

Prepared for: VILLAGE OF HOMER GLEN
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BLACKROCK ESTATES
SUBDIVISION OBSERVATION REPORT

July 25, 2012

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Reviewed by:
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Project Manager

HR GREEN JOB NO. 86120056

Blackrock Estates Subdivision Observation Report

HR Green has performed a review of the available documents for the subdivision improvements located in the Blackrock Estates subdivision and field observation of the work completed by the developer. Subsequently, HR Green has compiled a punchlist of unfinished items that were part of the proposed improvements per the available subdivision documents.

The Blackrock Estates Subdivision Observation Report includes the following items:

- Punchlist identifying the outstanding and deficient subdivision improvement items
- Detention Basin Verification and Exhibit A
- Parcel Identification (Exhibit B)
- Engineer's Opinion of Probable Cost (E.O.P.C.) (Exhibit C)
- Location Map (Exhibit D)

The following documents were used in preparing the punchlist scope of work:

- Plat of Subdivision
- Improvement Plans for Blackrock Estates, dated July 14, 2005, prepared by Tech 3 Consulting Group, Inc.
- Sewer and Water As-Builts, dated October 19, 2005, prepared by Tech 3 Consulting Group, Inc.
- Pavement cores performed through HR Green
- Photographs

The following documents were unavailable:

- Landscaping plans
- Developer agreements
- Soil borings
- Meeting minutes
- Daily field reports

I. PUNCHLIST

It is recommended that acceptance of this subdivision be contingent upon the completion of the noted outstanding and deficient items, and subsequent observation and approval by the Village of Homer Glen.

Roadway

Roadway improvements were observed for compliance with the approved subdivision improvement plans. The subdivision pavement includes the Hot-Mix Asphalt (HMA) binder course without the HMA surface course. HR Green had a pavement core taken on Erin Lane to identify the actual binder course and aggregate base course thicknesses.

The following table includes the planned pavement depths and actual pavement depths at a location randomly chosen on Erin Lane.

Roadway	Plan Surface Depth	Actual Surface Depth	Plan Binder Depth	Actual Binder Depth	Plan Agg. Base Cse. Depth	Actual Agg. Base Cse. Depth
Erin Lane	2"	0"	2"	2"	9"	8"

Note: Surface course remains unpaved.

Pavement distress is evident in various areas, specifically within the cul-de-sac, and appears to be the result of inadequate drainage from the pavement into the gutter. The pavement distress can be resolved by removing the existing binder course pavement and underlying aggregate/subgrade material and replacement with 12" of new aggregate base course and 2" of binder course. Following the pavement patching would be the HMA surface course overlay to complete the roadway improvements. The difference between the binder course elevations and the gutter elevations on Erin Lane will require an estimated 1.75" of HMA overlay thickness.

It is recommended that the binder course that exists be cold milled along the edge of the roadway for a section of Erin Lane where the top of binder course elevations are higher than preferred and which would result in less than 1" of HMA surface course overlay in areas without the recommended milling corrections. Variable depth cold milling between 0" and 1.5" is recommended to achieve the average 1.75" of HMA surface course overlay thickness estimated for Erin Lane. Cold milling the existing surface course pavement to establish a butt joint at the west improvement limit on Erin Lane may also be necessary if the HMA overlay for the unfinished Erin Hills – Unit 4D subdivision is performed prior to the Blackrock Estates paving.

The following pavement improvements are recommended prior to acceptance of the subdivision by the Village of Homer Glen.

Roadway	Pavement Patching (2" HMA Binder Course with 12" Aggregate Base Course, Type B)	HMA Surface Course, Mix 'C', N50	HMA Surface Removal, Variable Depth (0" to 1.5")	HMA Surface Removal – Butt Joint
Erin Lane	400 SY (100' X 7', 120' X 20', 50' X 10')	260 Tons (2,648 SY at 1.75" depth)	311 SY (300' X 7', 100' X 7')	31 SY (28' X 10')

Prior to the pavement improvements, combination concrete curb and gutter replacement will be necessary. The curb and gutter is to be removed and replaced. Each section shall be cut to full depth, removed and replaced with dowel bars, proper form work and finishing techniques.

The following table includes sections of curb and gutter determined to be unacceptable because of heaving, settlement and/or damage.

Roadway	Combination Concrete Curb and Gutter Removal and Replacement
Erin Lane	<p style="text-align: center;">40 FT Lot 2/3: 10' Lot 7: 30'</p>

Storm Sewer Appurtenances

Storm Sewer structures were observed for compliance with the approved subdivision improvement plans. It is recommended that all storm sewer structures be cleaned in addition to the correction of any deficiencies prior the Village of Homer Glen taking ownership and maintenance responsibilities of the storm sewer system.

It is recommended that the following defects be repaired prior to Village acceptance of the subdivision.

Item No.	Structure #	Defect/Corrective Action
1.	INL 5+40 LT	<ul style="list-style-type: none"> ▪ Clean out debris
2.	INL 8+40 RT	<ul style="list-style-type: none"> ▪ Clean out debris
3.	CB 5+40 RT	<ul style="list-style-type: none"> ▪ Clean out debris
4.	CB 8+50 RT	<ul style="list-style-type: none"> ▪ Clean out debris
5.	CB 9+00 RT	<ul style="list-style-type: none"> ▪ Clean out debris ▪ Install steps
6.	CB RESTRICTOR	<ul style="list-style-type: none"> ▪ Clean out debris
7.	MH 5+55 RT	<ul style="list-style-type: none"> ▪ Clean out debris ▪ Provide concrete bench
8.	FES SW CORNER OF BASIN	<ul style="list-style-type: none"> ▪ Clean out debris

9.	FES SE CORNER OF BASIN	▪ Clean out debris
10.	FES SE OF RESTRICTOR	▪ Clean out debris

Sanitary Sewer Appurtenances

Sanitary Sewer manholes were observed for compliance with the approved subdivision improvement plans. It is HR Green's understanding that the sanitary sewer system is owned and maintained by Illinois American Water. These improvements are not owned and maintained by the Village of Homer Glen, however, it would be beneficial to observe the sanitary sewer manholes to identify any defects to the structures that could impact other public infrastructure improvements and threaten the health and safety of the public.

It is recommended that the following defects be coordinated with Illinois American Water for review and correction prior to Village acceptance of the subdivision.

Item No.	Structure #	Defect/Corrective Action
1.	MH 100	▪ Replace the lid that reads "Village of Mokena" with a lid that includes the word "Sanitary"
2.	MH 101	▪ Replace the lid that reads "Village of Mokena" with a lid that includes the word "Sanitary"

Note: The letter "S" is marked in the curb to identify sanitary sewer service crossing locations.

Watermain Appurtenances

Watermain fire hydrants, valve boxes and water service buffalo boxes were observed for compliance with the approved subdivision improvement plans. It is HR Green's understanding that the water supply system is owned and maintained by Illinois American Water. These improvements are not owned and maintained by the Village of Homer Glen, however, it would be beneficial to observe the watermain appurtenances to identify any defects that could impact other public infrastructure improvements and threaten the health and safety of the public.

HR Green was not responsible to determine if the valves serving water service lines, fire hydrants or watermain mainline were operable (keyable). Assumptions were made based on the visual condition of the appurtenances and the recommended associated repairs. It is recommended to have the Village of Homer Glen/Illinois American Water determine if every valve within the subdivision, which may not be identified in the punch list, is

functioning properly prior to performing corrections to water main appurtenances to establish any adjustments to the scope of work.

It is recommended that the following defects be coordinated with Illinois American Water for review and correction prior to Village acceptance of the subdivision.

Item No.	Appurtenance #	Defect/Corrective Action
1.	B-Box Lot 1	▪ Could not locate. Assume damaged and replacement will be necessary.
2.	B-Box Lot 2	▪ Could not locate. Assume damaged and replacement will be necessary.
3.	B-Box Lot 3	▪ Replace damaged B-Box
4.	B-Box Lot 4	▪ Replace damaged B-Box
5.	B-Box Lot 5	▪ Could not locate. Assume damaged and replacement will be necessary.

Note: The letter "W" is marked in the curb to identify water service crossing locations.

Sidewalk

Sidewalk improvements were observed for compliance with the approved subdivision improvement plans. The plans for Blackrock Estates include providing a 5' wide sidewalk along with north side of Erin Lane and connecting the sidewalk to the existing bike path pavement on the south side of the road included as part of the Erin Hills - Unit 4D improvements. No sidewalk exists throughout the subdivision.

It is critical to adhere to the State of Illinois American's with Disabilities Act (A.D.A.) requirements set forth for sidewalk approaches made accessible to the handicap. In order to obtain conformance with the plans and the State of Illinois requirements, A.D.A. compliant sidewalk approach improvements have been included in this report where sidewalk approaches are proposed.

The following table includes recommendations for sidewalk related improvements to be performed prior to Village acceptance of the subdivision.

Roadway	P.C.C. Sidewalk (5" depth)	Detectable Warnings
Erin Lane	<p style="text-align: center;">4,000 SF</p> <p style="text-align: center;">Lot 1: 185' X 5' Lot 2: 130' X 5' Lot 3: 130' X 5' Lot 4: 130' X 5' Lot 5: 130' X 5' Lot 290 (Erin Hills): 95' X 5'</p>	<p style="text-align: center;">16 SF</p> <p style="text-align: center;">Lot 1: 4' X 2' Lot 290 (Erin Hills): 4' X 2'</p>

Note: 2" of aggregate base course is to be included for the sidewalk installation per the improvement plans.

Street Lighting

Street lighting improvements were included in the Blackrock Estates plans. A total of three decorative street lights exist along the south side of Erin Lane. Two non-decorative street lights were proposed per the improvement plans. Visual day time and night time observations of the street lighting in Blackrock Estates indicated that all street lights were functioning and no deficiencies were observed. To attain verification of street lighting compliance with Village ordinances, it is recommended that the Village of Homer Glen have a photometric plan developed and reviewed. No photometric data was included in the subdivision improvement or as-built plans for Blackrock Estates. As it is HR Green's understanding that decorative street lighting exists in many residential subdivisions within the Village of Homer Glen, replacement of the existing decorative street lights with non-decorative street lights, as included in the plans, has not been incorporated as a punchlist item.

Signage and Pavement Markings

Signage and pavement marking improvements are not included in the Blackrock Estates plans provided to HR Green. HR Green has not identified the need for specific signage and pavement markings based on the information provided along with the characteristics of the subdivision.

Restoration and Landscaping

Restoration improvements within the public Right-Of-Way parkway areas are recommended for Village acceptance of the subdivision. The recommended restoration improvements consist of weed removal, placement of topsoil, seed, fertilizer and erosion control blanketing within the parkway areas between the sidewalk and the back of curb along with the space between the back of the proposed sidewalk and the Right-Of-Way line. Sidewalk was not proposed and does not exist along the south side of Erin Lane

Improved Lot 7 is located along the entire south side of the road and the adjacent parkway restoration and landscaping have been completed with no further improvements necessary. Lot 6, which serves the detention basin and area east of Erin Lane, appears be restored and maintained and restoration improvements are not recommended for this area. In regards to the detension basin on Lot 6, HR Green was not able to determine if any project specific plantings were in place, as the landscape plans were unavailable. If the Village desires native plantings around the ponds, HR Green does have landscape architects on staff and we can provide these native landscape services for additional costs.

An estimated quantity of topsoil needed to complete the restoration improvements within the parkway has been included in the punchlist. Furnishing topsoil from outside of the subdivision site will be necessary as there is no on-site topsoil stockpile. Some excavation may be necessary in the parkway areas to accommodate a proper amount of topsoil for adequate turf growth and this work would be performed as part of the topsoil placement preparation. It is recommended that water service buffalo boxes, fire hydrants and utility structures be level with the desired finished restoration grades.

Landscaping plans for Blackrock Estates were unavailable for HR Green to compare the intended landscaping improvements to what currently exists. With the understanding that trees will need to be provided within the parkways prior to Village acceptance of the subdivision, HR Green has included an estimated quantity of trees following Village of Homer Glen tree spacing criteria (40' c-c) as specified in the Village's Subdivision Ordinance.

The following table includes the recommended restoration and parkway tree improvements necessary to obtain Village acceptance of the subdivision.

Roadway / Area	Restoration (Topsoil, Seed, Fertilizer and Erosion Control Blanket)	Parkway Trees
Erin Lane	1,111 SY (North side: 705' X 12.5') (South side: 95' X 17.5')	20 EA (40' spacing within 800')

Notes:

1. Assume an average of 4" of topsoil placement necessary for restoration.
2. Parkway tree type to be determined by the Village of Homer Glen in accordance with Tree Preservation Ordinance 06-014.

II. DETENTION BASIN VERIFICATION

Proposed and Existing Drainage Features Summary

HR Green performed topographical survey services on the Blackrock Estates Subdivision on June 6th, 2012. The specific information collected included topography of the subdivision's stormwater detention basin including interconnecting storm sewer pipes and structures adjacent to said detention basin in it's existing condition. The basin was surveyed along the top of bank and down to the surface water elevations. This analysis was based on the Engineering Plans dated 07/14/05 and the Drainage Computations dated 05/24/04 both prepared by Tech 3 Consulting Group Inc. For the Blackrock Estates Subdivision there is a single wetland bottom detention pond that is controlled by a dual restrictor. See Exhibit A. The 2 year storm is controlled by a 3" orifice within a weir wall. The 100-year storm is controlled by a 4" restrictor pipe proposed to be mortared into the 12" outfall pipe of the restrictor manhole. Please note our survey could not verify that the 4" restrict pipe was in place. Below is a summary of the proposed and existing conditions of the control structures.

	PROPOSED	EXISTING	DIFFERENCE
WEIR WALL- TOP ELEV.	664.20	664.93	0.73' HIGH
2 YEAR RESTRICTOR INV ELEV. (diameter)	662.94 (3")	663.73 (3")	0.79' HIGH
100 YEAR RESTRICTOR INV ELEV. (diameter)	662.94 (4")	663.73 (NA)	0.79' HIGH
100 YEAR EMERGENCY OVERFLOW WEIR ELEV.	668.00	667.80	0.20' LOW

Volume Determination Summary

The Blackrock Estates Subdivision's stormwater basin existing contour areas were imported into an Excel spreadsheet to calculate the volume of provided storage using the average end area method. The proposed and required storage volumes were determined by the design engineer's drainage computations.

	PROPOSED	EXISTING	DIFFERENCE
NWL (DRY BOTTOM)	663.00	663.70	0.70' HIGH
HWL	667.10	667.80	0.70' HIGH
STORAGE VOLUME (AC.FT.)	2.31 2.28 (required)	2.307	0.003 SURPLUS

Conclusions

The weir wall and restrictor pipe were all constructed an average of 0.76' high. The resulting NWL and HWL elevations were also higher by a similar amount. The upstream impact of this increase could not be determined within the scope of our analysis. Our analysis does conclude that that existing pond does exceed the proposed and required storage volumes.

III. PARCEL IDENTIFICATION

HR Green has researched the specific ownership of both private and public improvement property in the Blackrock Estates subdivision. The parcel data was obtained by utilizing 2011 tax records through the Will County Treasurer's Office. There are 7 lots within the subdivision numbered 1 through 7. Please refer to Exhibit B for parcel identification.

IV. ENGINEER'S OPINION OF PROBABLE COST

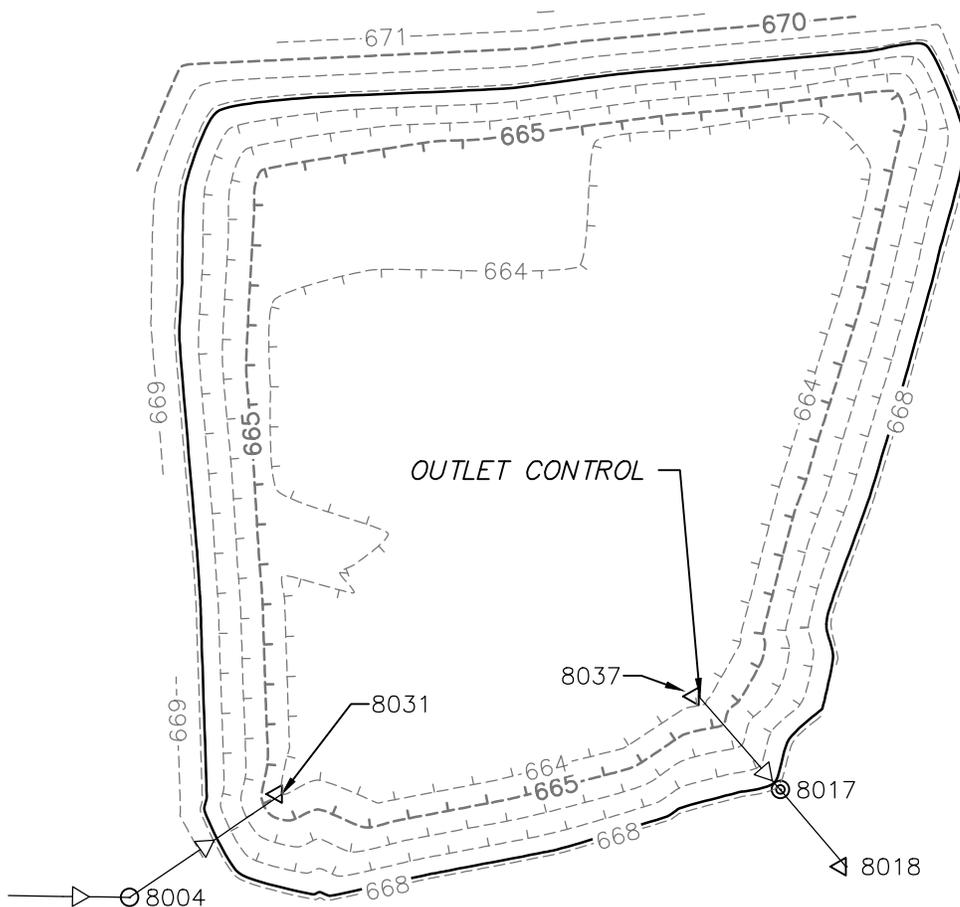
The punch list items included in this report have been identified as construction action items with assigned quantities of work and associated unit pricing necessary to correct the deficiencies and complete the outstanding improvements necessary for Village acceptance of the subdivision. HR Green utilized 2012 unit prices for cost estimation purposes. Please refer to Exhibit C for the Engineer's Opinion of Probable Cost.

EXISTING POND VOLUME

Elevation (ft)	Area (sq. ft.)	Area (acres)	Volume (ac-ft)	Cumulative Volume
663.7	901	0.02	0.00	0.000
664	17353	0.40	0.05	0.051
665	23073	0.53	0.46	0.513
666	26454	0.61	0.57	1.081
667	29988	0.69	0.65	1.729
667.8	32933	0.76	0.58	2.307

EXISTING POND VOLUME=2.31 AC. FT.
 PROPOSED POND VOLUME=2.31 AC. FT.

- LOT 6
- 8004 STORM CATCH BASIN
F/L=669.36
INV=664.26 NE 15" RCP
 - 8031 FLARED END SECTION
INV=664.00 SW 15" RCP
 - 8037 FLARED END SECTION
INV=663.64 SE 12" RCP
 - 8017 STORM MANHOLE (RESTRICTOR)
RIM=668.13
INV=663.73 NW/SE 12" RCP
TOP OF WALL=664.93
ORRFICE=663.73 3"
 - 8018 FLARED END SECTION
INV=663.53 NW 12" RCP



REVISIONS		
#	DATE	BY
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Illinois Professional Design Firm # 184-001322



323 Alana Drive,
 New Lenox, Illinois 60451
 t. 815.462.9324 f. 815.462.9328
 www.secgroupinc.com

BLACKROCK ESTATES

LOT 6

DATE: 6/20/2012			
HORIZ. SCALE: NOT TO SCALE			
DWN. BY:	DSN. BY:	CHK. BY:	
BDE	N/A	MD	
PROJECT NO. 86120056			
SHEET NO. 1 OF 1			



EXHIBIT B

Blackrock Estates Parcel Identification

Lot Number	Permanent Index Number (PIN)	Property Owner	Property Address	Property Street	Property City	Property State	Property Zip	Owner Address	Owner Street	Owner City	Owner State	Owner Zip
1	16-05-03-204-043-0000	LEITRIM BUILDERS INC						P O BOX 280		MATTESON	IL	60443
2	16-05-03-204-044-0000	LEITRIM BUILDERS INC						P O BOX 280		MATTESON	IL	60443
3	16-05-03-204-045-0000	LEITRIM BUILDERS INC						P O BOX 280		MATTESON	IL	60443
4	16-05-03-204-046-0000	LEITRIM BUILDERS INC						P O BOX 280		MATTESON	IL	60443
5	16-05-03-204-047-0000	LEITRIM BUILDERS INC						P O BOX 280		MATTESON	IL	60443
6	16-05-03-204-048-0000	LEITRIM BUILDERS INC						P O BOX 280		MATTESON	IL	60443
7	16-05-03-204-049-0000	KEANE THOMAS J KIMBERLY L	14011	S ERIN LN	HOMER GLEN	IL	60491	14011	S ERIN LN	HOMER GLEN	IL	60491

Notes:

1. Lot 6 exists as open space and detention.
2. Subdivision plat recorded on 07/22/2005.
3. Information based upon 2011 property tax records.
4. Will County's current available documentation does not reflect recent property activity since 2011. Current information will be available as provided by Will County.



EXHIBIT C

Blackrock Estates - Engineer's Opinion of Probable Cost (July, 2012)

ROADWAY NAME	ERIN LANE		UNIT COST	ESTIMATED COST
ROADWAY LIMITS	WEST LIMIT (ERIN HILLS - UNIT 4D) TO EAST END			
LENGTH (FOOT)	570			
WIDTH (FOOT)	28			
EXTRA AREA (SQ YD)	875			
AREA (SQ YD)	2,648			
BITUMINOUS MATERIALS (PRIME COAT)	GAL	265	\$2.00	\$530.00
AGGREGATE (PRIME COAT)	TON	5	\$20.00	\$100.00
HOT-MIX ASPHALT SURFACE COURSE, MIX 'C', N50	TON	260	\$70.00	\$18,200.00
HMA BINDER COURSE REMOVAL AND REPLACEMENT (2")	SQ YD	400	\$12.00	\$4,800.00
AGGREGATE BASE COURSE REMOVAL AND REPLACEMENT, TYPE B (12")	SQ YD	400	\$18.00	\$7,200.00
HMA SURFACE REMOVAL, VARIABLE DEPTH (0" TO 1.5")	SQ YD	311	\$2.50	\$777.50
HMA SURFACE REMOVAL - BUTT JOINT	SQ YD	31	\$15.00	\$465.00
COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT	FT	40	\$30.00	\$1,200.00
PORTAND CEMENT CONCRETE SIDEWALK (5")	SQ FT	4,000	\$6.00	\$24,000.00
DETECTABLE WARNINGS	SQ FT	16	\$30.00	\$480.00
CLEANING INLETS	EACH	2	\$100.00	\$200.00
CLEANING CATCH BASINS	EACH	4	\$225.00	\$900.00
CLEANING MANHOLES	EACH	1	\$185.00	\$185.00
CLEANING END SECTIONS	EACH	3	\$100.00	\$300.00
CONCRETE BENCH FOR MANHOLE	EACH	1	\$350.00	\$350.00
STEP INSTALLATION FOR STORM SEWER STRUCTURE	EACH	1	\$150.00	\$150.00
CLOSED LID REPLACEMENT	EACH	2	\$125.00	\$250.00
WATER SERVICE BUFFALO BOX REPLACEMENT	EACH	5	\$325.00	\$1,625.00
TOPSOIL FURNISH AND PLACE (4")	SQ YD	1,111	\$6.00	\$6,666.00
SEEDING, CLASS 1A	ACRE	0.23	\$3,000.00	\$690.00
FERTILIZER	POUND	62	\$5.00	\$310.00
EROSION CONTROL BLANKET	SQ YD	1,111	\$2.50	\$2,777.50
PARKWAY TREE	EACH	20	\$380.00	\$7,600.00

	SUB TOTAL:	\$79,756.00
	CONTINGENCY (10%):	\$7,975.60
PREPARATION OF CONTRACT PROPOSALS FOR BIDDING, SUBSEQUENT		
	CONTRACT AWARD AND CONSTRUCTION OBSERVATION (6%):	\$5,263.90
	TOTAL:	\$92,995.50

Notes:

1. Bituminous Materials (Prime Coast) = 0.1 Gal/SY.
2. Aggregate (Prime Coast) = 0.002 Ton/SY.
3. Topsoil Furnish and Place (4") includes weed removal and incidental excavation.
4. Fertilizer includes Nitrogen, Phosphorous and Potassium nutrient types at 90lb/acre per nutrient type.
5. Price for Step Installation for Storm Sewer Structure is per structure, not per step.
6. PCC Sidewalk (5") includes 2" of aggregate base course. Any excavation for the sidewalk is considered incidental to the pay item.
7. 2012 unit prices are utilized for the Engineer's Opinion of Probable Cost.

