1. PAVING

(FOR H.C. PUBLIC R.O.W. ONLY)

DESIGN THICKNESS OF PAVING	STABILIZED SUBGRADE DEPTH	DESIGN STRENGTH OF CONCRETE	STEEL SPACING		REINFORCE STEEL SIZE
			LONG.	TRANS.	
(IN.)	(IN.)	(PSI)	(IN.)	(IN.)	(#4 MIN.)

DRIVEWAYS (in H.C. ROW only)

I. NUMBER OF DRIVEWAY APPROACHES PROPOSED INCLUDE WIDENING OR REPAVING EXISTING DRIVEWAYS AS WELL AS NEW DRIVEWAYS

DRWY	WIDTH	MATERIAL	CULVERT?	CULVERT LENGTH	NEAREST X-STREET	DIST. TO X-STREET
1	24'	CONC	NO	N/A	SPRING STUEBNER	260'
2						
3						
4						
5						

II. HARRIS COUNTY STANDARD DRIVEWAY DETAIL APPEARS ON SHEET C10.0

FIRE APPARATUS ACCESS ROAD

■ REQUIRED AND SHOWN ON SHEET(S) C7.0
☐ NOT REQUIRED DUE TO _____

CURBING

I. ISLANDS AND MEDIANS REQUIRE STANDARD 6" CURBING

II. ☐ STANDARD 6" CURBING PROPOSED
☐ 4" x 12" CURBING PROPOSED EXCEPT AT MEDIANS AND ISLANDS

TRAFFIC CONSIDERATIONS

I. MEDIAN CUTS
■ NO MEDIAN CUT OR RELOCATION IS PROPOSED
☐ MEDIAN MODIFICATIONS ARE SHOWN ON SHEET _____

II. LEFT / RIGHT TURN LANE
■ NO LEFT / RIGHT TURN LANE IS PROPOSED
☐ LEFT / RIGHT TURN LANE IS SHOWN ON SHEET _____

III. TRAFFIC CONTROL PLAN
■ NO WORK IN THE RIGHT OF WAY IS PROPOSED THAT WOULD INTERFERE WITH TRAFFIC FLOW
TRAFFIC CONTROL SHOWN ON SHEET _____

IV. TRAFFIC SIGNAL
■ NO TRAFFIC SIGNAL IS EXISTING / PROPOSED
☐ EXISTING TRAFFIC SIGNAL DEVICES (T.C. BOXES AND LOOPS) SHOWN ON SHEET _____
☐ PROPOSED TRAFFIC SIGNAL (BY OTHERS)

V. TRAFFIC IMPACT ANALYSIS
☐ NO TRAFFIC IMPACT ANALYSIS IS REQUIRED
■ TRAFFIC IMPACT ANALYSIS HAS BEEN APPROVED ON DATE: _____
PLAN TITLE: _____
HCPID PROJECT NO.: _____

2. RESIDENTIAL / SUBDIVISION DRAINAGE

I. PROPOSED DRAINAGE SYSTEM TYPE
☐ STORM SEWER
☐ ROADSIDE DITCH

☐ LOW IMPACT DEVELOPMENT (LID)

II. DESIGN METHOD USED
☐ CITY OF HOUSTON ____ YEAR FREQUENCY
☐ OTHER: _____

III. DRAINAGE SYSTEM OUTFALLS DIRECTLY TO EXISTING
☐ DETENTION POND (APPROVED H.C. PRJ NO.): _____
DETENTION POND MAINTAINED BY: _____
☐ HCFCD DRAINAGE DITCH UNIT NO.: _____
☐ H.C. ROADSIDE DITCH (ROAD NAME): _____
☐ H.C. STORM SEWER (APPROVED H.C. PRJ NO.): _____

IV. H.C. OUTFALL CALCULATIONS
☐ ROADSIDE DITCH OUTFALL:
ALLOWABLE OUTFALL RATE: 0.0027 x _____ LF Frontage = _____ (CFS)
PROPOSED OUTFALL RATE: ____ (CFS), CALCULATIONS PROVIDED ON SHEET ___

☐ STORM SEWER OUTFALL
CAPACITY ALLOCATED TO TRACT FROM D. A. MAP: _____ (CFS)
FROM DRAINAGE AREA MAP DATED: _____
PREPARED BY: _____
APPROVED H.C. PROJECT NO.:
ACTUAL OUTFALL RATE: ____ (CFS), CALCULATIONS PROVIDED ON SHEET ___

V. DETENTION PROVIDED BY
☐ DETENTION BASIN IS PART THIS PLAN SET. SERVICE AREA MAP IS ON SHEET ___
☐ REGIONAL DETENTION BASIN SYSTEM (APPROVED H.C. PRJ NO.): _____

PROPOSED STORM SEWER IS SUBMERGED (AGREEMENT MUST BE PROVIDED).
STATIC W.S.E. @ OUTFALL IS _____.

OFFSITE SHEET FLOW: (100 YEAR)

NO OFFSITE SHEET FLOW RE: C5.0.

OFFSITE SHEET FLOW MAPPING, TOTAL DISCHARGE CALCULATIONS, AND DESIGN ACCOMODATIONS ARE SHOWN ON SHEET C5.0 OR, AS PRESENTED IN THE APPROVED DRAINAGE STUDY ENTITLED _____.

TOTAL ACREAGE = 0
TOTAL DISCHARGE = 0

NOTE: ALL OFFSITE SHEET FLOW FROM ADJACENT PROPERTIES MUST BE IDENTIFIED AND PROPERLY ACCOUNTED FOR IN THE PROJECT. THE SIGNING ENGINEER HEREBY CERTIFIES THAT THESE AREAS HAVE BEEN ADDRESSED.

3. COMMERCIAL / OTHER SITE DRAINAGE

I. PROPOSED DRAINAGE AREA
■ NEW DEVELOPMENT AREA: 2.00 ACRES
☐ RE-DEVELOPMENT AREA (AMOUNT INCREASED IMPERVIOUS AREA): _____

☐ LOW IMPACT DEVELOPMENT (LID)

II. DETENTION VOLUME
NEW AREA_____ X ✻ =_____ACRE FEET
DETENTION REQUIRED
✻ ☐ .55 (CHANNEL)
✻ ☐ .65 (STM SWR)
✻ ☐ 1.00 (RD. DITCH)
✻ ☐ OTHER: _____

PROPOSED DETENTION VOLUME = _____ ACRE FEET
PROPOSED DETENTION VOLUME CALCULATIONS ARE SHOWN ON SHEET _____

DETENTION VOLUME PROVIDED BY EXISTING DETENTION POND
APPROVED H.C. PROJECT NO.: 2043797
DETENTION POND SERVICE AREA MAP IS PROVIDED ON SHEET ____

III. OUTFALL
OUTFALL TO ☐ H.C. ROADSIDE DITCH
☐ EXISTING H.C. STORM SEWER
■ OTHER PRIVATE STORM SEWER (HC PROJECT NO 2037229)

☐ ROADSIDE DITCH OUTFALL:
ALLOWABLE OUTFALL RATE: 0.0027 x _____ LF Frontage = _____ (CFS)
PROPOSED OUTFALL RATE: ____ (CFS), CALCULATIONS PROVIDED ON SHEET ___

■ STORM SEWER OUTFALL
CAPACITY ALLOCATED TO TRACT FROM D. A. MAP: 22.26 (CFS)
FROM DRAINAGE AREA MAP DATED: 01/05/17
PREPARED BY: IDS ENGINEERING GROUP
APPROVED H.C. PROJECT NO.: 1611140027
ACTUAL OUTFALL RATE: 22.26 (CFS), CALCULATIONS PROVIDED ON SHEET C5.1

IV. PUMPED DETENTION FACILITIES
VOLUME THAT GRAVITY FLOWS: _____ ACRE FEET
VOLUME THAT IS PUMPED: _____ ACRE FEET
ENTRANCE VELOCITY INTO ROADSIDE DITCH OR STORM SEWER: _____
PUMP SPECIFICATIONS AND AUTOMATIC SHUTOFF PLAN FOR ROADSIDE DITCH & STORM SEWER OUTFALLS APPEAR ON SHEET _____

V. FLOW RESTRICTOR SIZE
OUTFALL PIPE SIZE: _____
RESTRICTOR PIPE SIZE: _____

NOTE: ALL ROADSIDE DITCH OUTFALLS REQUIRE EROSION CONTROL MEASURES. RIPRAP IS NOT ALLOWED AS AN EROSION CONTROL MEASURE IN HARRIS COUNTY ROW. ALL PUMPED DETENTION OUTFALLS TO ROADSIDE DITCHES REQUIRE MANHOLE W/ LEADS.

4. WATER AND WASTEWATER

I. COMMERCIAL PROJECTS

DOES PROPERTY HAVE EXISTING AND/OR PROPOSED UTILITIES?
■ YES ☐ NO

IF YES, CHECK THE BOX THAT APPLIES TO THIS PROJECT
■ PUBLIC WATER & SANITARY
☐ PRIVATE WATER WELL & SEPTIC SYSTEM
☐ PUBLIC WATER & PRIVATE SEPTIC SYSTEM
☐ PRIVATE WATER WELL & PUBLIC SANITARY

NOTE: PUBLIC UTILITIES REQUIRE A LETTER FROM THE DISTRICT/ MUNICIPALITY AUTHORIZING SERVICE & CONNECTION. THIS IS REQUIRED FOR PLAN APPROVAL.

UTILITY DISTRICT/MUNICIPALITY NAME: MEADOWHILL MUD

NOTE: SEPTIC SYSTEMS REQUIRE H.C. WASTE WATER REVIEW
H.C. SEPTIC PERMIT/REQUEST NO. _____

H.C. WASTE WATER REVIEWER APPROVAL
NAME & DATE: _____
REVIEWER COMMENTS: _____

NOTE: ALL EXISTING AND PROPOSED UTILITIES MUST BE ACCURATELY SHOWN & LABELED ON THE SITE PLANS.

II. SUBDIVISION PROJECTS

☐ UTILITY DISTRICT/MUNICIPALITY NAME: _____

☐ PRIVATE WATER & WASTE WATER SYSTEMS
☐ PRIVATE WATER & INDIVIDUAL OSSF
☐ INDIVIDUAL WATER WELL & OSSF

NOTE: A COPY OF TCEQ APPROVAL FOR PRIVATE WATER & WASTE WATER SYSTEMS IS REQUIRED FOR PLAN APPROVAL.

*NOTE: DEDICATED UNDERGROUND FIRE LINES MUST BE SUBMITTED TO THE HARRIS COUNTY FIRE PROTECTION GROUP FOR REVIEW AND PERMITTING BY THE UNDERGROUND FIRE LINE CONTRACTOR. CIVIL REIVEW DOES **NOT** REVIEW OR APPROVE UNDERGROUND FIRE LINES FOR THE FIRE PROTECTION SYSTEMS.*

5. DESCRIPTION OF PROPERTY

I. LEGAL DESCRIPTION
A. ACREAGE: 2.00 ACRES
B. ☐ SUBDIVISION: _____
■ SURVEY & ABSTRACT: H.T. & B.R.R. CO. SURVEY, A-415
C. ADJACENT ROADS: SPRING STUEBNER

II. PLATTING
A. SUBDIVISION PLAT
☐ PROPOSED PLAT / REPLAT
■ RECORDED PLAT / REPLAT
PLAT NAME:
KENROC SECTION 2

B. STREETS PROPOSED
☐ PUBLIC
☐ PRIVATE
☐ PUBLIC & PRIVATE
■ NONE

III. JURISDICTIONS
☐ CITY OF _____
■ ETJ, CITY OF HOUSTON
☐ ETJ, CITY OF _____
☐ NO ETJ

IV. HCAD ACCOUNT NOS. (ALL)
1373870010005

KEY MAP PAGE 292N

V. UNOBSTRUCTED VISIBILITY EASEMENT (U.V.E.)
☐ REQUIRED AND SHOWN ON SHEET(S) ___
■ NOT REQUIRED

NOTE: ALL APPROVED, FINAL PLATS AND ASSOCIATED CPC101 FORMS MUST BE INCLUDED WITH PLAN SUBMITTAL.

☐ CONFORMING SUBDIVISION
☐ NON-CONFORMING SUBDIVISION
☐ PARTIALLY NON-CONFORMING SUBDIVISION

6. STORMWATER QUALITY

I. SWPPP: CONSTRUCTION MEASURES. (Complete for ALL projects)
■ DISTURBS >1AC. SITE PLAN & DETAILS ON SHEET(S) C8.0, C9.0
☐ DISTURBS <1AC. N/A

II. APPLICABILITY FOR PERMANENT FEATURES. (must be completed on all projects)

EXEMPT NEW DEVELOPMENT:
☐ PROJECT IS ON A PARCEL (A COMMON PLAN OF DEVELOPMENT) LESS THAN 5 ACRES. (must be verified with plat)

EXEMPT REDEVELOPMENT:
☐ PROJECT DOES NOT MEET THE DEFINITION OF SIGNIFICANT REDEVELOPMENT (Part A, Sec. 2.39 of Regulations of Harris County, Texas for Stormwater Quality Management)

EXEMPT GRANDFATHERED:
☐ PROJECT'S DRAINAGE TIES DIRECTLY INTO AN EXISTING DRAINAGE SYSTEM PRIOR TO OCTOBER 1, 2001.
(FOR VERIFICATION: PROVIDE ORIGINAL DRAINAGE AREA MAP INCLUDING CALCULATIONS)

GENERAL:
☐ PROJECT'S SWQ REQUIREMENTS FALL WITHIN THE JURISDICTION OF: _____
■ STORMWATER QUALITY PERMIT REQUIREMENT IS COVERED BY AN EXISTING SWQMP WITHIN
PROJECT TITLE: KENROC INTERIM DETENTION BASIN
HARRIS COUNTY PROJECT NO. 1607060080 & SWQ PERMIT NO. 8-2739-3

STORMWATER QUALITY MANAGEMENT PLAN:
☐ SITE PLAN ON SHEET(S) _____

III. PERMANENT SWQ FEATURES. (COMPLETE IF NOT EXEMPT)
☐ VEGETATIVE CONTROLS USED: (FILTER STRIP, GRASSY SWALE, URBAN FORESTRY) DETAILS AND CALCULATIONS APPEAR ON SHEET(S) _____
☐ POND STRUCTURE USED (WET, DRY, WETLANDS) DETAILS AND CALCULATIONS APPEAR ON SHEET(S) _____
☐ HYDRODYNAMIC TYPE SEPARATOR MODEL: _____
☐ OTHER(S): _____

HCED SIGNATURE BLOCK

RETAIL SITE AT THE SOUTHWEST CORNER OF SPRING-STUEBNER AND
PROJECT NAME: SPRING PLAZA

ADDRESS: 0 SPRING STUEBNER RD, SPRING, TX 77389

WAS ACCEPTED BY THE FOLLOWING GROUPS FOR THE PURPOSES LISTED BELOW:

ENGINEERING DIVISION

BY _____ INTERPOSE NO OBJECTION DATE _____

BY _____ AS TO LOCATION OF ITEMS IN COUNTY RIGHT OF WAY DATE _____

BY _____ AS TO PAVING AND/OR DRAINAGE ONLY DATE _____

BY _____ AS TO STORM WATER QUALITY DATE _____

ADDITIONAL COMMENTS:

HARRIS COUNTY FLOOD CONTROL DISTRICT

INTERPOSE NO OBJECTION

BY _____ DATE _____
FOR ITEMS LOCATED OUTSIDE OF HCFCD RIGHT-OF-WAY

APPROVED:

BY _____ DATE _____
FOR ITEMS LOCATED WITHIN EXISTING HCFCD RIGHT-OF-WAY

APPROVED:

BY _____ DATE _____
FOR ITEMS LOCATED WITHIN PROPOSED HCFCD RIGHT-OF-WAY

ADDITIONAL COMMENTS:

THE PROJECT WAS REVIEWED, HOWEVER, THIS DOES NOT MEAN THE ENTIRE PROJECT, INCLUDING ALL SUPPORTING DATA AND CALCULATIONS HAVE BEEN COMPLETELY CHECKED AND VERIFIED. THESE DRAWINGS ARE SIGNED, DATED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF TEXAS, WHICH THEREFORE CONVEYS THE ENGINEER'S RESPONSIBILITY AND ACCOUNTABILITY. THIS DOES NOT RELIEVE ANY PARTY FROM COMPLYING WITH APPROPRIATE FEDERAL, STATE AND LOCAL ENVIRONMENTAL RULES, LAWS, AND REGULATIONS AND ANY OTHER LEGALLY ADOPTED REGULATION OR ORDINANCE RELATED TO LAND DEVELOPMENT. IF THE CITY SIGNATURES ARE REQUIRED BY ORDINANCE, COUNTY PERMITS WILL NOT BE ISSUED UNTIL SUCH SIGNATURES ARE OBTAINED. THESE SIGNATURES ARE VALID FOR A MAXIMUM OF TWO YEARS.

ENGINEER'S CERTIFICATION

I, ISAAC MUÑIZ, A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THE INFORMATION PRESENTED ON THIS SHEET IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND THAT I AM NOT VIOLATING ANY PROVISION OF THE CURRENT TEXAS ENGINEERING PRACTICE ACT AND RULES CONCERNING THE PRACTICE OF ENGINEERING AND PROFESSIONAL ENGINEERING LICENSURE.

ANY VIOLATIONS WILL BE FORWARDED TO THE HARRIS COUNTY DISTRICT ATTORNEY'S OFFICE FOR PROSECUTION.

THE COMPLETED PROJECT CONSISTS OF DRAWING SHEETS C0.0 THRU C15.0 .

SIGNATURE _____ DATE _____

SEAL

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF ISAAC MUÑIZ, P.E. 125839 ON 2-8-19. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

REVISIONS

NOTE: REVISION BLOCK IS TO BE USED ONLY FOR CHANGES MADE AFTER PLANS HAVE BEEN APPROVED BY HARRIS COUNTY.

DATE	SHEET NO.	DESCRIPTION	P.E. INITIAL	H.C. APPROVED DATE

HARRIS COUNTY PROJECT NO. XXXXXXXXXX

SHEET NUMBER C15.0 OF C15.0

7. FLOOD CONTROL DISTRICT CRITERIA

I. DETENTION SUMMARY

STORMWATER DETENTION BASIN ROUTING TABLE

DETENTION BASIN DRAINAGE AREA = 107.45 ACRES MAX BASIN DRAIN TIME (100-YR EVENT) = 54.24* HOURS

RAINFALL EVENT PROBABILITY	PRE-DEVELOPED PEAK RUNOFF (CFS)	POST-DEVELOPED PEAK RUNOFF (CFS)	DETENTION BASIN PEAK OUTFLOW (CFS)	MAXIMUM WATER SURFACE ELEVATION	PEAK STORAGE VOLUME (AC-FT)	STORAGE RATE (AC-FT PER AC)
10% EXCEEDANCE (10-YEAR)	88.1	269.5	9.8	120.80	47.5	0.44
1% EXCEEDANCE (100-YEAR)	160.8	416.9	11.7	126.40	86.9	0.75

ADDITIONAL CRITERIA FOR PUMPED DETENTION BASINS:
VOLUME OF PUMPED 1% EXCEEDANCE STORAGE VOLUME = 23.48 AC-FT 29.1 % OF TOTAL VOLUME
MAXIMUM DESIGN OUTFLOW VELOCITY INTO HCFCD CHANNEL = 2.0 FT/SEC.
DRAIN TIME FOR BASIN = 54.24* HOURS BASED ON 2.89 FEET OF HEAD (CONSTANT AVG) HEAD CONDITIONS.
***48-HOUR DRAIN TIME EXCEEDED IS ALLOWED BY SECTION 6.3.11e DESCRIBED IN SECTION 4.3 OF DRAINAGE REPORT.**

STORMWATER DRAINAGE DESIGN REPORT

REPORT TITLE KENROC TRACT - IMPACT ANALYSIS FOR STORM WATER DETENTION FACILITIES FOR FULL DEVELOPMENT

REPORT DATE JUNE 8, 2016 ENGINEERING FIRM IDS ENGINEERING GROUP

DATE OF ACCEPTANCE BY HCFCD OR FLOODPLAIN ADMINISTRATOR 6/29/16 HCFCD PROJECT # 1603210132

STORMWATER DETENTION FOR THE PROPOSED WORK CONTAINED IN THESE PLANS IS PROVIDED BY OTHER PLANS:
PLAN TITLE KENROC STORMWATER PUMPING STATION
ENGINEERING FIRM IDS ENGINEERING GROUP DATE SIGNED BY HCFCD JUNE 2015 HCFCD PROJECT # 2043797

II. HCFCD STANDARD NOTES: SEE SHEET N/A OF THESE PLANS.

III. HCFCD STANDARD DETAILS: SEE SHEET N/A OF THESE PLANS.

IV. REFER TO PLAN SHEETS N/A FOR EXISTING AND PROPOSED RIGHT OF WAY DELINEATION AND COMPLETE RECORDING INFORMATION TO INCLUDE CLERK'S FILE NUMBERS, TYPE OF ESTATE (e.g., DRAINAGE EASEMENT, FEE STRIP, ETC.) AND GRANTEE (e.g. COH, HCFCD, PUBLIC, TXDOT, ETC.)

NOTES:
I. COMPLETE ONLY IF HCFCD OR HARRIS COUNTY IS REQUIRING DETENTION.
II. COMPLETE ONLY IF PROJECT HAS WITHIN IT OR IS IMMEDIATELY ADJACENT TO AN EXISTING OR PROPOSED HCFCD MAINTAINED CHANNEL OR DETENTION BASIN.
III. COMPLETE ONLY IF PROJECT INCLUDES NEW OUTFALL, BACKSLOPE INTERCEPTOR OR OTHER RELATED WORK WITHIN AN EXISTING OR PROPOSED HCFCD MAINTAINED CHANNEL OR DETENTION BASIN.
IV. COMPLETE ONLY OF PROJECT HAS WITHIN OR IMMEDIATELY ADJACENT TO IT AN EXISTING OR PROPOSED PUBLIC DRAINAGE CHANNEL OR DETENTION BASIN.

8. FLOOD PLAIN STATUS

I. GENERAL INFORMATION
FIRM PANEL(S) FOR PROPERTY: 48201C0255L
FIRM PANEL(S) DATE: JUNE 18, 2007
STATUS OF PROPERTY ON MAP
■ ENTIRELY LOCATED IN UNSHADED ZONE "X"
☐ LOCATED PARTIALLY OR ENTIRELY IN ANY "A" ZONE OR SHADED ZONE "X", DELINEATE FLOODPLAIN BOUNDARY ON CONSTRUCTION DRAWINGS (DRAINAGE LAYOUT PG. NO.____) (BASE FLOOD LEVEL____)

☐ SITE REMOVED FROM FLOODPLAIN BY LOMR, LOMR-F, LOMA CASE NO._____ REVISED FLOODPLAIN IS SHOWN ON SHEET___

ELEVATION INFORMATION
BENCHMARK USED
■ HARRIS COUNTY FLOODPLAIN REFERENCE MARK
☐ HARRIS-GALVESTON COASTAL SUBSIDENCE DISTRICT BENCHMARK (FOR COASTAL AREAS)
DESCRIPTION OF BENCHMARK INCLUDING ELEVATION, DATUM AND YEAR OF ADJUSTMENT
PRIMARY BENCH MARK HELD WAS TSARP RM
110430 NAVD 88, 2001 ADJ. -
PUBLISHED ELEVATION OF 121.71

II. FLOOD PLAIN DETERMINATION BASED ON GROUND ELEVATION
☐ PROPERTY LIES ENTIRELY ABOVE THE BASE FLOOD LEVEL AND IN SHADED ZONE "X"
☐ PROPERTY LIES PARTIALLY OR ENTIRELY BELOW THE BASE FLOOD LEVEL

III. FLOODPLAIN STORAGE SUMMARY (APPLIES ONLY TO PORTION OF LAND LOCATED WITHIN FLOODPLAIN AS DELINEATED BY FIRM PANEL).
A. TOTAL VOLUME OF MATERIAL PROPOSED TO BE MOVED OR PLACED WITHIN THE FIRM DELINEATED FLOODPLAIN (FILL, BASE, CONCRETE, ASPHALT, ETC.):
i.e., BELOW ELEVATION _____ (2001 ADJ.) _____ CUBIC YARDS
B. TOTAL VOLUME OF MATERIAL PROPOSED TO BE REMOVED FROM THE FIRM DELINEATED FLOODPLAIN:
i.e., BELOW ELEVATION _____ (2001 ADJ.) _____CUBIC YARDS
C. FILL AREA & VOLUME CALCULATIONS ARE SHOWN ON SHEET _____

IV. ☐LOMR REQUIRED ☐CLOMR REQUIRED VERIFIED BY: _____

FOR PROJECTS LOCATED IN ANY FLOODPLAIN
Development constructed or placed in accordance with these plans will comply with all provisions of the Regulations of Harris County, Texas for Floodplain Management.
No net fill is allowed in the flood plain and no fill is allowed in the floodway.
FOUNDATION NOTES: (Applies to only buildings or building additions requiring a class II permit)
All water heaters, furnaces, air conditioning units, electrical distribution panels, and any other mechanical or electrical equipment must be elevated in accordance with Section 4.05 of Harris County Floodplain regulations.
Any electrical circuit serving a light switch or outlet located below the base (100-year) flood elevation shall be dropped from above and be on a separate breaker.
All materials used below the (100-year) base flood elevation are on approved FEMA Technical Bulletin 2-08 as Class 5 water-resistant, and approved in accordance with FEMA Technical Bulletin 1-08 for foundation openings.
If the property is located within the designated 10% floodplain or ten-year floodplain all construction up to twenty-four (24) inches above the base flood elevation must use masonry, concrete or steel. These materials must be used for piers, columns and foundation walls.
Construction of critical care facilities on land located below the base (100-year) flood elevation in the 500-year flood plain or within the base (100-year) flood plain shall have the lowest floor elevated to three feet or more above the base flood elevation.
Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters.
Access routes elevated to or above the level of the base flood shall be provided to all critical facilities to the extent possible.
*Completed **"Elevation Certificates** to be submitted one at permitting, a second after the slab is poured or sub-floor is installed and before the framing starts, and a third is required once construction is finished. *(PER CURRENT FIRM PANEL) to the Harris County Engineering Department, 10555 Northwest Freeway, Suite 120, Houston, TX 77092*
A completed as-built certificate must be submitted after the structure is complete and before it is occupied.
The County Engineer's Office will post a final inspection notice on the structure once all requirements have been met.

9. WORK IN HCFCD RIGHT-OF-WAY

I. TYPE OF WORK TO BE PERFORMED IN CHANNEL
☐ OUTFALL
☐ UTILITY CROSSING
☐ ROADWAY BRIDGE / CULVERT CROSSING
☐ FILL ACTIVITY
☐ REHABILITATION OF CHANNEL
☐ MAINTENANCE
☐ TEMPORARY CROSSING
☐ OTHER

II. USACE ENVIRONMENTAL PERMIT
☐ US ARMY CORPS ENGINEERS NATIONWIDE PERMIT NUMBER(S) _____
☐ US ARMY CORPS OF ENGINEERS INDIVIDUAL PERMITS
☐ OTHER
☐ NO PERMITS REQUIRED
EXPLAIN: _____

III. REFERENCE / BASIS OF DETERMINATION
☐ ENVIRONMENTAL CONSULTANT REPORT
BY _____
REPORT TITLE _____
REPORT DATE _____
☐ OTHER _____

NOTES:
I. - III. REQUIRED ON PROJECTS WITH WORK IN A HCFCD CHANNEL.
PLEASE REFERENCE SECTION 17 OF THE FLOOD CONTROL DISTRICT POLICY, CRITERIA, AND PROCEDURE MANUAL FOR MORE INFORMATION.

BENCHMARK REQUIREMENTS FOR PROPOSED BRIDGES AND OR NEW RESIDENTIAL SUBIDIVSIONS

When the County Engineer has determined that a new benchmark will be required to be established for the proposed project, the developer shall be required to install a benchmark per section 8.0, part 2 of the Harris County Infrastructure Regulations.

Is a new Benchmark required for this project? (*to be determined by Harris County*) ☐yes ☐no

If a new Benchmark is required, the proposed benchmark information is shown on sheets ____

10. PERMITS REQUIRED

DOES THE PROPERTY HAVE ANY VIOLATIONS? IF SO PLEASE PROVIDE ALL VIOLATION NUMBERS.

TO BE FILLED OUT BY HARRIS COUNTY
☐ STORM WATER QUALITY
☐ SEPTIC (EXISTING) ☐ SEPTIC (PROPOSED)
☐ CIVIL SITE WORK (PHASE II PERMIT CLASS I (non-floodplain))
☐ CIVIL SITE WORK (PHASE II PERMIT CLASS II (floodplain))
☐ DRIVEWAY WITH CULVERT _____ CURB AND GUTTER _____
☐ BUILDING PERMITS (NO. OF BUILDINGS = _____) ☐ CRITICAL FACILITY
☐ SUBDIVISION INFRASTRUCTURE PHASE II (NO. OF LOTS = _____)
☐ NOTICE OF DETENTION AFFIDAVIT REQUIRED
☐ MUD MAINTENANCE AGREEMENT REQUIRED
☐ HCFCD ROW NOTIFICATION PERMIT REQUIRED
NOTES: _____

WORK IN HARRIS COUNTY R.O.W.
☐ UTILITY WORK _____
☐ LEFT TURN LANE _____
☐ OTHER CONSTRUCTION _____

NOTES:
A PERMIT IS REQUIRED FOR EACH SCOPE OF WORK ON SITE.
A NOTIFICATION IS REQUIRED FOR EACH SCOPE OF WORK IN HC OR HCFCD ROW.
REFER TO www.eng.hctx.net/permits FOR EACH SCOPE OF WORK IN HC OR IN HCFCD ROW.

11. CURB RAMPS

A. ARE CURB RAMPS THAT CONNECT TO PUBLIC STREETS PROPOSED IN THIS SET OF PLANS? ☐ YES ■ NO

12. LANDSCAPING

☐ REQUIRED AND SHOWN ON SHEET(S) _____
☐ NOT REQUIRED

IDS Engineering Group
13430 NW. Freeway
Suite 700
Houston, Tx. 77040
713.462.3178
TBPE F-002726
TBPLS 10110700

HARRIS COUNTY
ENGINEERING DEPARTMENT
REVIEW SHEET

VERSION 16.0 JANUARY 1, 2018

X:\2200\229300\100 Ashton Gray Retail - Kenroc\CAD\DWG\ASHTON-C-XREV.dwg [C15.0 HARRIS COUNTY REVIEW SHEET] Plotted Feb 12, 2019 at 2:45pm by jpaul (Last Saved by: imuniz)