

# STORM WATER POLLUTION PREVENTION PLAN

FOR

LaQuinta Inn & Suites  
109 Lundy Lane

*City of Hattiesburg  
Lamar County, Mississippi*

*June 18, 2013*

PREPARED BY:



**DAMMON**  
**ENGINEERING, INC.**  
*Architects & Engineers*

554 Old Spanish Trail  
Slidell, Louisiana 70458  
985.639.5832



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## I. INTRODUCTION

The purpose of the Storm Water Pollution Prevention Plan (SWPPP) is to provide a site specific description of the best management practices to prevent contamination of the storm water with potential pollutants from construction activities related to the proposed project. The storm-water pollution prevention plan has been prepared as required by the Mississippi Department of Environmental Quality in compliance with the application regulations for coverage under the construction storm water general NPDES permit.

This storm water pollution prevention plan is to be incorporated into the routine construction activities at the development. The potential sources of pollutions have been identified at the site and are described in this plan. Several pollution control measures are specified in the plan to prevent contamination of storm water runoff from those sources. The plan also outlines implementation, inspection, and maintenance requirements. The erosion and sediment control practices should be monitored and the plan revised if the quality of storm water runoff is not satisfactory.

## II. SITE INFORMATION

- A. **Description of Work:** *The construction of the hotel with parking and storm-water drainage facilities. The total disturbed area for this project is estimated at 2.011 acres. The site consists primarily of sandy loam soils. The site slopes ranging from 1 to 30 percent which will make for a moderate hazard for erosion. The development area drains to the north to a 10' drainage easement.*
- B. **Potential Pollution Sources:** The most significant potential pollutants are soil particles subject to removal by storm water. Other potential pollutants subject to removal by storm water are spilled fuel and lubricants. Material may also be inadvertently tracked off-site or blown off-site when distributed by hauling equipment.
- C. **Non-Storm Water Discharges:** Potential non-storm water discharges consist of irrigation water and watering of the haul roads to control dust. Due to the permeability of the soil and the arid conditions when this activity is required, no significant impact is anticipated from these sources.
- D. **Non-Storm Water Solid Materials:** The on-site generation of solid materials will be minimal, and its proper disposal will be closely monitored. All solid waste will be taken off-site for proper disposal.

## III. BEST MANAGEMENT PRACTICES AND CONTROLS

A. **Vegetative Controls:** Existing trees will be preserved where possible. All diversions will be seeded (permanent seeding) within seven (7) days of construction. Topsoil will be stockpiled for use in landscaping, Grass-lined waterways will be dressed with a thin layer of topsoil, seeded and mulched within seven (7) calendar days of construction. Temporary straw-net liners may be required on steeper ditches and slopes to facilitate vegetative growth. Steeper ditch slopes may require permanent treatment such as solid sod or concrete paving of the inverts to prevent erosion. All 3:1 cut slopes will be roughened by disking prior to seeding. Any disturbed areas that will be left undisturbed for fourteen (14) or more days will be seeded (temporary seeding) within seven (7) calendar days. After final grading, all disturbed areas will be seeded (permanent seeding) within seven (7) calendar days.

See Appendix A for seed, fertilizer, and mulching rates.

B. **Structural Controls:** Silt fence (and hay bales if needed for structural support) shall be placed around the perimeter of the property to keep sediment from leaving the property. Riprap energy dissipaters may be needed at pipe outfalls and other locations to reduce velocities and minimize erosion. Upslope waters shall be diverted around disturbed areas. All cut slopes will be at or below 3:1 grade. Silt fence barriers shall be installed in roadway ditches intermittently as needed to minimize erosion and to control sedimentation. A construction entrance will be built and any accumulation of mud on vehicle tires will be washed, if needed, during muddy conditions. Inlet protections (silt fences) will be installed at all storm drain inlets. A silt fence will be constructed around the topsoil stockpile. Riprap will be placed at culvert outlet aprons per the plan or as needed. A sediment pond will be excavated for concrete trucks to wash mixer chutes. Drivers will be instructed to return any materials to the concrete batch plant and complete final washing procedures at that location.

C. **Housekeeping Practices:** All equipment maintenance and repair will be done off-site. Trash cans or dumpsters will be placed at convenient locations throughout site. The main trash collection bin will be located for convenient use and pick up by disposal entity. Paints, solvents, fertilizers, or any other potentially toxic materials will not be stored on-site. Portable sanitary facilities will be provided for construction workers during home construction. Concrete truck wash off will be in designated basin to be constructed for that purpose.

D. **Post Construction Storm Water Management Measures:** 10 x 12 splash blocks shall be placed at pipe culvert outfalls as needed to minimize

erosion. Ditch slopes in excess of three (3) percent slope shall receive permanent stabilization such as solid sod or concrete paving, as needed. Any sediment basins designated to be converted to detention basins shall be improved and stabilized.

#### **IV. IMPLEMENTATION SEQUENCE**

The owner or prime contractor shall prepare an orderly listing which coordinates the timing of all major land-disturbing activities together with the necessary erosion and sedimentation control measures planned for the project. For the purposes of this project, the Implementation Sequence is described below:

1. *Construction Entrance*
2. *Equipment Maintenance and Storage Areas*
3. *Install Silt Fence (down slope of clearing/grubbing, fill areas)*
4. *Clearing and Grubbing of Sediment Basin(s) Areas*
5. *Construct Sediment Basin(s) and appurtenances*
6. *Clearing/Grubbing Site*
7. *Strip and Stockpile Topsoil with Silt Fence Barrier*
8. *Grading For Site Construction*
9. *Drainage Structures (Culverts, Etc.) with Inlet/Outlet Protection*
10. *Plant Temporary Vegetation on Ditches/Disturbed Areas*
11. *Installation of Silt Fences, Etc. in Ditches*
12. *Install Utilities*
13. *Complete Building and Parking Construction/Paving*
14. *Apply Topsoil To Disturbed Areas/Plant Permanent Vegetation And Ditch Treatment As Needed (Sod, Concrete Ditch Paving, Etc.)*
15. *After Site is Stabilized, Remove all Temporary Measures (Sed. Basin, Etc.)*

#### **V. INSPECTIONS, MAINTENANCE AND REPORTING**

A. **Inspections:** Inspections of the best management practices and other storm water pollution prevention plan requirements shall be performed by the contractor or owner as follows:

1. At least once weekly.
2. Within 24 hours after rainfall events of a half-inch or more.
3. As often as necessary to insure that appropriate erosion and sediment controls have been properly constructed and maintained.

B. **Maintenance:** Any deficiencies noted during the inspection process should be repaired or remedied within 24 hours. Remove sediment from

the basin, inlet protection devices and silt fences when accumulated sediment has reached 50 percent capacity. Replace non-functional silt fence. Maintain all vegetated areas to provide proper ground cover; reseed, fertilize and mulch as needed to minimize erosion and sedimentation.

- C. **Reporting:** The owner and/or contractor must inspect, as described in above section, and maintain controls and keep all reports on file noting damages or deficiencies and corrective measures, using the form provided in the appendix of this plan. No reports should be submitted to the Mississippi Department of Environmental Quality unless specifically requested. As previously stated, all records, reports, and information resulting from activities required by this plan and your permit should be retained for at least three years from the date of the CNOI, inspection or report.

A rain gauge is recommended to be placed in a central location on the site and used to obtain rainfall amounts. This information will assist with proper completion of the inspection report.

#### IV. REVISIONS

The storm water prevention plan will be kept current by the company representative and will be revised as changes in site conditions warrant. The company representative may notify the SWPPP developer for assistance when necessary. Factors that would compel the SWPPP to be modified include:

- Significant inadequacies revealed by routine inspections.
- Changes in identified sources, non-storm water discharges, or non-storm water solid wastes; or
- MDEQ or local agency notification that the plan does not meet one or more of the minimum requirements.
- An increase in the scope of the project outside of the original plan. An updated SWPPP and related SCNOI form should be submitted to the MDEQ for approval at least 30 days prior to the date of commencement of construction of the additional features.

A plan revision will be completed within 30 days of the date is determined that a revision is warranted. If the modification is in response to a request by the MDEQ, the permittee must submit to the MDEQ certification that the requested changes have been made.

#### APPENDIX A

# **APPENDIX A**

## **Vegetative Seeding Schedule**



## VEGETATIVE SEEDING RATES FOR EROSION CONTROL

SPECIES	RATE/ACRE	DATE
*Pensacola Bahia	40#	Jul 1 – Nov 30
Hulled Common Bermuda	15#	Jul 1 – Nov 30
Centipede	4#	Jul 1 – Nov 30
**Browntop Millet	40#	Aug 1 – Dec 30
**Cereal Rye	90#	Sept 10 – Dec 15
Carpet Grass	15#	Jul 1 – Nov 30
Creeping Red Fescue	30#	Jul 1 – Nov 30
Pensacola Bahia	30#	Jul 1 – Nov 30
Un-hulled Common Bermuda	10#	Jul 1 – Nov 30
PLUS		
**Wheat	90#	Jul 1 – Nov 30
**Ryegrass	60#	Jul 1 – Nov 30
**Crimson Clover	25#	Jul 1 – Nov 30

\* Not for use in Residential Subdivisions

\*\* Temporary Cover to be followed or mixed with a perennial

\*\*\* Fertilizer (13-13-13): Use 400#/Ac. On Crimson Clover

### MULCH

Hay or Wheat Straw	2 tons	After seeding
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### FERTILIZER

***13-13-13	600#	Before seeding
Lime	2 tons	Before seeding

A current soil analysis recommendation may be substituted

Desired pH range = 6.0 – 7.0 for all grasses

### SEED BED PREPARATION

Slope all banks to a minimum of 3:1. Flatter is possible.

After shaping and smoothing, pulverize soil to depth of 6 inches and harrow. Lime and fertilizer can be incorporated during seed bed preparation.



# **APPENDIX B**

## **Small Construction Forms Package**



# Submit only upon request from MDEQ



## SMALL CONSTRUCTION NOTICE OF INTENT (SCNOI)

GENERAL NPDES PERMIT MSR15 \_\_\_\_\_ (Number to be assigned by MDEQ if submitted)

Prior to the commencement of small construction activity (see Small Construction General Permit ACT11, T-27), the owner or operator of a small construction project must complete this form and develop a Storm Water Pollution Prevention Plan (SWPPP) as required by ACT5 of Mississippi's Small Construction General Permit. **This SCNOI and SWPPP shall be submitted to the Mississippi Department of Environmental Quality (MDEQ) only upon request from MDEQ; however, the SCNOI and SWPPP must be maintained at the permitted site or locally available in case inspector review is necessary.** Attachments with this SCNOI must include: a USGS quad map or copy showing site location (only if required to be submitted to MDEQ) and a Storm Water Pollution Prevention Plan (SWPPP). All questions must be answered – answer "NA" if the question is not applicable.

### PROJECT INFORMATION

**OWNER CONTACT PERSON:**

Mr. Mike Desai

**OWNER COMPANY NAME:**

My Hospitality Hotels

**OWNER STREET (P.O. BOX):**

1003 Mission Park Drive

**OWNER CITY:**

Vicksburg

STATE: MS ZIP: 39180

**OWNER PHONE # (INCLUDE AREA CODE):**

601-6668-0738

**OPERATOR (if different from owner) CONTACT PERSON:**

N/A

**OPERATOR COMPANY:**

**OPERATOR STREET (P.O. BOX):**

**OPERATOR CITY:**

STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

**OPERATOR PHONE # (INCLUDE AREA CODE):**

**PROJECT NAME:** LaQuinta

**DESCRIPTION OF CONSTRUCTION ACTIVITY:** Construction of a New Hotel

**ACREAGE DISTURBED (to be covered by this permit, area must be less than five (5) acres):** 2.011

**PHYSICAL SITE ADDRESS (If not available, indicate the nearest named road. For linear projects, indicate the beginning of the project and identify all counties the project traverses.):**

**STREET:** 109 Lundy Lane

**CITY:** Hattiesburg **COUNTY:** Lamar **ZIP:** 39401

**NEAREST NAMED RECEIVING STREAM:** N/A

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

**Signature<sup>1</sup>** \_\_\_\_\_

**Date Signed** \_\_\_\_\_

**Printed Name** \_\_\_\_\_

**Title** \_\_\_\_\_

<sup>1</sup>This application shall be signed according to the Small Construction General Permit, ACT10, T-4, T-5.

If requested, please submit this form to:

Chief, Environmental Permits Division  
MDEQ, Office of Pollution Control  
P.O. Box 2261  
Jackson, Mississippi 39225



**APPENDIX C**  
**U.S.G.S. Quadrangle Map**  
**with Project Location**



OWNER(S)/BUYER(S)

# Hattiesburg LQIS Lodging, LLC

BASE BEARING: N88°44'24"W (REF. #1)

## REFERENCE:

1. PLAT SHOWING SURVEY OF 2.368 ACRE TRACT, BY TIMOTHY R. BURGE, P.E., P.L.S., DATED 6/18/2009
2. PLAT SHOWING SURVEY OF 0.36 ACRE TRACT BY RICHARD B. BRANTLEY, P.L.S., DATED 9/11/2012

## BENCHMARK

REFERENCE: GPS-OPUS SOLUTION (NAVD88)

TBM 1: West bolt on Catch Basin near Southwest Corner of Tract  
Elev: 216.65'(NAVD88)

## NATURAL GAS PIPELINE:

WILLMUT GAS  
(601)544-6001

THIS SURVEY WAS PREPARED AT THE REQUEST AND FOR THE EXCLUSIVE USE OF:  
Hattiesburg LQIS Lodging, LLC

THIS FIRM WAS NOT CONTRACTED TO PERFORM A COMPLETE TITLE ABSTRACT OF THE PROPERTY SHOWN HEREON. BE AWARE THAT SERVITUDES SHOWN HEREON WERE TAKEN FROM REFERENCE DATA AND THAT OTHER SERVITUDES, ENCUMBRANCES OR RESTRICTIONS, EITHER VISIBLE OR NOT VISIBLE, MAY AFFECT THE SUBJECT PROPERTY.

## CERTIFICATION:

I HEREBY CERTIFY THAT I AM RESPONSIBLE FOR A FIELD SURVEY OF THE PROPERTY SHOWN HEREON AND THAT THIS MAP IS MADE IN ACCORDANCE WITH FIELD NOTES OF SAID SURVEY RECORD PLATS AND/OR DESCRIPTIONS. THERE ARE NO ENCROACHMENTS EITHER WAY ACROSS PROPERTY LINES, UNLESS OTHERWISE SHOWN. THIS SURVEY MEETS THE REQUIREMENTS FOR A CLASS "B" SURVEY.

F. DEWITT LADNER  
PROFESSIONAL LAND SURVEYOR  
REG. #3173

DATE: 2/7/13

60 0 60 120 180



GRAPHIC SCALE - FEET

Residence Inn

Courtyard Marriott

Operation and Easement Agreement Boundary  
BK. 17-J, PG. 739

10' Drainage Easement

10' Utility Easement (Mississippi Power Co.)

Grate Inlet  
Top: 215.0'  
Inv: 213.3'

0.36 ACRE

Old 49, LLC

2.011 ACRE TRACT

Appliance Parts

LUNDY LANE

(APPARENT 50' PUBLIC R/W)

## LEGEND

- Power Pole
- Fire Hydrant
- Water Meter/Valve
- Spot Elevation
- Over Head Electric Line
- Polyethylene Culvert
- Natural Gas Pipeline
- Fiber Optic Line

MAP SHOWING TOPOGRAPHIC SURVEY  
OF

## A Certain 2.011 Acre Tract

LOCATED IN SECTION 12, T4S-R14W  
LAMAR COUNTY,  
HATTIESBURG, MISSISSIPPI

F. DEWITT LADNER  
PROFESSIONAL LAND SURVEYOR  
6161 PERKINS ROAD, STE. 2B,  
BATON ROUGE, LA. 70808 (225)274-5482

W.O. # 130010

130010

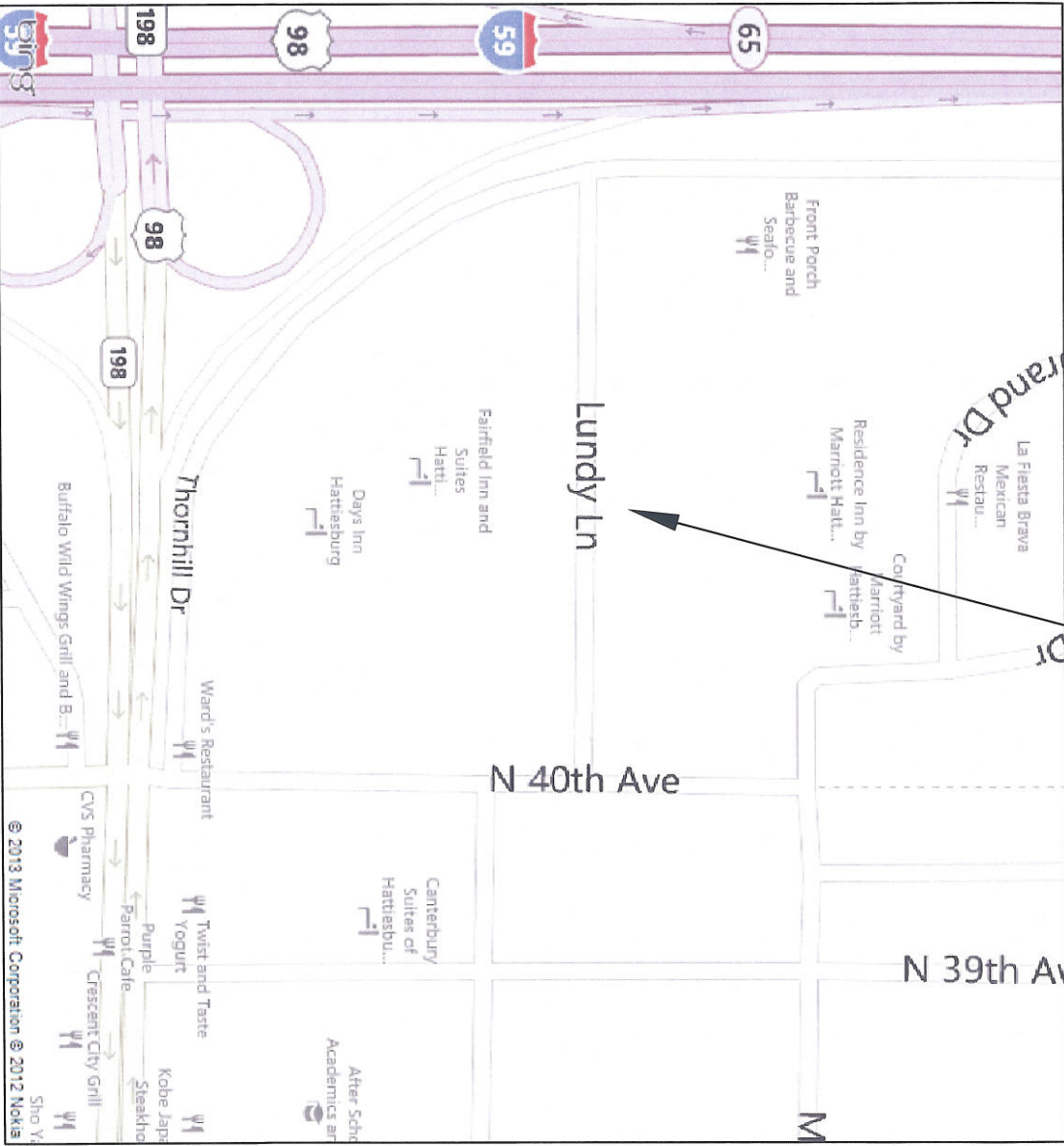












WORK SITE

VICINITY MAP  
N.T.S.



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PROJECT:	<b>LA QUINTA</b>		
STORMWATER RUN-OFF CALCULATIONS			
Formulas used:			
<b>[1] RATIONAL METHOD: Q=Aci</b>			
where:	Q=	Peak discharge of watershed in cubic feet per second (cfs) due to maximum storm assumed.	
	A=	Area of watershed in acres.	
	c=	Coefficient of run-off [2].	
	i=	Intensity of rainfall in inches per hour based on concentration time. [3]	
<b>[4] TC=</b> $\frac{(L^{0.8}(\frac{1000}{c} - 9)^{0.7})}{(1140(s^{0.5}))}$			
where:	TC=	Time of concentration= time required for rain falling at most remote point to reach discharge point.	
	c=	Site run-off coefficient based on conditions shown.	
	s=	Percent slope of overland flow.	
<b>PRIOR DEVELOPMENT</b> 25 Year Frequency			
<b>Q<sub>1</sub> = Aci</b>			
Watertight Surfaces		0	sqft = 0.000 Acres
	c(1) = 0.9		
Gravel Surface		0	sqft = 0.000 Acres
	c(2) = 0.25		
Green Space		87593	sqft = 2.011 Acres
	c(3) = 0.15		
Summary		87593	sqft = 2.011 Acres
	c = 0.15		
Duration (D) = Time of concentration (TC)			
where	L = 232	run-off length ft	Elev diff = 5
	c = 0.15	run-off coef	
	S = 2.1552	percent slope	
therefore	TC = D = 47.70	minutes	
Expected rainfall intensity	i = 7.66	in/hr	
	<b>Q<sub>1</sub> = 2.310 cfs</b>		10% reduction <b>0.231 cfs</b>
<b>POST DEVELOPMENT</b> 25 Year Frequency			
<b>Q<sub>2</sub> = Aci</b>			
Watertight Surfaces		59630	sqft = 1.369 Acres
	c(1) = 0.9		
Gravel Surface		0	sqft = 0.000 Acres
	c(2) = 0.25		
Green Space		27963	sqft = 0.642 Acres
	c(3) = 0.15		
Summary		87593	sqft = 2.011 Acres
	c = 0.66		
Duration (D) = Time of concentration (TC)			
where	L = 171	run-off length ft	Elev diff = 3
	c = 0.66	run-off coef	
	S = 1.7544	percent slope	
therefore	TC = D = 11.91	minutes	
Expected rainfall intensity	i = 7.66	in/hr	
	<b>Q<sub>2</sub> = 10.175 cfs</b>		
<b>DETENTION REQUIREMENTS</b>			
Detention required Q <sub>2</sub> -Q <sub>1</sub>		7.86	cfs
ONE HOUR DETENTION		28311.9	cuft
DETENTION DIMENSIONS	WIDTH	300	feet
	LENGTH	98	feet
	DEPTH	0.96	feet
<b>DISCHARGE END AREA REQUIREMENTS</b> 10 Year Frequency			
<b>[5] A=</b> $\frac{Q}{(c\sqrt{2gh})}$			
where:	A=	Discharge Area required	
	g=	Acceleration of gravity	
	c=	Discharge coefficient	
	h=	Hydraulic head	
	Q=	Flow volume from run-off	
Pipe Servicing Site Drainage	Q = 0.231	cfs	h = 2.50 feet
	c = 0.62	coefficient	A = 0.029 sqft
	g = 32.16	ft/sec/sec	
<b>REQUIRED CONDUIT =</b>		<b>2.32</b>	<b>inch inside diameter</b>
<b>References:</b>			
1. Chen, W.F. <u>The Civil Engineering Handbook</u> , 1995. Eq.# 31.1, pg. 1036			
2. Seelye, Elwyn E. <u>Data Book for Civil Engineers</u> , Vol.1 1960. Tbl. B, pg. 18-02			
3. Seelye, Elwyn E. <u>Data Book for Civil Engineers</u> , Vol.1 1960. Fig.B, pg. 18-01			
4. Chen, W.F. <u>The Civil Engineering Handbook</u> , 1995. Tbl. 31.2 Regan Equation (n=0.013)			
5. Chen, W.F. <u>The Civil Engineering Handbook</u> , 1995. Eq.# 28.32, pg. 969			

