FALLSTON HIGH SCHOOL SYNTHETIC TURF FIELD HARFORD COUNTY, MD

STORMWATER MANAGEMENT FINAL DESIGN PLAN

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GENERAL NOTES

1) EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. IT IS THE RESPONSIBILTY OF THE CONTRACTOR TO DETERMINE THE LOCATION AND ELEVATION OF THE EXISTING UTILITIES BEFORE ANY CONSTRUCTION BEGINS. CONTRACTOR SHALL PROTECT SERVICE CONNECTIONS AND MAINTAIN THEIR UNINTERRUPTED SERVICE. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED IMMEDIATELY. THE COST OF SUCH REPAIRS SHALL BE BORNE BY THE CONTRACTOR.

2) ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FOLLOWING (LASTEST EDITIONS AND ALL SUPPLEMENTS):

a) HARFORD COUNTY D.P.W. STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

b) STATE OCCUPATIONAL SAFETY LAWS.

c) CONSTRUCTION PLANS AND SPECIFICATIONS

d) MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

3) CONTRACTOR TO NOTIFY THE FOLLOWING AGENCIES PRIOR TO ANY ONSITE LAND DISTURBANCE:

a) MISS UTILITY AT 800-257-7777 BEFORE START OF CONSTRUCTION TO VERIFY THE LOCATION OF EXISTING UTILITIES.

b) HARFORD COUNTY DEPARTMENT OF PARKS AND RECREATION AT 410-638-4754.

c) HARFORD COUNTY D.P.W. SEDIMENT CONTROL INSPECTION DIVISION AT 410-638-3127 AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION.

4) A COPY OF ALL DELIVERY TICKETS, MATERIALS SPECIFICATIONS, LABORATORY TESTING/CERTIFICATIONS, ETC. CONCERNING THE ADEQUACY OF ALL MATERIAL USED ON THIS PROJECT SHALL BE GIVEN TO THE HARFORD COUNTY D.P.W. INSPECTOR OR REPRESENTATIVE.

5) ALL DISTURBED AREAS OF LAND THAT ARE TO BE VEGETATIVELY STABILIZED SHALL BE SEEDED AND MULCHED IN ACCORDANCE WITH THE SEDIMENT CONTROL NOTES..

6) EARTHWORK:

a) IT IS INTENDED THAT ONSITE EXCAVATED MATERIAL WILL BE HAULED OFF SITE AND PLACED AT AN APPROVED LOCATION OR A SITE WITH AN ACTIVE GRADING PLAN AND PERMIT.

b) REMOVE VEGETATION, TOPSOIL, DEBRIS, UNSATISFACTORY SOIL MATERIAL OBSTRUCTIONS, AND DELETERIOUS MATERIALS BEFORE PLACING ANY MATERIAL. REMOVE SURPLUS WASTE MATERIAL, INCLUDING SUITABLE OR UNSUITABLE SOIL, TRASH, DEBRIS, AND LEGALLY DISPOSE OFF OWNER'S PROPERTY TO APPROVED LOCATION.

7) IF THERE IS ANY DISCREPANCY OF INFORMATION FOUND ON THESE PLANS EITHER EXISTING OR PROPOSED, OR DEVIATION FROM THE PLAN SPECIFICATIONS, THE CONTRACTOR IS RESPONSIBLE TO HALT CONSTRUCTION AND CONTACT THE ENGINEER AS SOON AS THE DISCREPANCY OR DEVIATION IS NOTED. FAILURE TO DO SO COULD RESULT IN THE CONTRACTOR BEARING THE BURDEN, FINANCIALLY OR OTHERWISE, WHICH RESULT FROM REMOVAL, RECONSTRUCTION, OR REPLACEMENT OF ALL NECESSARY ITEMS DUE TO THE DISCREPANCY.

8) THESE PLANS ARE INTENDED TO COVER THE COMPLETE SITE CONSTRUCTION PHASE OF THIS PROJECT. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION ANY WORK WHICH COULD NORMALLY BE REQUIRED TO COMPLETE THIS PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO PERFORM SUCH WORK WITHOUT PAYMENT.

9) TOPOGRAPHY IS BASED ON A FIELD-RUN SURVEY COMPLETED BY BAY STATE LAND SERVICES, INC. IN NOVEMBER 2014.

BENCHMARKS: JV6291 FALLSTON
NORTHING: 675,445.11
EASTING: 1,477,585.59
ELEVATION: 455.79'

JV6325 FALLSTON AZ MK
NORTHING: 676,752.31
EASTING: 1,477,595.21
ELEVATION: 464.98'

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88

10) CONTRACTOR SHALL MAINTAIN VEHICULAR ACCESS TO FALLSTON HIGH SCHOOL DRIVEWAYS AND PARKING LOTS AT ALL TIMES.

SEQUENCE OF CONSTRUCTION

PRELIMINARY:

1. NOTIFY THE HARFORD COUNTY D.P.W. SEDIMENT CONTROL INSPECTION DIVISION AT 410-638-3127 AT LEAST 48 HOURS PRIOR TO START OF OPERATION. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO BEGINNING ANY LAND DISTURBANCE ON SITE.

2. APPROXIMATE WORKING TIME DURATIONS ARE ONLY ESTIMATES BY THE ENGINEER AS REQUESTED BY THE HARFORD COUNTY SOIL CONSERVATION SERVICES AND HARFORD COUNTY D.P.W. ACTUAL WORKING TIMES MAY VARY.

3. ALL EROSION AND SEDIMENT CONTROL MEASURES AND NOTES SHOWN OR REFERRED TO ON THESE PLANS SHALL BE CONSTRUCTED, INSTALLED, AND/OR CARRIED OUT IN ACCORDANCE WITH THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, LATEST EDITION, UNLESS OTHERWISE NOTED.

CONSTRUCTION PHASE:

4. INSTALL STABILIZED CONSTRUCTION ENTRANCE. (1 DAY)

5. INSTALL TRACK COVERING AND MAINTAIN THROUGH ENTIRE CONSTRUCTION PHASE. (1 DAY)

6. CLEAR AND GRUB FOR AND INSTALL ALL PERIMETER CONTROLS AND INLET PROTECTION. (3 DAYS)

7. NOTIFY AND OBTAIN APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR UPON COMPLETION OF PERIMETER CONTROL INSTALLATION. (1 DAY)

8. BEGIN GRADING INSIDE THE EXISTING TRACK AND HAUL OFFSITE TO AN AREA WITH AN APPROVED SEDIMENT CONTROL PLAN. CONTRACTOR TO RETAIN REUSABLE TOPSOIL (AS NEEDED TO COMPLETE THE FINE GRADING AND STABILIZATION PORTIONS OF THE PROJECT OUTSIDE THE EXISTING TRACK ONLY) IN THE AREA DESIGNATED ON THE PLANS AND USE FOR FINE GRADING DEMOLITION OF EXISTING STRUCTURES, EXISTING HEADER CURB REMOVAL, AND SAW CUTTING OF TRACK AS REQUIRED FOR CONVERSION TO 400 METER TRACK MAY OCCUR AT THIS TIME AS WELL (15 DAYS).

9. IF ALTERNATE FENCE REPLACEMENT IS AUTHORIZED AND INCLUDED IN THE SCOPE OF WORK, REPLACMENT OF FENCING MAY OCCUR AT ANY TIME. (NOTE: FENCE REPLACEMENT SHALL BE CONDUCTED AS A CUT-AND-COVER INSTALLATION). COMPLETION OF FENCING AND GATE INSTALLATION NEAR THE FIELD ACCESS DRIVE CAN NOT BE COMPLETED UNTIL THE ACCESS DRIVE RECONSTRUCTION HAS BEEN COMPLETED. (10 DAYS)

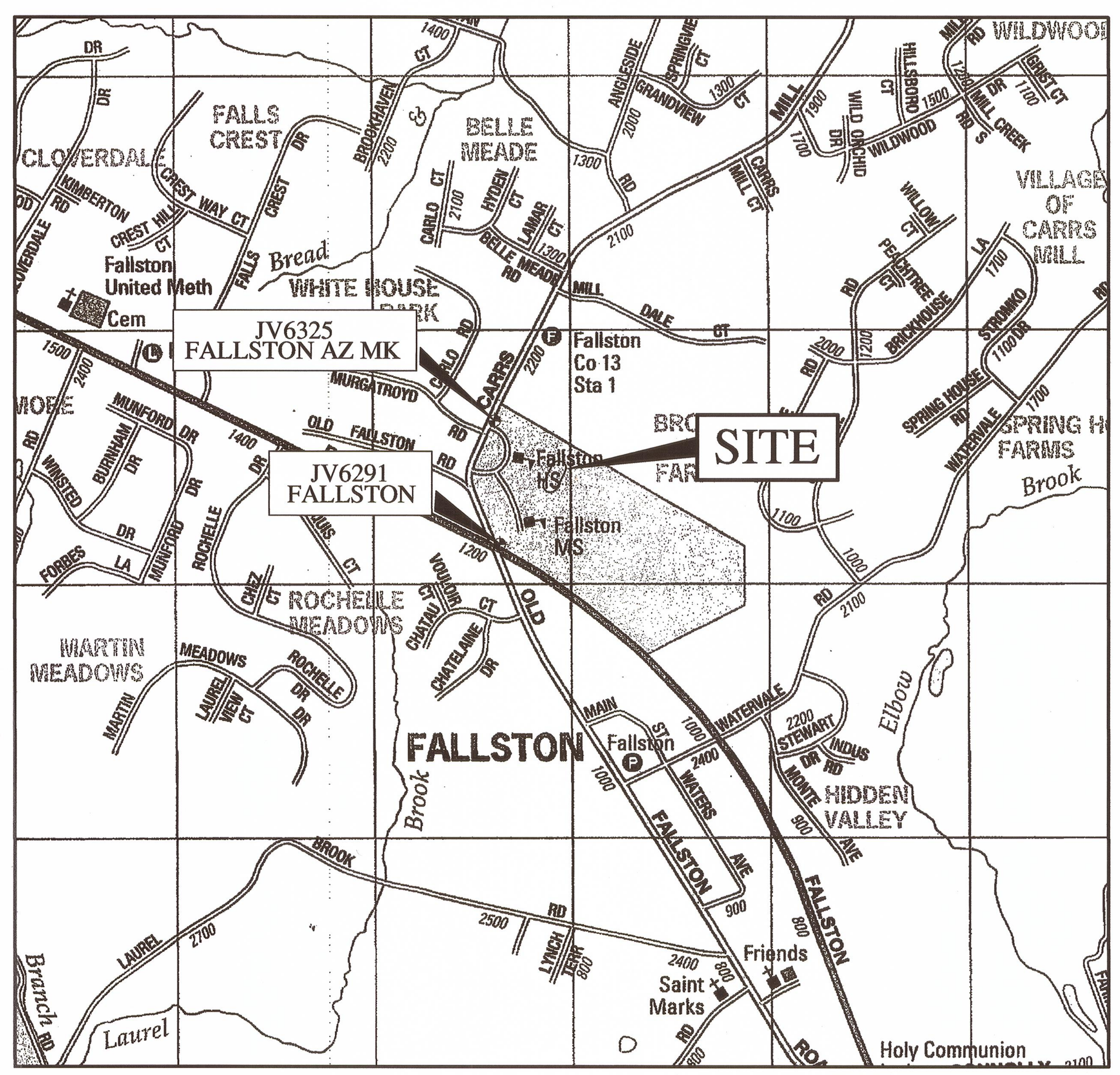
10. INSTALLATION OF PROPOSED MANHOLE, CORE DRILL EXISTING INLET, INSTALLATION OF PIPING OUTSIDE THE TRACK, PLACING OF GEOTEXTILE FABRIC AND PIPING INSIDE THE TRACK, INSTALLATION OF TRANSVERSE DRAINTILE, TRACK AND HEADER CURB RECONSTRUCTION AND REFURBISHMENTS, LONG JUMP AND POLE VAULT RESURFACING AND REFUBISHMENTS, INSTALL ATHLETIC EQUIPMENT (GOAL POSTS, SHOT PUT AND DISCUS PADS, BALL STOP FOUNDATIONS, ETC.), AND PLACEMENT OF STONE BASE MAY OCCUR AT THIS TIME AS THE GRADING OPERATION PROGRESSES (15 DAYS).

11. UPON INSTALLATION OF STONE BASE ACROSS THE ENTIRE SUBBASE OF THE DISTURBED AREA INSDIE THE TRACK, CONSTRUCT RECHARGE TRENCHES AND CONNECT TO EXISTING PERIMETER STORM DRAIN SYSTEM (2 DAYS)

12. FINE GRADE ATHLETIC FIELD AND INSTALL SYNTHETIC TURF FIELD (3 WEEKS)

13. UPON COMPLETION OF DELIVERIES AND INSTALLATION OF ALL SYNTHETIC TURF FIELD MATERIAL, REMOVE AND RECONSTRUCT THE FIELD ACCESS DRIVE, REMOVE AND STABILIZE THE CONTRACTOR STAGING AREA, FINE GRADE, AND PERMANANTLY STABILIZE ALL DISTURBED AREAS.

14. ONCE ENTIRE SITE HAS BEEN STABILIZED WITH GROUND COVER ON VEGETATED AREAS OR PAVING, REMOVE THE SEDIMENT CONTROLS WITH THE PERMISSION OF THE INSPECTOR. FGINE GRADE AND PERMANANTLY STABILIZE ALL AREAS DISTURBED BY THE REMOVAL OF THE SEDIMENT CONTROL DEVICES (2 DAYS)



GREATER BALTIMORE ADC MAP #4350

COPYRIGHT ADC THE MAP PEOPLE, USED WITH PERMISSION PERMITTED USE NUMBER 21001199

GRID : D-7

LOCATION MAP

SCALE : 1" = 1000'

THESE PLANS HAVE BEEN REVIEWED BY HARFORD COUNTY AND MEET THE TECHNICAL REQUIREMENTS FOR STORMWATER QUANTITY AND/OR QUALITY MANAGEMENT ONLY. # 99951

REVIEWED BY TECHNICAL SUFFICIENCY: Michael L. Bist 5/1/15
WATER RESOURCES ENGINEERING

REVIEW AND APPROVAL RECOMMENDED: Michael L. Bist 5/1/15
CHIEF ENGINEER - W.R.E.

APPROVAL RECOMMENDED: [signature] 5-4-15
for DEPUTY DIRECTOR OF PUBLIC WORKS

APPROVED: [signature] 5.4.15
DIRECTOR OF PUBLIC WORKS

SITE DATA

TOTAL SITE AREA: 98.880 AC.±
DISTURBED AREA: 2.365 AC.±
EXISTING IMPERVIOUS AREA: 15.678 AC.
PROPOSED IMPERVIOUS AREA: 18.064

SUB-BASIN: 02-13-07-03
WATERSHED: ATKISSON RESERVOIR

NPDES STUDY POINT: N 676,093.27, E 1,478,380.82

CONTRACTOR TO CONTACT
"MISS UTILITY"
AT
1-800-257-7777
AT LEAST 48 HOURS PRIOR TO EXCAVATION

NOTE : Existing utilities shown hereon are for informational purposes only, based on field located data and supplemented with available approved construction drawings. The contractor shall contact "Miss Utility" and/ or private utility entities, at least 48 hours prior to excavation, to have utilities marked and test pit, as necessary, to verify the locations and elevations of all existing utilities within work areas prior to construction.

NOTE : The purpose of these construction drawings, are to address stormwater management only. The developer/contractor shall refer to the approved water/sewer, roads/drains and sediment & erosion control plans for all other work to be performed as part of this project.

STORMWATER MANAGEMENT NOTES

1. ALL STORMWATER MANAGEMENT PRACTICES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLAN. ANY SUBSEQUENT ALTERATION OR MODIFICATION OF THESE PRACTICES REQUIRES APPROVAL FROM HARFORD COUNTY DEPARTMENT OF PUBLIC WORKS. APPROVED PLANS ARE AVAILABLE UPON REQUEST FROM HARFORD COUNTY DEPARTMENT OF OF PUBLIC WORKS.

2. ACCESS TO ALL STORMWATER MANAGEMENT PRACTICES SHALL BE MADE AVAILABLE TO HARFORD COUNTY D.P.W. AT ALL TIMES DURING CONSTRUCTION AND FOR INSPECTIONS AFTER CONSTRUCTION.

3. THE OWNERS AND SUBSEQUENT OWNERS SHALL MAINTAIN IN GOOD CONDITION AND PROMPTLY REPAIR AND/OR RESTORE ALL STORMWATER PRACTICES IN ACCORDANCE WITH THE APPROVED STORMWATER MANAGEMENT PLANS.

4. IN THE EVENT THE OWNER OR ANY SUBSEQUENT OWNERS FAIL TO ADEQUATELY MAINTAIN THE STORMWATER MANAGEMENT PRACTICE ACCORDING TO THE PROVISIONS OF THE APPROVED PLANS, HARFORD COUNTY DEPARTMENT OF PUBLIC WORKS SHALL REQUIRE CORRECTIVE ACTION AT THE OWNER'S EXPENSE. THE COUNTY HAS THE AUTHORITY TO PLACE THIS EXPENSE AS A LIEN ON THE PROPERTY OR PLACED ON THE TAX BILL AND COLLECTED AS ORDINARY TAXES.

FIELD VERIFICATION STATEMENT

"I hereby certify that I completed a field verification to the information shown on the plans on 11/20/14 and that the information shown on the plans is in agreement with the actual field conditions.

[signature] Signed — 4-10-2015 Date

Mitch Ensor
Name (Printed)

ENGINEERS CERTIFICATION

"I hereby certify that this plan has been prepared by me or under my supervision and meets the minimum standards of the Harford County Department of Public Works and/or the United States Department of Agriculture - Soil Conservation Service and/or the Department of Natural Resources, Water Resources Administration."

10773 [signature] 04/06/2015
Reg. P.E. No. — LEONARD A. PARRISH, P.E. — Date

AS-BUILT CERTIFICATION

I hereby certify that the facility shown on this plan was constructed as shown on the "as-built" plans and meets the approved plans and specifications.

______________ P.E. No.______________

Date ______________

Certify means to state or declare a professional opinion based upon onsite inspections and material tests which are conducted during construction. The onsite inspections and material tests are those inspections and tests deemed sufficient and appropriate by commonly accepted engineering standards. Certify does not mean or imply a guarantee by the engineer nor does an engineer's certification relieve any other party from meeting requirements imposed by contract, employment, or other means, including meeting commonly accepted industry practices. As-built certification must be submitted and approved for all onsite stormwater management features prior to the issuance of use and occupancy permits.

OWNER'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 pursuant to 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 within 30 days of completion, by a Registered Professional Engineer."

[signature] Signed — 4/10/15 Date

David Goodwin
Name (Printed)

HCG BILLING ID NO. : 99951

150389

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. 10773 — EXPIRATION DATE: 01-22-2016

[signature] 04/06/2015
LEONARD A. PARRISH, P.E. — DATE

ENGINEER'S SEAL: STATE OF MARYLAND — LEONARD AUBREY PARRISH — NO. 10773 — REGISTERED PROFESSIONAL ENGINEER

BAY STATE LAND SERVICES
Engineers * Surveyors * Planners * Architects * Geotechnical Testing
P.O. Box 853, Bel Air, Maryland 21014
2012 Rock Spring Road, Forest Hill, Maryland 21050
Phone: (410) 879-4747 Fax: (410) 420-3949
www.baystatelandservices.com

OWNER/DEVELOPER
HARFORD COUNTY
DEPT. OF PARKS AND RECREATION
702 NORTH TOLLGATE ROAD
BEL AIR, MARYLAND 21014-3865
PHONE : (410) 638-4753
ATTN: DAVE GOODWIN

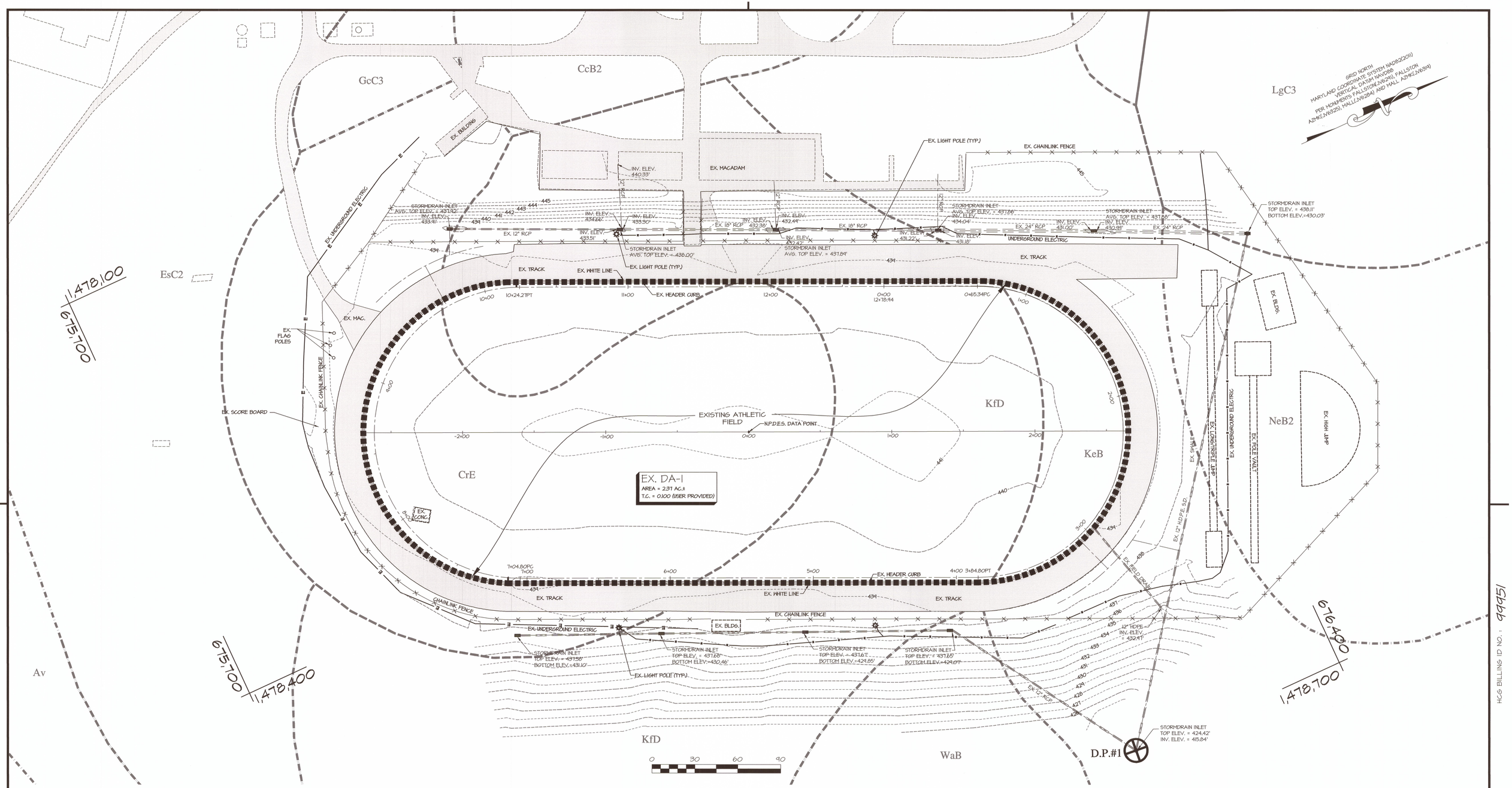
REVISIONS

NO.	DATE	DESCRIPTION

STORMWATER MANAGEMENT FINAL DESIGN
TITLE SHEET
FALLSTON HIGH SCHOOL SYNTHETIC TURF FIELD

THIRD ELECTION DISTRICT — HARFORD COUNTY, MARYLAND

DATE:	04-06-15
SCALE:	AS SHOWN
DESIGNED BY:	RLS
DRAWN BY:	RLS
DRAWING NO.	SWM01
SHEET	1 OF 9
BSLS JOB NO.:	14120



EXISTING DRAINAGE AREA SUMMARY
FALLSTON HIGH SCHOOL TURF FIELDS

DESCRIPTION	AREA (AC.)	AREA (SQ. MI.)	CN	TC	Q10	Q100
ATHLETIC FIELD	2.37 AC.	0.00370 SQ. MI.	80	0.10 HR.	10.85 CFS	17.55 CFS
DESIGN POINT #1	2.37 AC.	0.00370 SQ. MI.			10.85 CFS	17.55 CFS

SOILS INDEX			
SYMBOL	NAME	GENERAL DESCRIPTION	MARYLAND HYDROLOGIC GROUP RATING
CrE	Chrome	Silty Clay Loam	"D"
KfD	Kelly	Stony Silt Loam	"D"
KeB	Kelly	Silt Loam	"D"

STORMWATER MANAGEMENT CONCEPT:
EXISTING CONDITONS
SCALE: 1"=30'

LEGEND
- DRAINAGE AREA BOUNDARY
- SOILS BOUNDARY
- 240 EXISTING CONTOURS
- EXISTING TREELINE

PROFESSIONAL CERTIFICATION:
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LICENSE NO. 10773 EXPIRATION DATE: 01-22-2016
04/06/2015
LEONARD A. PARRISH, P.E. DATE

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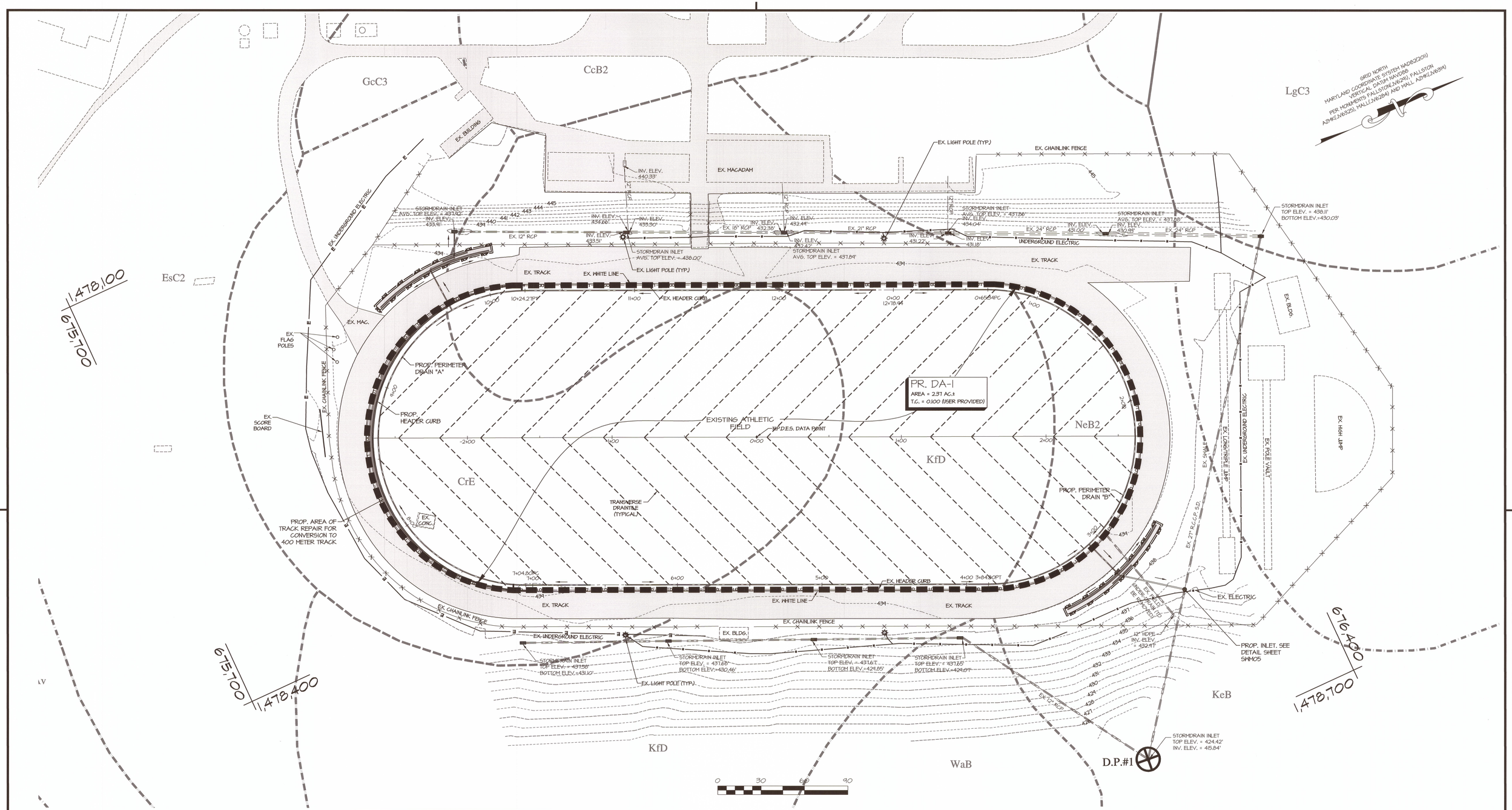
702 NORTH TOLLGATE ROAD
BEL AIR, MARYLAND 21014-3865
ATTN: DAVID GOODWIN
PHONE : (410) 638-3165

REVISIONS		
NO.	DATE	DESCRIPTION

STORMWATER MANAGEMENT FINAL DESIGN
EXISTING CONDITIONS DRAINAGE AREA MAP
FALLSTON HIGH SCHOOL SYNTHETIC TURF FIELD
THIRD ELECTION DISTRICT — HARFORD COUNTY, MARYLAND

DATE: 04-06-15	DRAWING NO. SWM02
SCALE: 1" = 30'	SHEET 2 OF 9
DESIGNED BY: RLS	
DRAWN BY: RLS	BSLS JOB NO.: 14120

H&G BILLING ID NO.: 999951
160390



PROPOSED DRAINAGE AREA SUMMARY
FALLSTON HIGH SCHOOL TURF FIELDS

DESCRIPTION	AREA (AC.)	AREA (SQ. MI.)	CN	TC	Q10	Q100
ATHLETIC FIELD	2.37 AC.	0.00370 SQ. MI.	80*	0.10 HR	10.84 CFS	17.52 CFS
DESIGN POINT #1	2.37 AC.	0.00370 SQ. MI.			10.84 CFS	17.52 CFS

* RCN REDUCTION METHOD UTILIZED 98 TO 80

SOILS INDEX			
SYMBOL	NAME	GENERAL DESCRIPTION	MARYLAND HYDROLOGIC GROUP RATING
CrE	Chrome	Silty Clay Loam	"D"
KfD	Kelly	Stony Silt Loam	"D"
KeB	Kelly	Silt Loam	"D"

PLAN SCALE
1" = 30'

LEGEND

- DRAINAGE AREA BOUNDARY
- SOILS BOUNDARY
- 240 EXISTING CONTOURS
- EXISTING TREELINE

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LICENSE NO. 10773 EXPIRATION DATE: 01-22-2016

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PHONE : (410) 638-3165

REVISIONS

NO.	DATE	DESCRIPTION

STORMWATER MANAGEMENT FINAL DESIGN
PROPOSED CONDITIONS DRAINAGE AREA MAP
FALLSTON HIGH SCHOOL SYNTHETIC TURF FIELD
THIRD ELECTION DISTRICT HARFORD COUNTY, MARYLAND

DATE: 04-06-15	DRAWING NO. SWM03
SCALE: 1" = 30'	SHEET 3 OF 9
DESIGNED BY: RLS	
DRAWN BY: RLS	BSLS JOB NO.: 14120

HCG BILLING ID NO.: 999951
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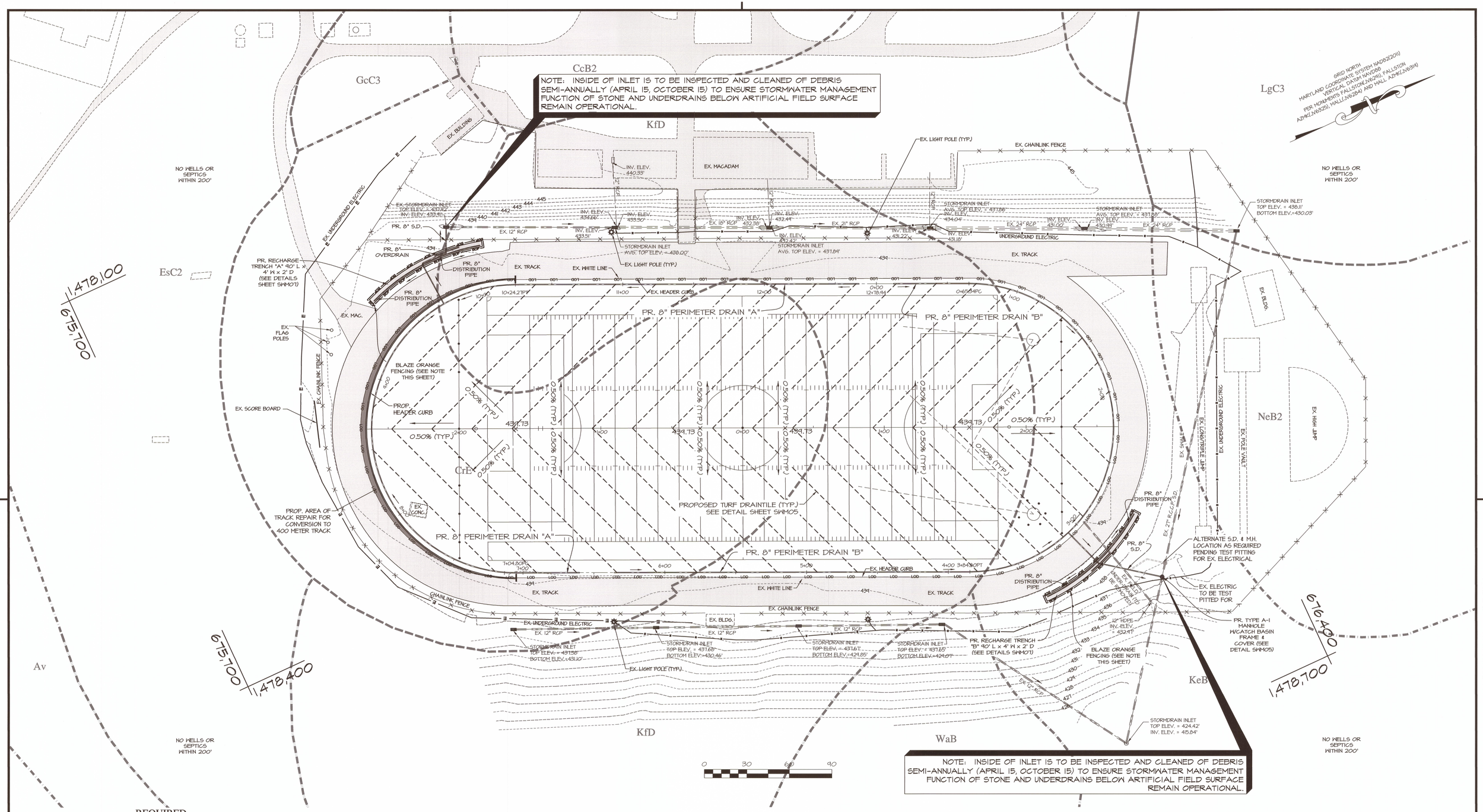

REQUIRED

DRAINAGE AREA	AREA (Acres)	Aimp (ACRES)	REv (Cu. Ft.)
"FIELD"	2.37	2.37	566

PROVIDED

DRAINAGE AREA	AREA (Acres)	Aimp (ACRES)	REv (Cu. Ft.)
"FIELD"	2.37	2.37	576

LEGEND

- PROP. PERIMETER DRAIN
- PROP. STONE TRENCH
- EXISTING CONTOURS
- PROPOSED CONTOURS

BLAZE ORANGE FENCING TO BE PLACED AROUND ENVIRONMENTAL SITE DESIGN (ESD) PRACTICE LOCATIONS DURING CONSTRUCTION, EVERY ATTEMPT TO AVOID/PROTECT THESE AREAS SHALL BE MADE. WHERE NOT POSSIBLE, SOIL AMENDMENTS AND/OR RESTORATION SHALL BE REQUIRED.

PLAN SCALE

1" = 30'

PROFESSIONAL CERTIFICATION:

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LICENSE NO. 10773 EXPIRATION DATE: 01-22-2016

04/06/2015
LEONARD A. PARRISH, P.E. DATE

ENGINEER'S SEAL

STATE OF MARYLAND · LEONARD AUBREY PARRISH · 10773 · REGISTERED PROFESSIONAL ENGINEER

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ATTN: DAVID GOODWIN
PHONE : (410) 638-3165

REVISIONS

NO.	DATE	DESCRIPTION

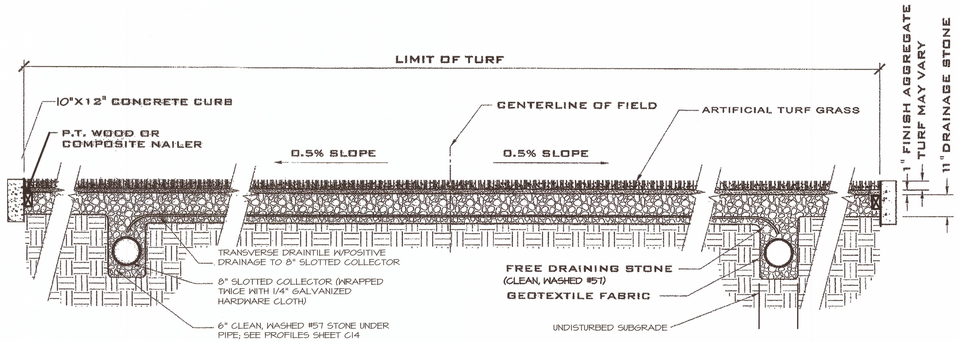
STORMWATER MANAGEMENT FINAL DESIGN
TURF INSTALLATION AND GRADING PLAN
FALLSTON HIGH SCHOOL SYNTHETIC TURF FIELD
THIRD ELECTION DISTRICT HARFORD COUNTY, MARYLAND

DATE: 04-06-15	DRAWING NO. SWM04
SCALE: 1" = 30'	SHEET 4 OF 9
DESIGNED BY: RLS	
DRAWN BY: RLS	BSLS JOB NO.: 14120

HCG BILLING ID NO.: 999951

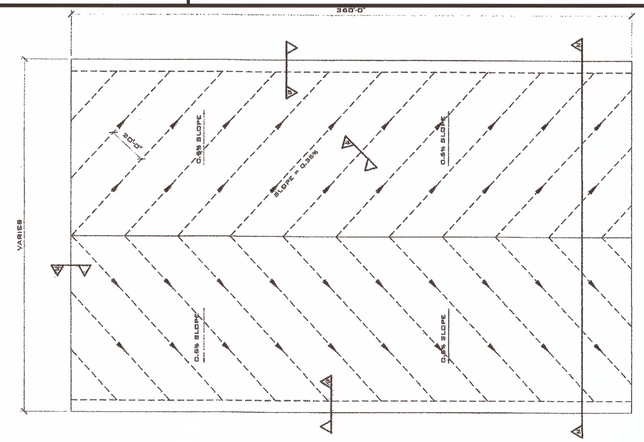
150392

SCALE: 1 INCH



2 TRANSVERSE SECTION THROUGH FIELD

N.T.S.



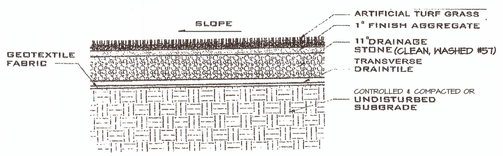
FIELD DRAINAGE PLAN

1" = 30'-0"

NOTE: FLAT DRAINS TO BE PITCHED AT 0.35%
REFER TO GRADING PLAN FOR LAYOUT AND LOCATION OF TRANSVERSE DRAINS
(COLLECTOR DRAIN MAY BE SLOTTED)

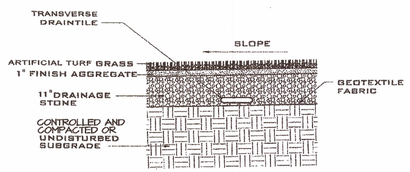
FIELD DRAINAGE NOTES

1. AFTER EXCAVATION OF EXISTING SOIL TO THE PROPER ELEVATIONS REQUIRED THE NEW SUBGRADE WILL BE SHAPED AND COMPACTED TO 95% DENSITY* WITH A 0.5% SLOPE TO ALLOW FOR DRAINAGE.
2. A NEW CONCRETE CURB WILL BE INSTALLED AT THE SOUTHERN END OF THE FIELD TO FACILITATE CONVERSION TO A 400 METER TRACK. A NAILER WILL BE INSTALLED AROUND THE ENTIRE PERIMETER TO PROVIDE A SECURE EDGE FOR FASTENING THE SYNTHETIC TURF. IN ALL CASES THE NAILER AND THE STONE ARE AT THE SAME ELEVATION.
3. GEOTEXTILE FABRIC SHALL BE PLACED OVER THE SUBGRADE, AND TRANSVERSE DRAINS WILL BE INSTALLED AT 20 FEET ON CENTER AT A 45 DEGREE ANGLE TO THE FIELD. REFER TO THE GRADING PLAN FOR PLACEMENT.
4. THE TRANSVERSE DRAINS WILL DRAIN TO AN 8 INCH PERIMETER COLLECTOR WHICH WILL BE CONNECTED TO THE EXISTING DRAINAGE SYSTEM. REFER TO THE FIELD DRAINAGE PLAN AND THE COMPOSITE DRAIN.
5. CLEAN WASHED #57 STONE WILL BE PLACED OVER THE TRANSVERSE DRAINS AND THE PERIMETER COLLECTORS AND FINE GRADED FOR A FIELD WITH A 0.5% SLOPE.
6. SYNTHETIC TURF WILL BE INSTALLED OVER THE FINISHED STONE BASE AND THE RUBBER INFILL WILL BE FLUSH WITH THE TOP OF THE CONCRETE CURB



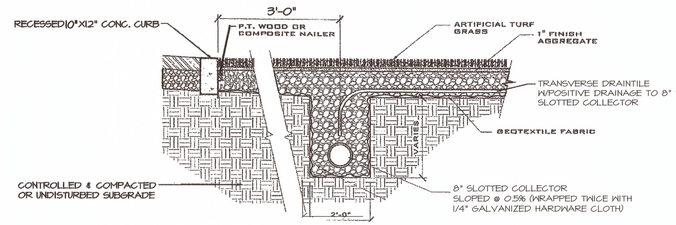
3 SUB DRAINAGE SYSTEM

N.T.S.



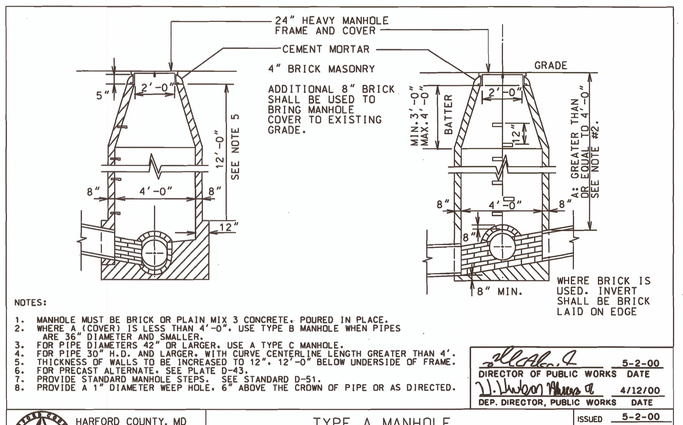
4 SUB DRAINAGE SYSTEM

N.T.S.



5 EDGE DETAIL - TYP.

N.T.S.



NOTES:

1. MANHOLE MUST BE BRICK OR PLAIN MIX 3 CONCRETE, POURED IN PLACE.
2. WHERE A (COVER) IS LESS THAN 4'-0", USE TYPE B MANHOLE WHEN PIPES ARE 36" DIAMETER AND SMALLER.
3. FOR PIPE DIAMETERS 42" OR LARGER, USE A TYPE C MANHOLE.
4. FOR PIPE 30" H.D. AND LARGER, WITH CURVE CENTERLINE LENGTH GREATER THAN 4'.
5. THICKNESS OF WALLS TO BE INCREASED TO 12", 12'-0" BELOW UNDERSIDE OF FRAME.
6. FOR PRECAST ALTERNATE, SEE PLATE D-43.
7. PROVIDE STANDARD MANHOLE STEPS. SEE STANDARD D-51.
8. PROVIDE A 1" DIAMETER WEEP HOLE, 6" ABOVE THE CROWN OF PIPE OR AS DIRECTED.

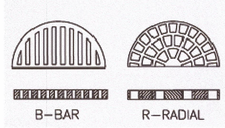
DIRECTOR OF PUBLIC WORKS	DATE	5-2-00
DEP. DIRECTOR, PUBLIC WORKS	DATE	4/12/00

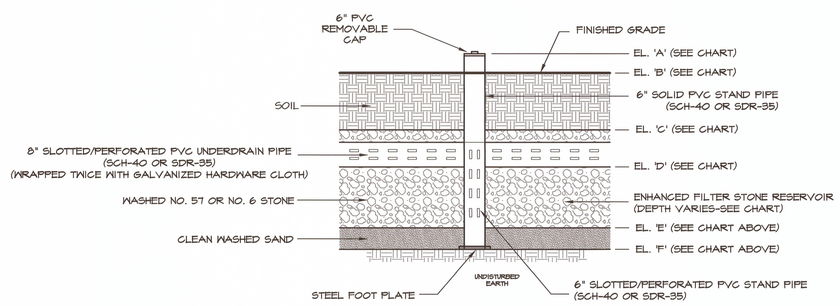
HARFORD COUNTY, MD
DEPARTMENT OF PUBLIC WORKS

TYPE A MANHOLE
(FOR COVER 4' OR MORE)
(FOR PIPE 15" TO 36" HORIZONTAL DIA.)

ISSUED 5-2-00
REVISED
REVISED
PLATE D-42

Standard Grate Types





OBSERVATION WELL DETAIL

NOT TO SCALE

Observation Well #	Elev. "A"	Elev. "B"	Elev. "C"	Elev. "D"	Elev. "E"	Elev. "F"	Northing	Easting
RECHARGE TRENCH "A"								
"1"	439.00	438.50	435.62	434.62	432.62	431.62	675,930.85	1,478,180.05
RECHARGE TRENCH "B"								
"2"	439.00	438.50	435.62	434.62	432.62	431.62	676,270.28	1,478,576.88

* SEE SHEET SWM07 FOR LOCATIONS

PROFESSIONAL CERTIFICATION:

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LICENSE NO. 10773 EXPIRATION DATE: 01-22-2016

04/06/2015
LEONARD A. PARRISH, P.E. DATE

ENGINEER'S SEAL

STATE OF MARYLAND — LEONARD AUBREY PARRISH — NO. 10773 — REGISTERED PROFESSIONAL ENGINEER

BAY STATE LAND SERVICES
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OWNER/DEVELOPER
HARFORD COUNTY
DEPT. OF PARKS AND RECREATION
702 NORTH TOLLGATE ROAD
BEL AIR, MARYLAND 21014-3865
ATTN: DAVID GOODWIN
PHONE : (410) 638-3165

REVISIONS

NO.	DATE	DESCRIPTION

STORMWATER MANAGEMENT FINAL DESIGN
CONSTRUCTION DETAILS
FALLSTON HIGH SCHOOL SYNTHETIC TURF FIELD

THIRD ELECTION DISTRICT — HARFORD COUNTY, MARYLAND

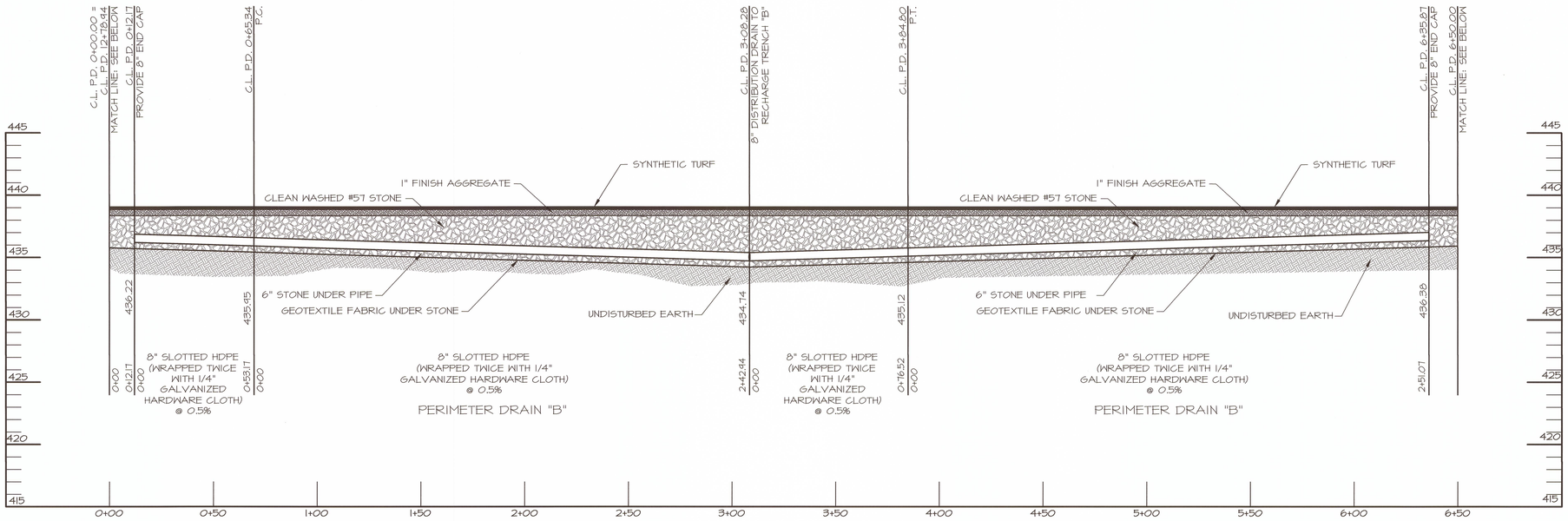
DATE: 04-06-15	DRAWING NO. SWM05
SCALE: AS SHOWN	SHEET 5 OF 9
DESIGNED BY: RLS	
DRAWN BY: RLS	BSLS JOB NO.: 14120

HCG BILLING ID NO.: 999951

150393

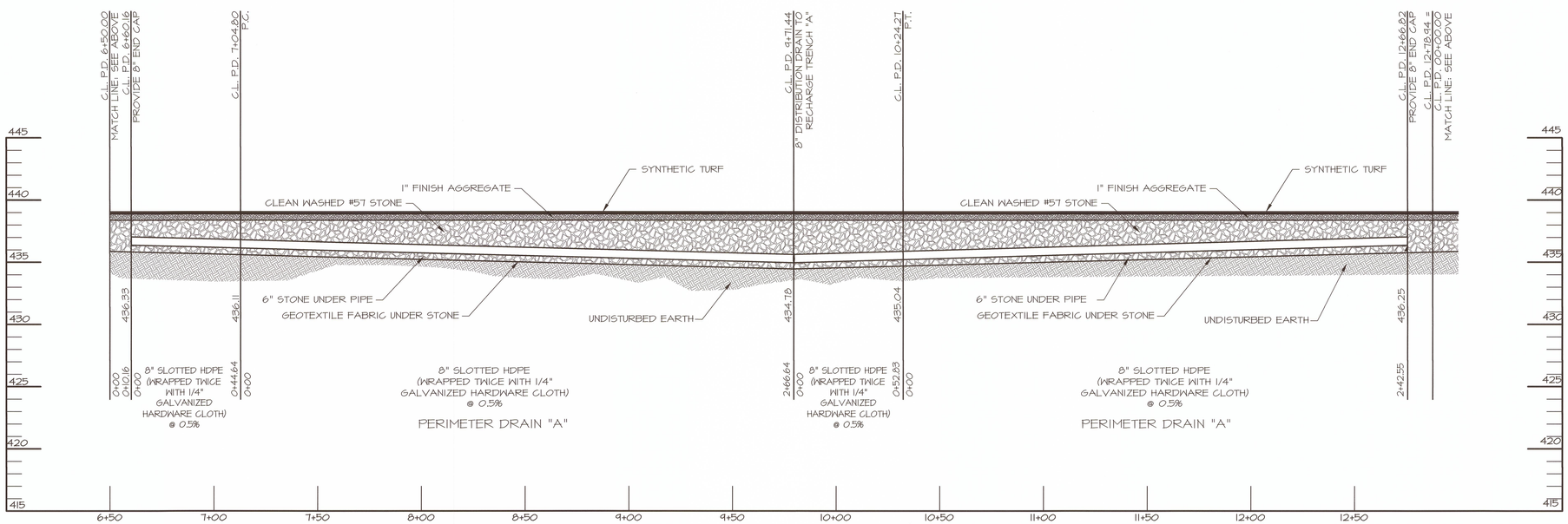
SCALE: 1"=24"

Z:\Projects\14120-FALLSTON HS T-BIRD\FINAL DESIGN\CONSTRUCTION DRAWINGS\14120-SWM05-SWM-FD-CONSTRUCTION DETAILS.dwg 4/9/2015 9:57:31 AM



PERIMETER DRAIN "B" PROFILE

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



PERIMETER DRAIN "A" PROFILE

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

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BEL AIR, MARYLAND 21014-3865
ATTN: DAVID GOODWIN
PHONE : (410) 638-3165

REVISIONS

NO.	DATE	DESCRIPTION

STORMWATER MANAGEMENT FINAL DESIGN PLAN
PERIMETER DRAIN PROFILES
FALLSTON HIGH SCHOOL SYNTHETIC TURF FIELD

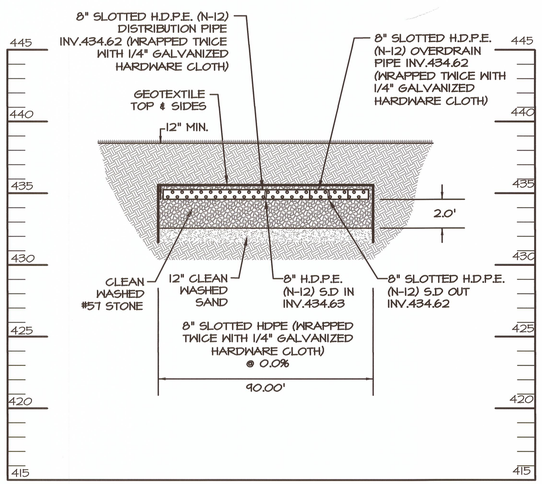
THIRD ELECTION DISTRICT HARFORD COUNTY, MARYLAND

DATE: 04-06-15	DRAWING NO. SWM06
SCALE: AS SHOWN	SHEET 6 OF 9
DESIGNED BY: RLS	
DRAWN BY: RLS	BSLS JOB NO.: 14120

HCG BILLING ID NO.: 99951

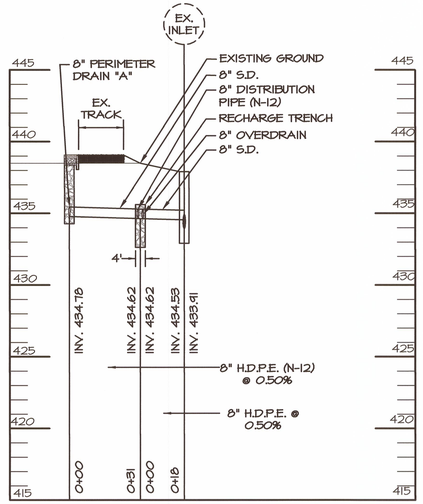
150394

SCALE: 1 INCH



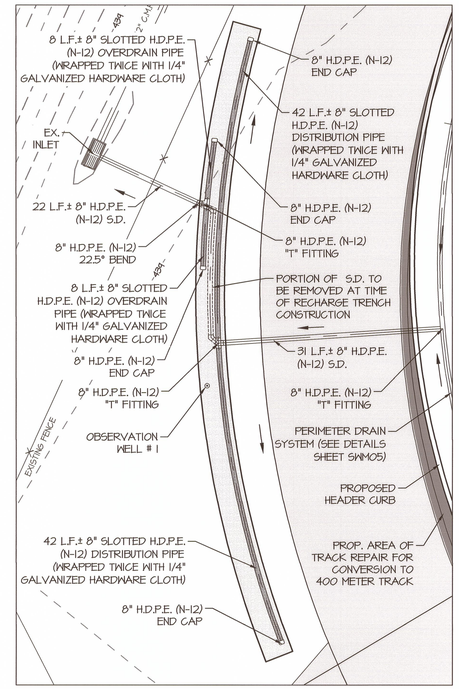
RECHARGE TRENCH "A" SECTION

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



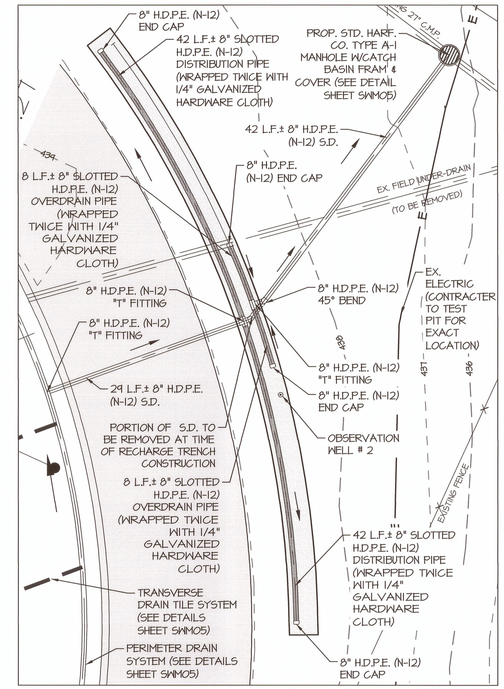
RECHARGE TRENCH "A" PROFILE

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



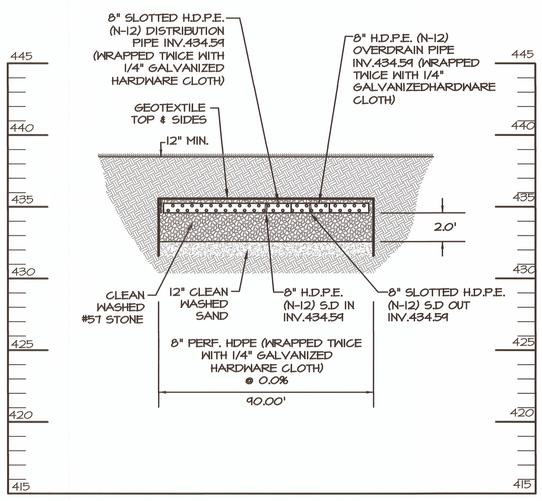
RECHARGE TRENCH "A" PLAN

1"=10'



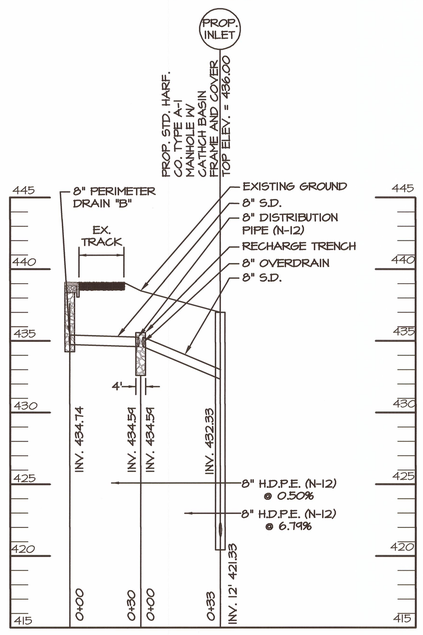
RECHARGE TRENCH "B" PLAN

1"=10'



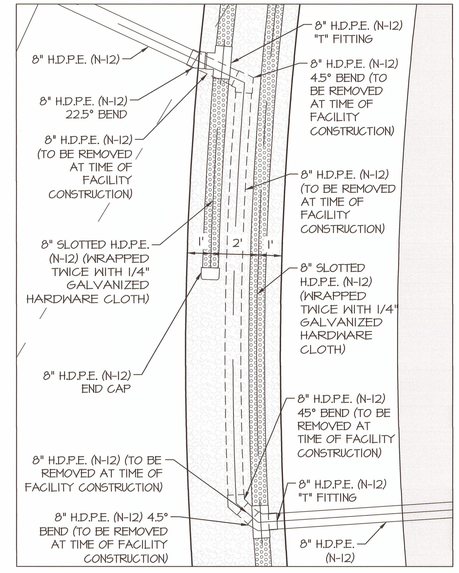
RECHARGE TRENCH "B" SECTION

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



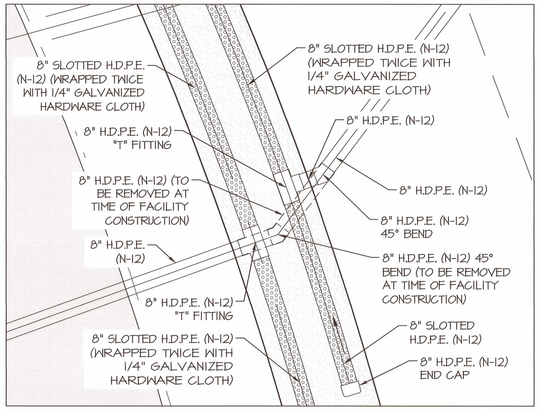
RECHARGE TRENCH "B" PROFILE

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



RECHARGE TRENCH "A" DETAIL

1"=3'



RECHARGE TRENCH "B" DETAIL

1"=3'

INSTALLATION SEQUENCE NOTES:

INSTALL MANHOLE AT 27" R.C.C.P. AT RECHARGE TRENCH "B" OUTFALL AND CORE EXISTING INLET AT RECHARGE TRENCH "A" OUTFALL.

INSTALL 8" H.D.P.E. STORM DRAIN FROM PROPOSED MANHOLE AND EXISTING INLET TO INCLUDE TEMPORARY SECTIONS IN AREA OF RECHARGE TRENCHES.

SAW-CUT TRACK AND FOR 8" STORM DRAIN SYSTEM FROM FUTURE RECHARGE TRENCH TO PERIMETER DRAIN SYSTEM.

INSTALL PERIMETER DRAIN SYSTEM AND CONNECT TO 8" STORM DRAINS.

COMPLETE CONSTRUCTION OF SYNTHETIC TURF FIELD.

ONCE THE AREA IS COMPLETELY STABILIZED, AND WITH THE PERMISSION OF THE HARFORD COUNTY SEDIMENT AND EROSION CONTROL INSPECTOR, REMOVE THE TEMPORARY SECTIONS OF STORM DRAIN AND CONSTRUCT THE RECHARGE TRENCHES AS SHOWN.

PROFESSIONAL CERTIFICATION:

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LICENSE NO. 10773 EXPIRATION DATE: 01-22-2016

04/06/2015
LEONARD A. PARRISH, P.E. DATE

ENGINEER'S SEAL

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DEPT. OF PARKS AND RECREATION
702 NORTH TOLLGATE ROAD
BEL AIR, MARYLAND 21014-3865
ATTN: DAVID GOODWIN
PHONE : (410) 638-3165

REVISIONS

NO.	DATE	DESCRIPTION

STORMWATER MANAGEMENT FINAL DESIGN
RECHARGE TRENCH PROFILES
FALLSTON HIGH SCHOOL SYNTHETIC TURF FIELD

THIRD ELECTION DISTRICT HARFORD COUNTY, MARYLAND

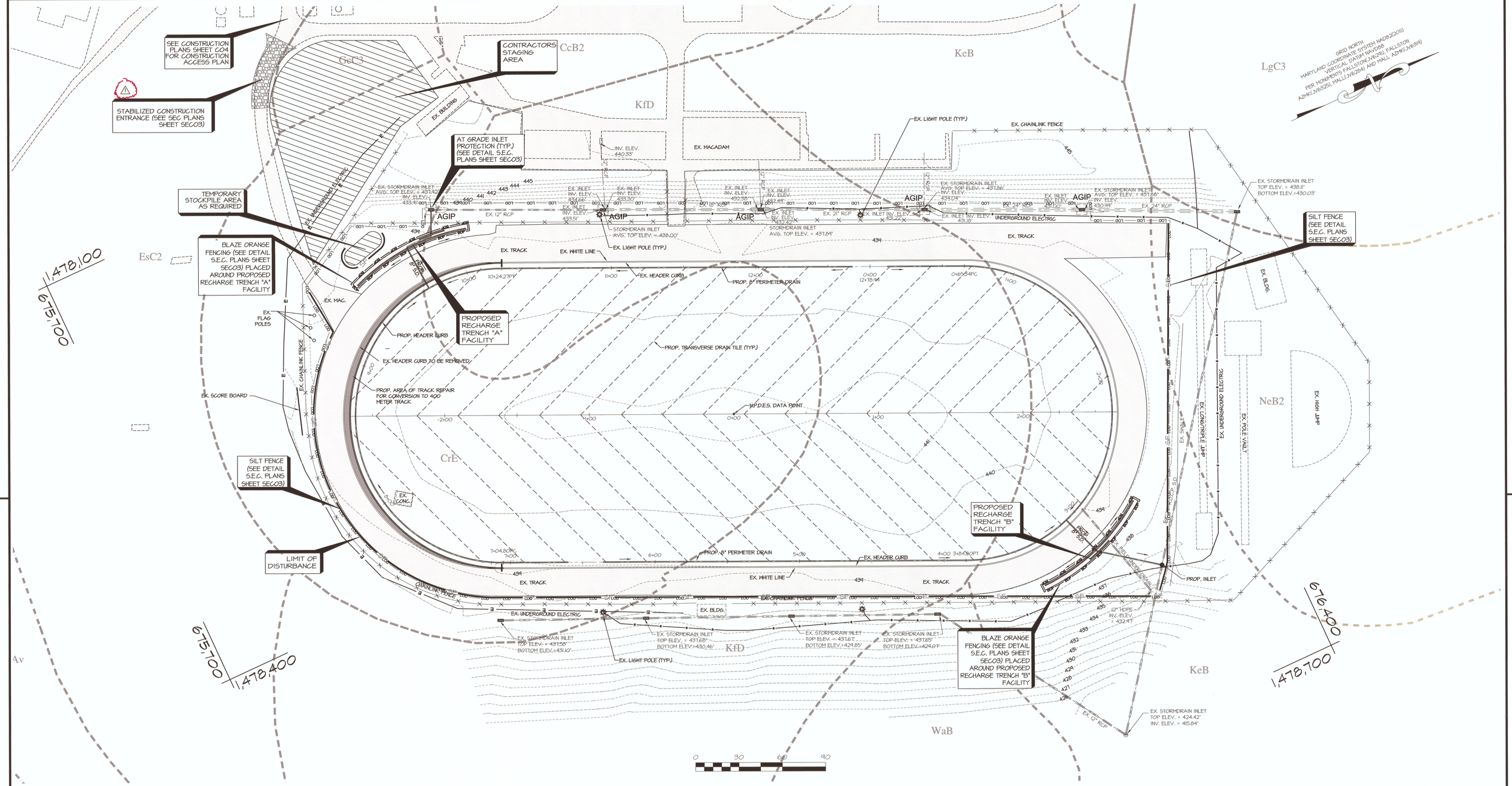
DATE: 04-06-15	DRAWING NO. SWM07
SCALE: AS SHOWN	
DESIGNED BY: RLS	SHEET 7 OF 9
DRAWN BY: RLS	BSLS JOB NO.: 14120

HCG BILLING ID NO.: 999951

150395

SCALE: 1 INCH

Z:\Projects\14120-FALLSTON HS TURF\SWM\FINAL DESIGN\CONSTRUCTION\DRAWINGS\14120-SWM05-RECHARGE TRENCH PROFILES.dwg 4/6/2015 9:27:21 AM



LEGEND

EXISTING CONTOUR	380	PROPOSED CONTOUR	425
EXISTING ROAD		LIMIT OF DISTURBANCE	LOD
EXISTING WOODS		STABILIZED CONSTRUCTION ENTRANCE	S.C.E.
SOILS LINE	EsA	SILT FENCE	SF
BLAZE ORANGE FENCING		AT GRADE INLET PROTECTION	AGIP
DRAINAGE AREA			

PLAN SCALE

1" = 30'

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. 10713 EXPIRATION DATE: 01-22-2018

5-17-16

LEONARD A. PARRISH, P.E. DATE

ENGINEER'S SEAL

STATE OF MARYLAND — LEONARD AUBREY PARRISH — NO. 10713 — REGISTERED PROFESSIONAL ENGINEER

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BEL AIR, MARYLAND 21014-3865
ATTN: DAVID GOODWIN
PHONE : (410) 638-3165

REVISIONS

NO.	DATE	DESCRIPTION
1	5/18/16	REVISE CONSTRUCTION ENTRANCE & ACCESS. REA 5/31/16

STORMWATER MANAGEMENT FINAL DESIGN
SEDIMENT AND EROSION CONTROL OVERLAY

FALLSTON HIGH SCHOOL SYNTHETIC TURF FIELD

THIRD ELECTION DISTRICT — HARFORD COUNTY, MARYLAND

DATE: 04-06-15	DRAWING NO. SWM08
SCALE: 1" = 30'	SHEET 8 OF 9
DESIGNED BY: RLS	
DRAWN BY: RLS	BSLS JOB NO.: 14120

HCG BILLING ID NO.: 999951

150396

BAY STATE GEO-STRUCTURAL

Geotechnical - Materials Testing - Structural Engineering
P.O. Box 853 - Bel Air - Maryland - 21014 - P 410-879-4747 - F 410-420-3949

Record of Test Pit Observation

Client	Dixie Construction	**Project**	Fallston Turf Field
Date	12/16/14	**Project Number**	1412002
Weather	36 °F ± Cloudy	**Field Rep**	Dani Deegan
Test Pit No.	1	**Location**	SWM area- NE end of field

Visual Soils Description (USCS Full Description)	Depth	Sample #	USCS	NM	Remarks
Top Soil w/ Root	0"-2"				
grey/tan silt	1'				
	16"				easy dig
red/brown clayey silt w/ trace FS, cobbles	2'				
	3'				
dark tan clayey silt BOH	4'				
	5'				
	6'				
	7'				
	8'				
	9'				
	10'				
	11'				
	12'				

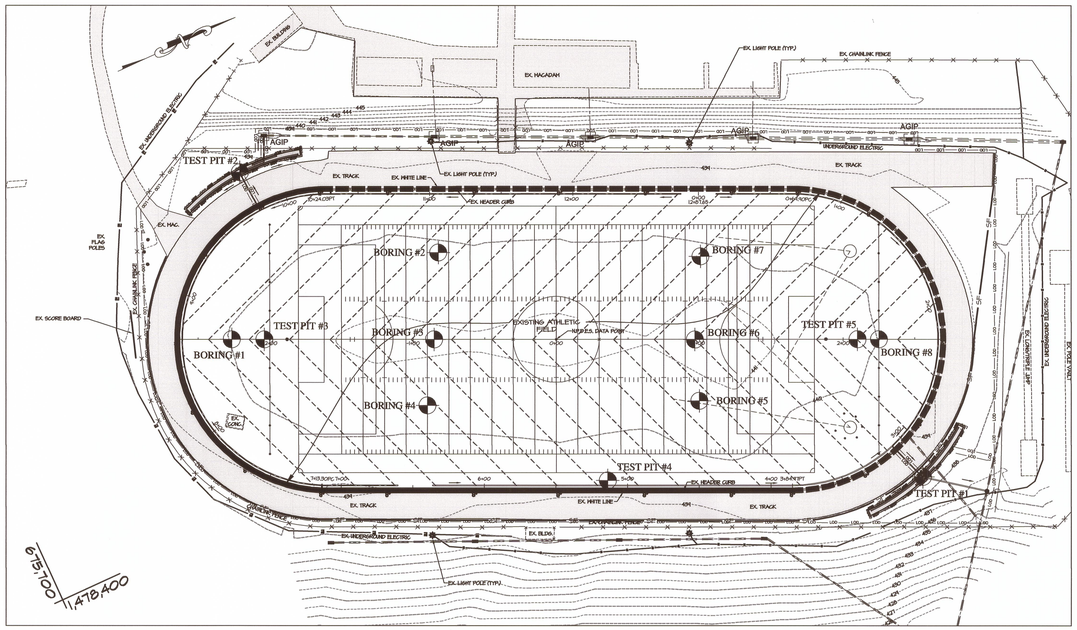
BAY STATE GEO-STRUCTURAL

Geotechnical - Materials Testing - Structural Engineering
P.O. Box 853 - Bel Air - Maryland - 21014 - P 410-879-4747 - F 410-420-3949

Record of Test Pit Observation

Client	Dixie Construction	**Project**	Fallston Turf Field
Date	12/16/14	**Project Number**	1412002
Weather	36 °F ± Cloudy	**Field Rep**	Dani Deegan
Test Pit No.	2	**Location**	SWM area- South end of field

Visual Soils Description (USCS Full Description)	Depth	Sample #	USCS	NM	Remarks
Top Soil w/ Root	0"				
	6"				
reddish/yellow silty clay w/ cobbles	1'				
	2'				easy dig
reddish/yellow grey mottled silt w/cobbles	3'				
	4'				
	5'				
reddish/yellow tan silty FS BOH	6'				
	7'				
	8'				
	9'				
	10'				
	11'				
	12'				



TEST PIT PLAN
1" = 50'

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04-06-2015
LEONARD A. PARRISH, P.E. DATE

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REVISIONS

NO.	DATE	DESCRIPTION

STORMWATER MANAGEMENT FINAL DESIGN
TEST PIT REPORTS & PLAN
FALLSTON HIGH SCHOOL SYNTHETIC TURF FIELD
THIRD ELECTION DISTRICT HARFORD COUNTY, MARYLAND

DATE: 04-06-15
SCALE: 1"=50'
DESIGNED BY: RLS
DRAWN BY: RLS
DRAWING NO. SWM09
SHEET 9 OF 9
BSLS JOB NO.: 14120

HCG BILLING ID NO.: 999951
150397
SCALE: 1 INCH