGE.
11. CONTRACTOR SHALL VERIFY ALL ELEVATIONS BEFORE INSTALLATION OF FACILITIES.
12. CATCH BASINS CAST-IN-PLACE SHALL CONFORM TO THE REQUIREMENTS OF NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES (LATEST EDITION) ARTICLES 840-1 THROUGH 840-3. CURB INLET CATCH BASIN SHALL CONFORM TO NCDOT STANDARD DETAILS 840.02 THROUGH 840.04. DROP INLETS SHALL CONFORM TO STANDARD DETAIL 840.14. JUNCTION BOXES SHALL CONFORM TO STANDARD DETAIL 840.31.
13. CURB INLET FRAME, GRATE AND HOOD SHALL BE NEENAH R-3233D, PRODUCTS BY DEWEY BROS., U.S. FOUNDRY OR EQUAL. DROP INLET FRAME AND GRATE SHALL BE NEENAH R-3339A OR EQUAL. FIELD INLET COVER SHALL CONFORM TO NCDOT STANDARD DETAIL 840.04, OPENING FACING UPSTREAM.
14. CONCRETE AND MASONRY SHALL MEET THE REQUIREMENTS OF APPROPRIATE SECTION OF NCDOT STANDARD SPECIFICATIONS FOR ROAD AND STRUCTURES (LATEST EDITION). CONCRETE SHALL BE CLASS A OR B, 4000 PSI MINIMUM, MEETING THE REQUIREMENTS OF SECTION 1000, CONSTRUCTED IN ACCORDANCE WITH SECTION 825. MASONRY SHALL MEET THE REQUIREMENTS OF SECTION 1040, CONSTRUCTED IN ACCORDANCE WITH SECTION 830 AND/OR 834.
15. TOPS OF PROPOSED FRAMES AND GRATES SHALL BE FLUSH WITH FINISHED GRADE.
16. TINDALL PRE-CAST CONCRETE BOXES ARE ACCEPTABLE ALTERNATIVES FOR PROPOSED CATCH BASINS.

NO.	DATE	BY	REVISION DESCRIPTION

McGill ASSOCIATES
ENGINEERING-PLANNING-FINANCE
55 BROAD STREET ASHEVILLE, NC PH. (828) 252-0575

MACON COUNTY MSW/C&D TRANSFER STATION @ THE HIGHLANDS C&D LANDFILL
MACON COUNTY
MACON COUNTY, NORTH CAROLINA

JOB NO.: 06556
DATE: Sep 14, 2007
SCALE: NTS
DESIGNED BY: D.BORCH
CADD BY: D.BORCH
DESIGN REVIEW: JM
CONST. REVIEW:
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GENERAL NOTES & LEGEND

SHEET
G2

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McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC PH. (828) 252-0575

BEFORE YOU DIG! CALL 1-800-632-4949 N.C. 811 CALL CENTER IT'S THE LAW!

MACON COUNTY MSW/C&D TRANSFER STATION
@ THE HIGHLANDS C&D LANDFILL
# MACON COUNTY
MACON COUNTY, NORTH CAROLINA

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NO.	DATE	BY	REVISION DESCRIPTION

OVERALL SITE PLAN

SHEET
C1

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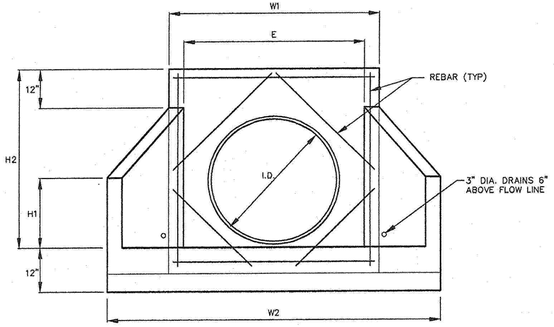

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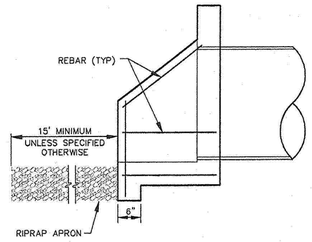

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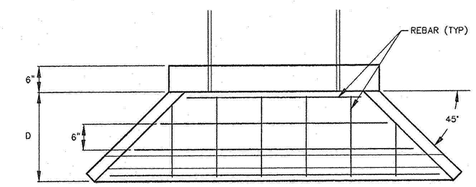


PLAN

NOTE:

1. CONCRETE HEADWALL REINFORCEMENT PER N.C.D.O.T. STANDARD NO. 838.39 REVISION A.
2. WORK MUST BE ACCOMPLISHED SO THAT WET CONCRETE DOES NOT CONTACT STREAM WATER.

HEADWALL DIMENSIONS (METAL PIPE)

NOTE: USE NEXT LARGEST SIZE FOR CONCRETE OR HDPE PIPE.

INSIDE DIAMETER OF PIPE	W1	W2	H1	H2	D	E	WEIGHT	SQ. FT. BASE AREA
12"–15"–18"	3'–2"	4'–10"	1'–3"	3'–2"	1'–3"	1'–9"	1,550	7.34
21"–24"	3'–8"	6'–1"	1'–9"	3'–8"	1'–6"	2'–3"	2,100	9.90
30"	4'–2"	7'–2"	2'–0"	4'–2"	1'–10"	2'–9"	2,850	13.50
36"	4'–8"	8'–4"	2'–4"	4'–8"	2'–2"	3'–3"	3,700	17.65
42"–48"	5'–8"	10'–10"	3'–3"	5'–8"	2'–11"	4'–3"	5,600	28.60
54"–60"	6'–10"	11'–9"	3'–6"	6'–8"	3'–4"	5'–2"	7,500	36.27
66"–72"	8'–1"	12'–0"	3'–8"	7'–7"	3'–4"	6'–2"	8,500	40.00
84"–96"	9'–4"	12'–8"	4'–0"	9'–6"	3'–4"	7'–6"	10,000	44.00

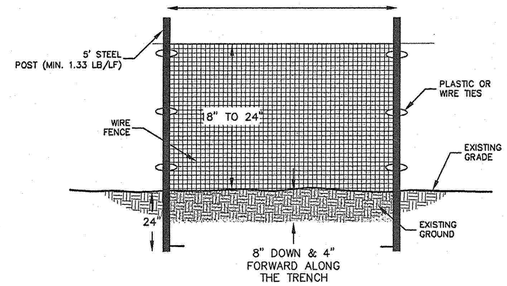
NOTE:

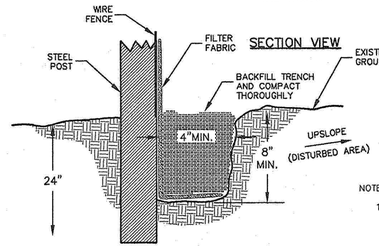
1. 4000 PSI CONCRETE STANDARD

REINFORCED CONCRETE ENDWALL

REVISION DATE - JANUARY 2, 2007

8' MAX. STANDARD STRENGTH FABRIC WITH WIRE FENCE (MIN. 14 GUAGE 6"X6" WIRW)
6' MAX EXTRA STRENGTH FABRIC WITHOUT WIRE FENCE





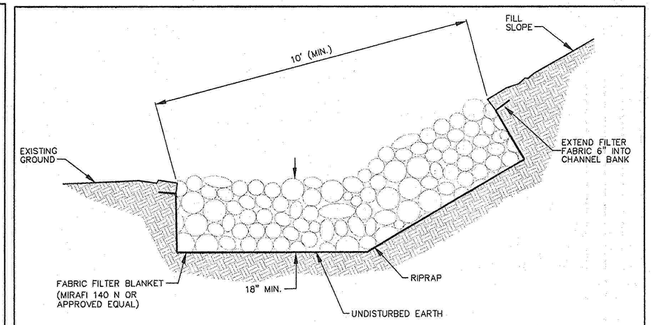
SLOPE	SLOPE LENGTH(FT)	MAXIMUM AREA(SQFT)
<2%	100	10,000
2 TO 5%	75	7,500
5 TO 10%	50	5,000
10 TO 20%	25	2,500
>20%	15	1,500

NOTES:

1. FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND DAILY DURING PROLONGED RAINFALL. REPAIR SHALL BE MADE AS NECESSARY.
2. FABRIC SHALL BE REPLACED PROMPTLY IF FOUND TO BE IN DISREPAIR.
3. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT AND WHEN DEPOSITS REACH APPROXIMATELY 1/3 HEIGHT OF BARRIER.
4. REFERENCE NCDENR LAND QUALITY SECTION DESIGN MANUAL: 6.62

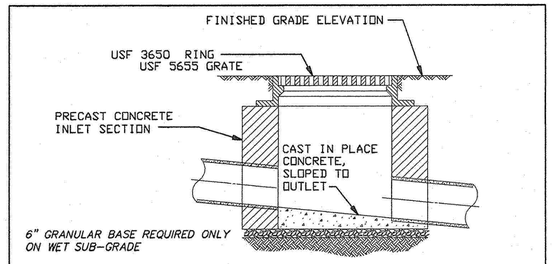
SEDIMENTATION/SILT FENCE

REVISION DATE - JUNE 1, 2007



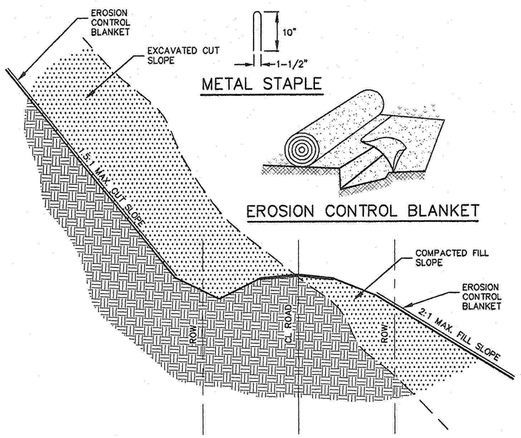
TOE STABILIZATION WITH RIPRAP

REVISION DATE - JUNE 1, 2007



SIZE TO BE DETERMINED BY CONTRACTOR, SIZE MUST FACILITATE CONNECTION TO PROPOSED PIPES.

INLET DETAIL

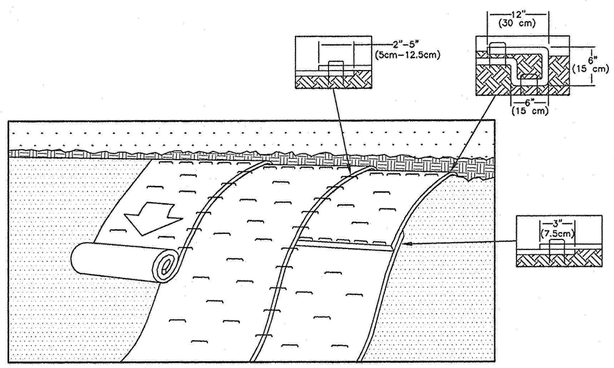


NOTES:

1. INSTALLATION OF MATTING SHALL CONFORM TO MANUFACTURER'S REQUIREMENTS.
2. SEE GRADING PLAN FOR LOCATIONS OF CUT AND FILL SLOPES.
3. MATTING SHALL BE: NORTH AMERICAN GREEN SC150, AMERICAN EXCELSIOR EROSION CONTROL BLANKET, OR EQUAL, INSTALL ON ALL DISTURBED SLOPES (CHOSEN PRODUCT MUST BE RATED FOR SLOPES 2:1 TO 1:1).
4. ALLOW 3" MIN. OVERLAP BETWEEN PARALLEL STRIPS.
5. BURY THE TOP END OF THE MAT IN A TRENCH 4" OR MORE IN DEPTH. TAMP THE TRENCH FULL OF SOIL. SECURE WITH ROW OF STAPLES, 10" SPACING, 4" DOWN FROM THE TRENCH. OVERLAP END OF TOP STRIP 4" AND STAPLE.

SLOPE STABILIZATION WITH MATTING

REVISION DATE - JUNE 1, 2007

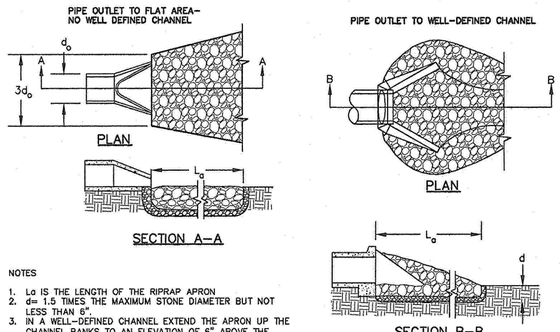


NOTES:

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP'S.
3. ROLL THE RECP'S DOWN OR HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING AND SPACING STAPLES/STAKES IN APPROPRIATE LOCATIONS PER MANUFACTURER RECOMMENDATIONS.
4. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON RECP'S TYPE.
5. CONSECUTIVE RECP'S SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECP'S WIDTH.
6. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.

STAPLE/ROLL INSTALLATION

REVISION DATE - JUNE 1, 2007



NOTES

1. La IS THE LENGTH OF THE RIPRAP APRON
2. d= 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
3. IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

RIPRAP APRON SIZING (PER FIG. 8.06a)

OUTLET No.	PIPE DIAMETER (Do)	3 x Do	APRON LENGTH (La)	APRON WIDTH (W=Do+La)	RIPRAP SIZE (d 50xTHICKNESS)
(FES 1)	18"	4.5'	2.2'	6.7'	12"
(FES 2)	18"	4.5'	2.2'	6.7'	12"
(FES 3)	18"	4.5'	2.2'	6.7'	12"
(FES 4)	18"	4.5'	2.2'	6.7'	12"

NOTE:

1. REFERENCE NCDENR LAND QUALITY SECTION DESIGN MANUAL: 6.41.

FLARED END SECTION OUTLET PROTECTION

REVISION DATE - JUNE 1, 2007

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MACON COUNTY, NORTH CAROLINA

JOB NO.: 06565
DATE: Sep 14, 2007
SCALE: NTS
DESIGNED BY: D.BORCH
CADD BY: D.BORCH
DESIGN REVIEW: ----
CONST. REVIEW: ----
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NO.	DATE	BY	REVISION DESCRIPTION

MISCELLANEOUS DETAILS

SHEET D2

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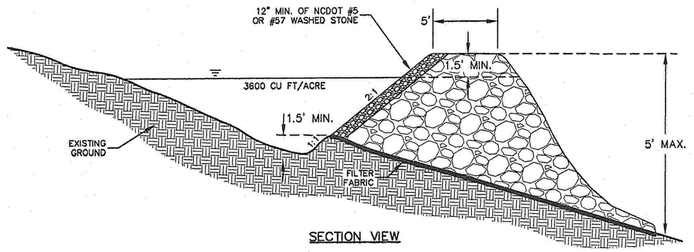
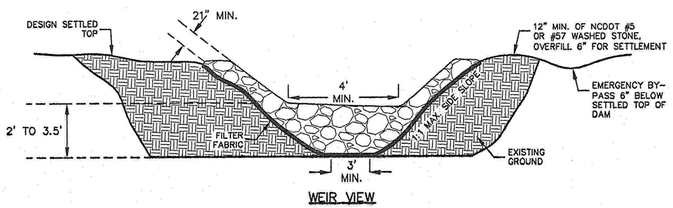


SECTION VIEW



WEIR VIEW

MAINTENANCE SCHEDULE:

1. AT A MINIMUM, TEMPORARY SEDIMENT TRAPS SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL EVENT GREATER THAN 1/2-INCH.
2. REMOVE SEDIMENT AND RESTORE TRAP TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP.
3. PLACE THE SEDIMENT THAT IS REMOVED IN A DESIGNATED DISPOSAL AREA AND REPLACE THE CONTAMINATED PART OF THE GRAVEL FACING. DISPLACED RIP-RAP SHALL BE REPLACED IMMEDIATELY.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ACCESS WITHIN LIMITS OF DISTURBED AREA TO ALL SEDIMENT TRAPS FOR MAINTENANCE DURING CONSTRUCTION AND REMOVAL UPON PROJECT COMPLETION.

NOTES:

1. SEE BAFFLE DETAIL FOR BAFFLE INSTALLATION PROCEDURE AND SPACING.

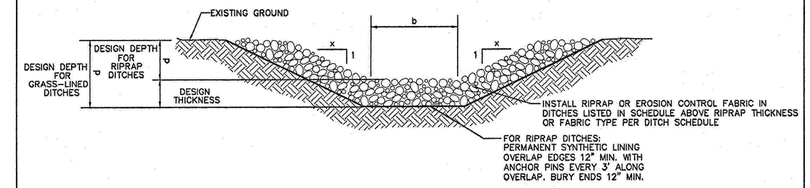
DRAINAGE AREA (ACRES)	WEIR LENGTH[1] (FT.)
1	4.0
2	6.0
3	8.0
4	10.0
5	12.0

[1] DIMENSIONS SHOWN ARE MINIMUM

TEMPORARY SEDIMENT TRAP

REVISION DATE - JUNE 1, 2007

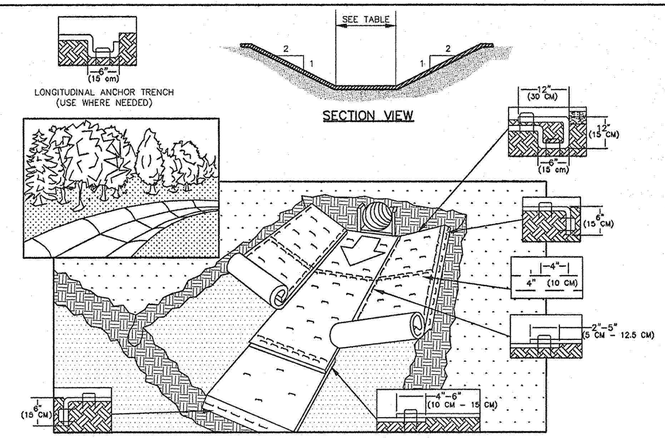
ALL MATTING PRODUCTS MAY BE SUBSTITUED WITH APPROVED EQUAL. INSTALL PER MANUFACTURERS RECOMMENDATION



Ditch #	Bottom Width	Side Slope	Depth (ft)	Ditch Slope (%)	Depth of flow (')	Shear Stress (lbs/sqft)	Stabilization Required
1	3	2 to 1	1	0.33	0.17	3.50	NORTH AMERICAN GREEN - P550
2	1	2 to 1	1	0.04	0.36	0.90	Mulch
3	4	2 to 1	1	0.09	0.43	2.41	NORTH AMERICAN GREEN - SC250
4	6	2 to 1	1	0.02	0.12	0.15	Mulch
5	0	2 to 1	1	0.02	0.22	0.27	Mulch
6	6	2 to 1	1	0.02	0.30	0.37	Mulch

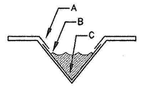
TYPICAL DITCH DETAIL

REVISION DATE - JUNE 1, 2007



NOTES:

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP'S IN A 12" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP'S.
3. ROLL CENTER RECP'S IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP'S WILL UNROLL WITH APPROXIMATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES PER MANUFACTURER'S RECOMMENDATIONS.
4. PLACE CONSECUTIVE RECP'S END OVER END WITH A 4" – 6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE RECP'S
5. FULL LENGTH EDGE OF OF RECP'S AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP'S MUST BE OVERLAPPED APPROXIMATELY 2" – 5" (DEPENDING ON TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF CHANNEL.
8. THE TERMINAL END OF THE RECP'S MUST BE ANCHORED WITH A ROW OF STAPLE/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
9. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.
10. SEE SCHDULE FOR PRODUCT TYPES.
11. PRESS ENDS OF MATTING 4" INTO GROUND AROUND STRUCTURES AND STAPLE SECURELY.



CRITICAL POINTS

A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

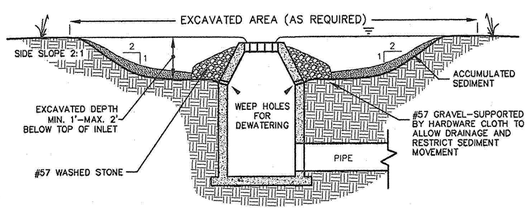
NOTE:

* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

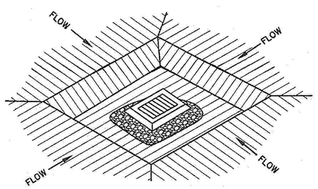
** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 cm) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.

CHANNEL STABILIZATION WITH MATTING

REVISION DATE - JUNE 1, 2007



SECTION VIEW



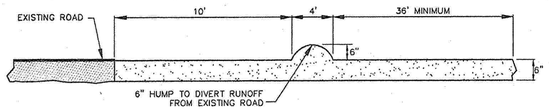
PLAN VIEW

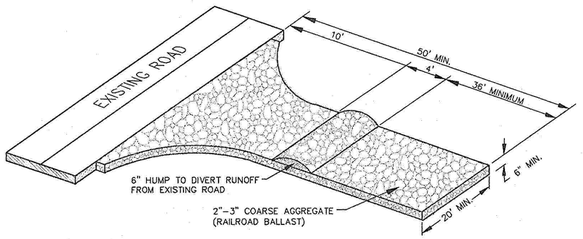
EXCAVATED DROP INLET PROTECTION

REVISION DATE - JUNE 1, 2007

NOTES:

1. SIDE SLOPES TO BE NO STEEPER THAN 2:1.
2. MINIMUM VOLUME TO BE 35 CU.YDS PER DISTURBED ACRE.
3. CLEAN BASIN WHEN VOLUME IS DECREASED BY HALF.





NOTES:

1. A STABILIZED PAD OF CRUSHED STONE SHALL BE LOCATED WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM AN EXISTING ROAD.
2. STONE TO BE 2 – 3 INCH WASHED STONE RAILROAD BALLAST.
3. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC STREETS OR EXISTING PAVEMENT. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
4. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC STREETS MUST BE REMOVED IMMEDIATELY.
5. WHEN NECESSARY WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTERING A PUBLIC STREET. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT BASIN.
6. REFERENCE NCDENR LAND QUALITY SECTION DESIGN MANUAL: 6.06

STABILIZED CONSTRUCTION ENTRANCE

REVISION DATE - JANUARY 2, 2007

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MACON COUNTY

MACON COUNTY, NORTH CAROLINA

JOB NO.: 06565
DATE: Sep 14, 2007
SCALE: NTS
DESIGNED BY: D.BORCH
CADD BY: D.BORCH
DESIGN REVIEW: ____
CONST. REVIEW: ____
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MISCELLANEOUS DETAILS

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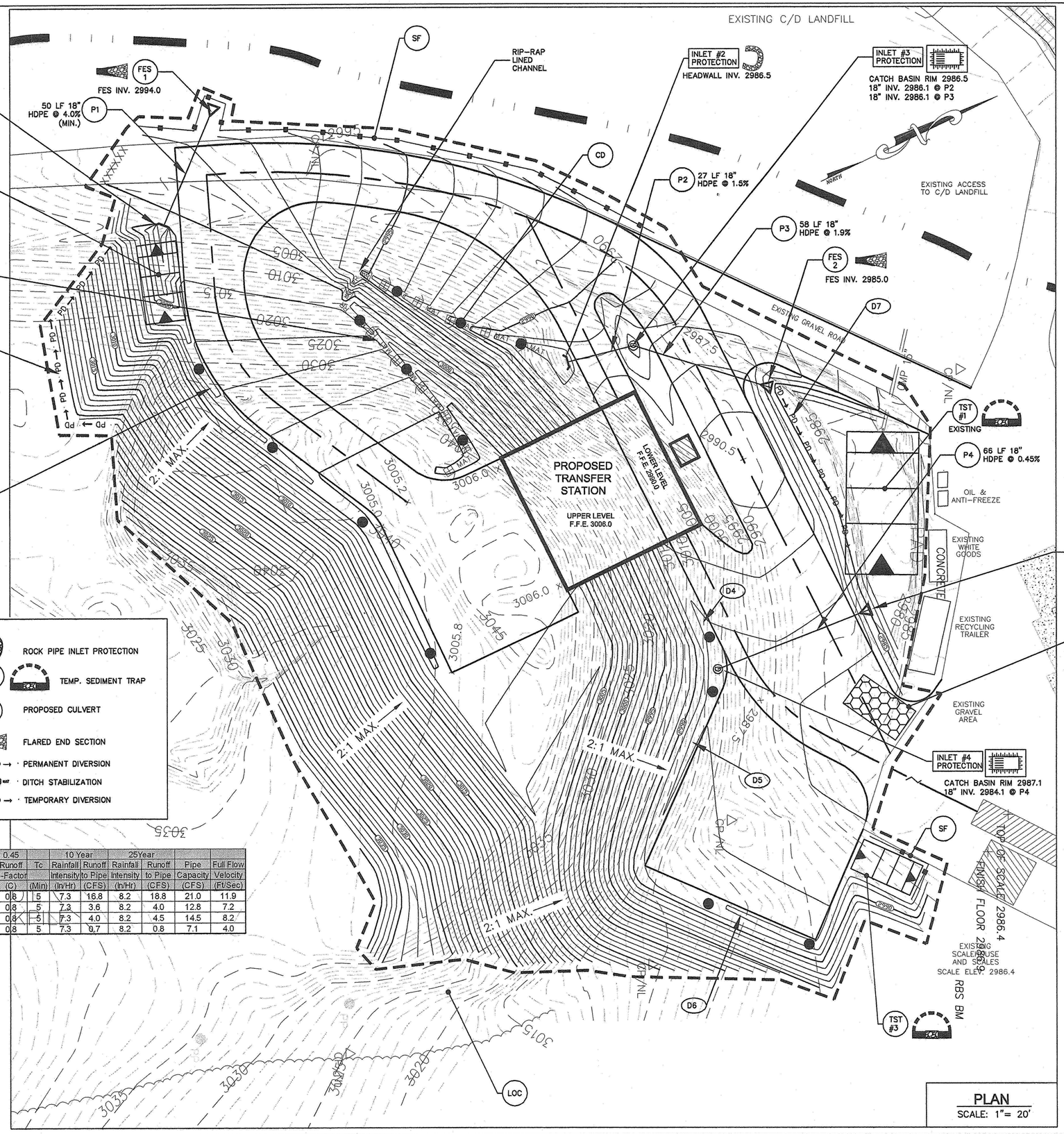

PLAN
SCALE: 1"= 20'

EROSION CONTROL LEGEND

- LOC — LIMIT OF CONSTRUCTION
- TEMP. GRAVEL CONSTRUCTION ENTRANCE/EXIT
- CD — ROCK CHECK DAM
- SF — SEDIMENT FENCE
- RR — RIP-RAP CHANNEL
- TSD — TEMP. SLOPE DRAIN
- ROCK PIPE INLET PROTECTION
- TST 3B1 — TEMP. SEDIMENT TRAP
- P 3B1 — PROPOSED CULVERT
- FLARED END SECTION
- PD → PD → PERMANENT DIVERSION
- DITCH STABILIZATION
- TD → TD → TEMPORARY DIVERSION

Pipe Segment	Pipe Size (IN)	Approx Pipe Length (FT)	Pipe Mat'l	Manning's "n" Factor	Slope	Invert In	Invert Out	Area Draining to Pipe (ACRES)	0.45 Runoff C-Factor (C)	Tc (Min)	10 Year Rainfall Intensity (In/Hr)	10 Year Runoff to Pipe (CFS)	25Year Rainfall Intensity (In/Hr)	25Year Runoff to Pipe (CFS)	Pipe Capacity (CFS)	Full Flow Velocity (Ft/Sec)
P1	18	50	HDPE	0.013	4.00%	2996.0	2994.0	2.87	0.8	5	7.3	16.8	8.2	18.8	21.0	11.9
P2	18	27	HDPE	0.013	1.48%	2986.5	2986.1	0.61	0.8	5	7.3	3.6	8.2	4.0	12.8	7.2
P3	18	58	HDPE	0.013	1.90%	2986.1	2985.0	0.68	0.8	5	7.3	4.0	8.2	4.5	14.5	8.2
P4	18	66	HDPE	0.013	0.45%	2984.1	2983.8	0.12	0.8	5	7.3	0.7	8.2	0.8	7.1	4.0

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DATE: SEPT. 2007
SCALE: 1"=20'
DESIGNED BY: D.BORCH
CADD BY: D.BORCH
DESIGN REVIEW:
CONST. REVIEW:
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GRADING, DRAINAGE & EROSION CONTROL PLAN

SHEET C3

NO.	DATE	BY	REVISION DESCRIPTION

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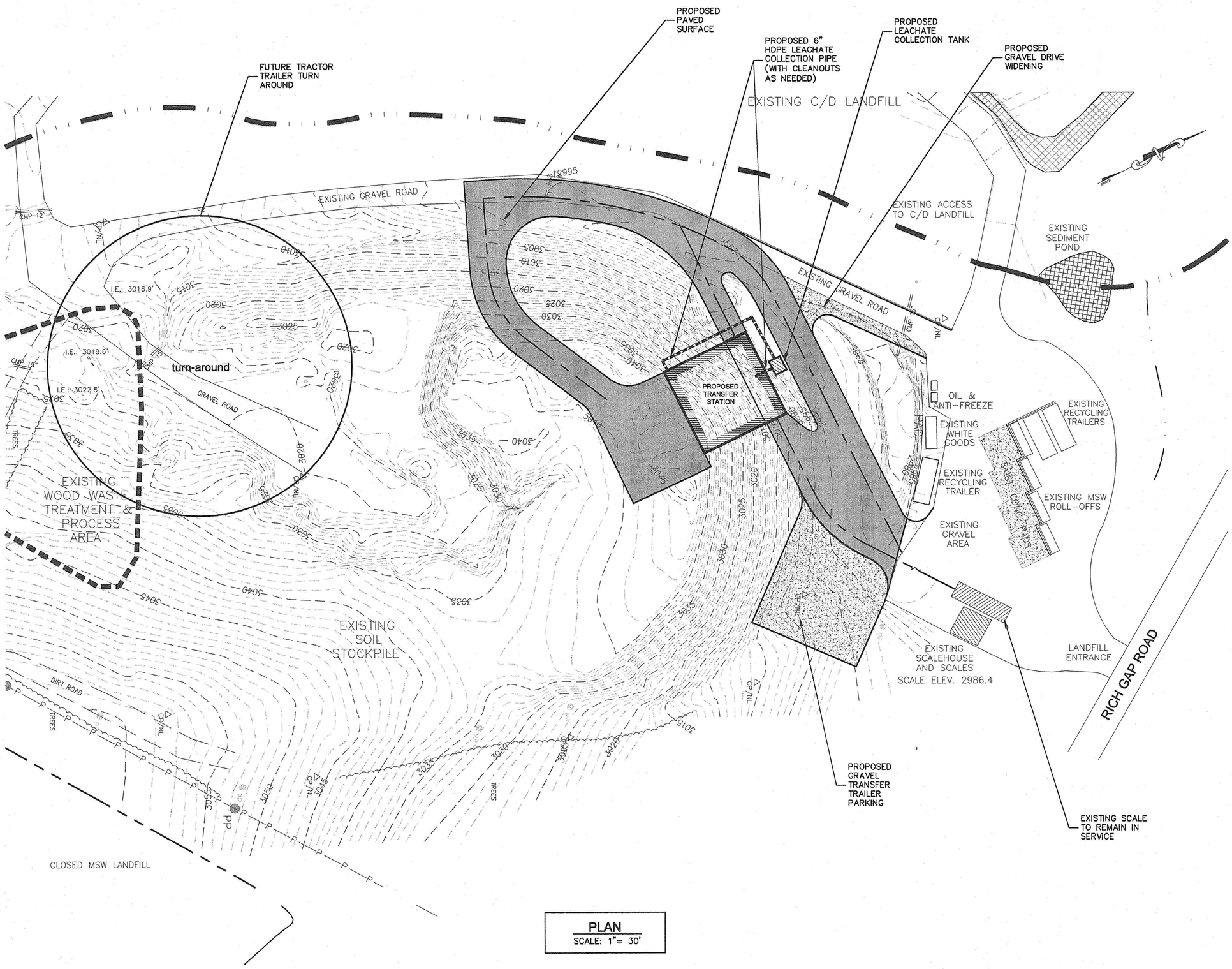

PLAN
SCALE: 1"= 30'

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JOB NO.: 06565
DATE: Sep 14, 2007
SCALE: 1"=30'
DESIGNED BY: D.BORCH
CADD BY: D.BORCH
DESIGN REVIEW: ____
CONST. REVIEW: ____
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NO.	DATE	BY	REVISION DESCRIPTION

SITE PLAN

SHEET
C2

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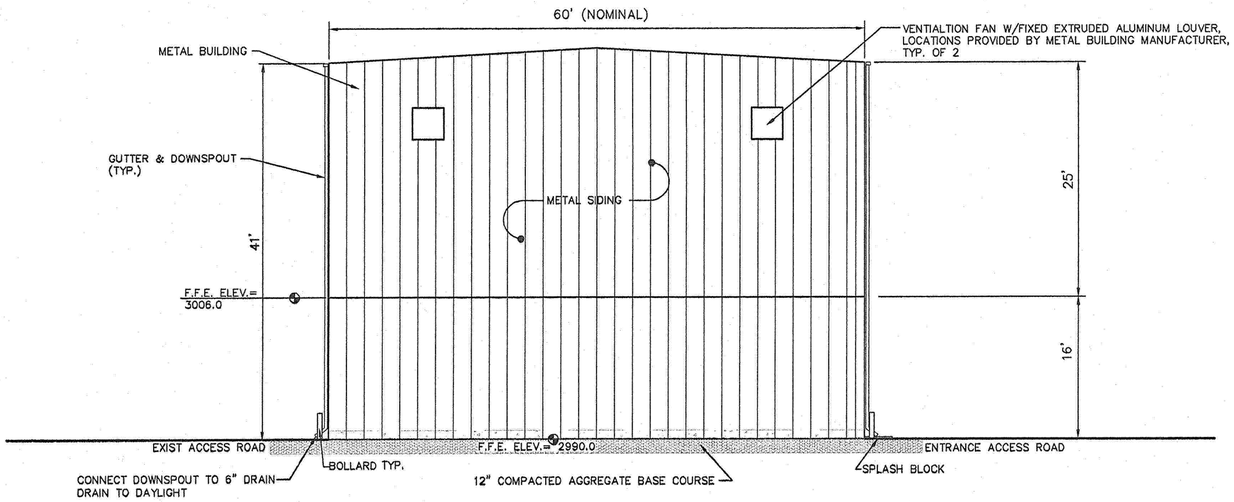
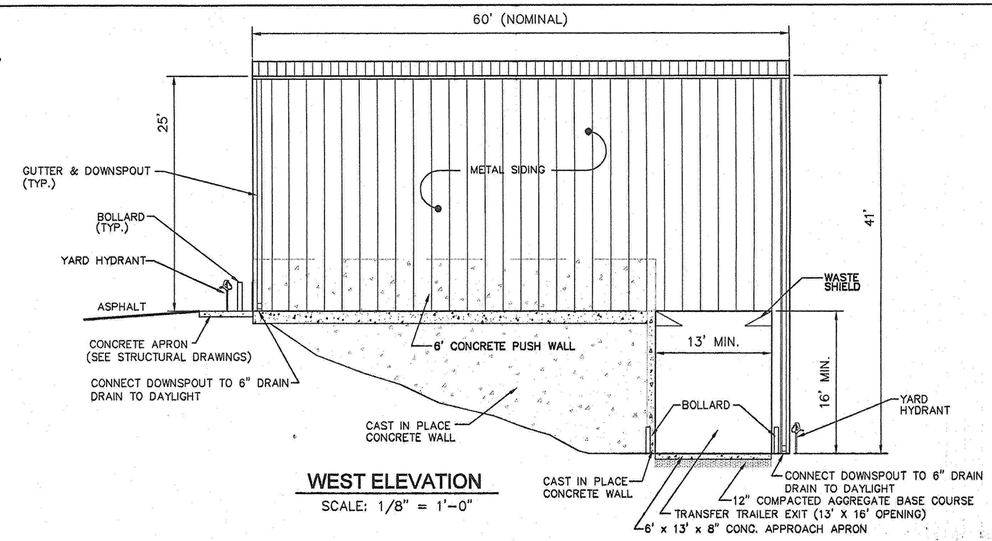


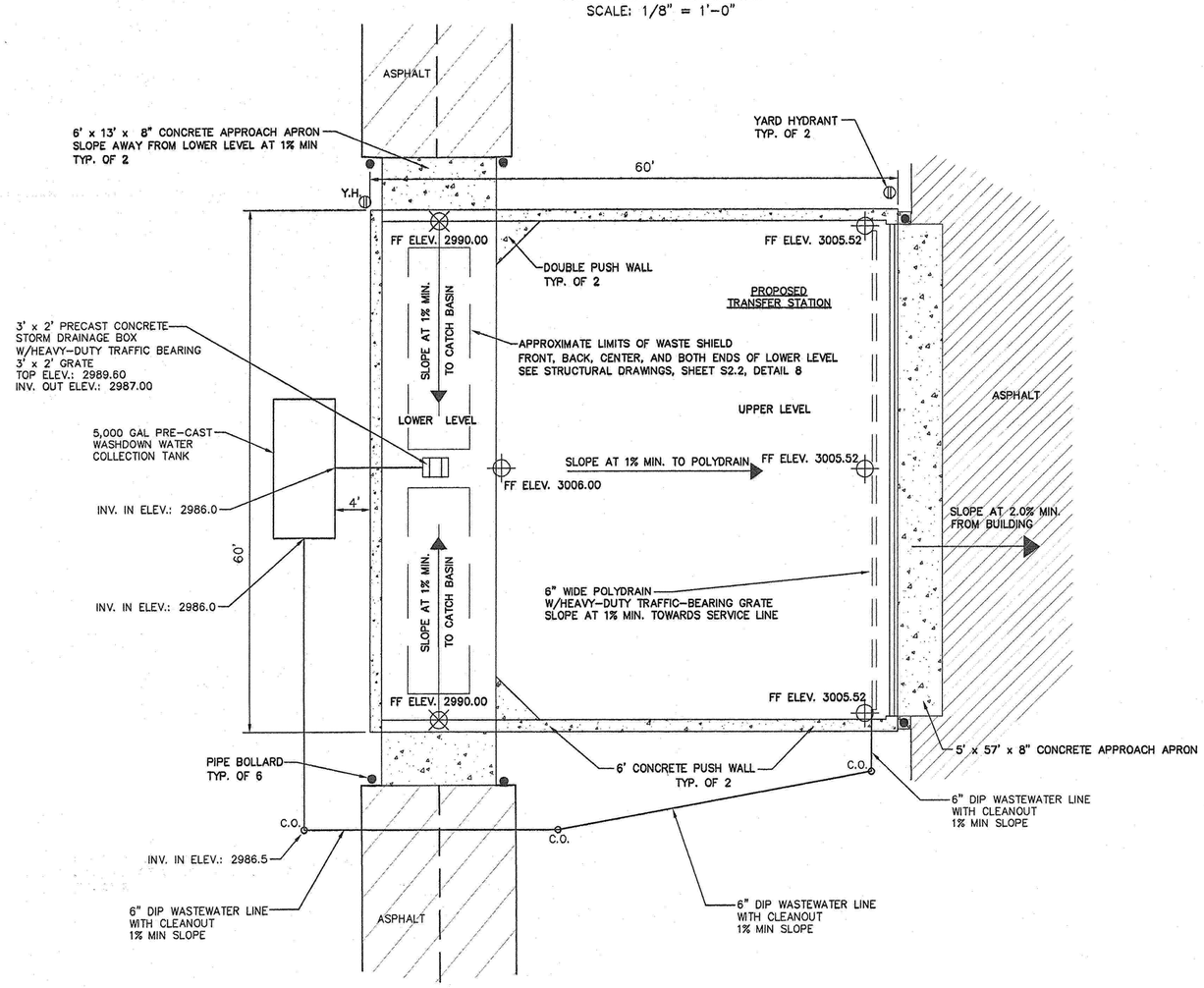
SOUTH ELEVATION

SCALE: 1/8" = 1'-0"



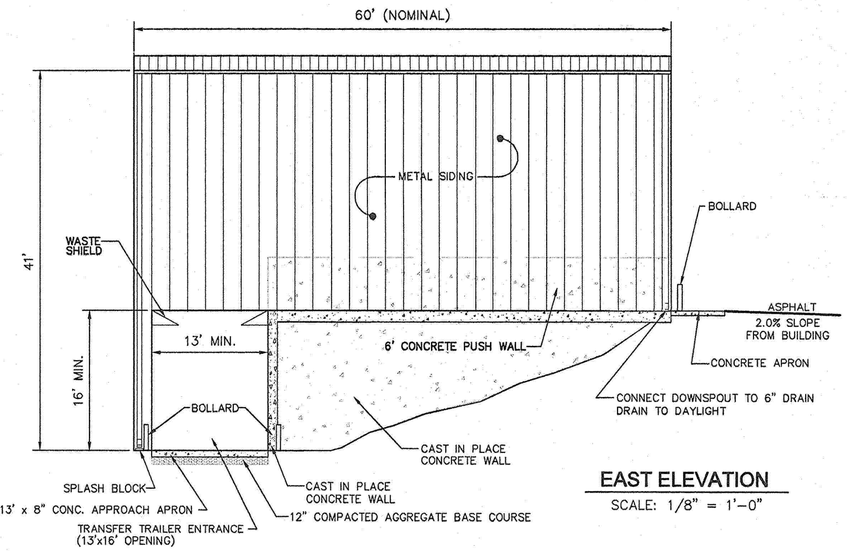
WEST ELEVATION

SCALE: 1/8" = 1'-0"



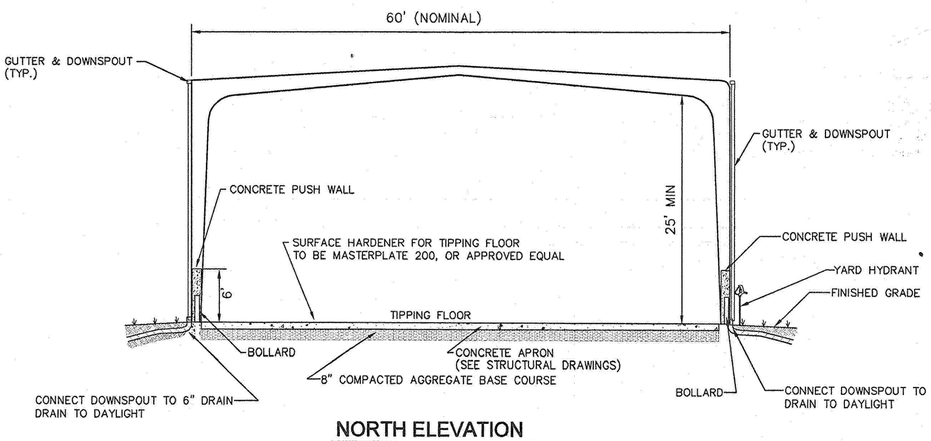
TRANSFER STATION PLAN

SCALE: 1/8" = 1'-0"



EAST ELEVATION

SCALE: 1/8" = 1'-0"



NORTH ELEVATION

SCALE: 1/8" = 1'-0"

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC PH. (828) 252-0575

BEFORE YOU DIG! CALL 1-800-632-4949 N.C. ONE CALL CENTER IT'S THE LAW!

MACON COUNTY MSW/C&D TRANSFER STATION @ THE HIGHLANDS C&D LANDFILL

MACON COUNTY

MACON COUNTY, NORTH CAROLINA

JOB NO.: 06565
DATE: Sep 14, 2007
SCALE: NTS
DESIGNED BY: D.BORCH
CADD BY: D.BORCH
DESIGN REVIEW: ———
CONST. REVIEW: ———
L:\dwgs\06565\000-NCDENR Submittal-9-07\06565CO.dwg

NO.	DATE	REVISION DESCRIPTION	BY

MISCELLANEOUS DETAILS

SHEET D3

L:\dwgs\06565\000-NCDENR-Submittal-9-07\06565CO-REVISED9-13-07.dwg Sep 14, 2007 - 4:37pm Kelly