

DRAINAGE DESIGN FIELD INVESTIGATION CHECKLIST

*THE FOLLOWING INFORMATION IS TO BE INCLUDED IN THE FIELD SURVEY NOTES:
(CHECK LOCATION AND SURVEY NOTES AND SUPPLEMENT WITH ANY ADDITIONAL
INFORMATION THAT MAY BE REQUIRED) ANSWER YES, NO, N/A, OR COMMENT AS APPLICABLE*

1. TOPO IS TO INCLUDE BUT NOT LIMITED TO:

- a. _____ CHANNEL BANKS AND WATERS EDGES
- b. _____ EXISTING STRUCTURES (BRIDGES, CULVERTS, AND STORM DRAINAGE SYSTEMS)
- c. _____ UTILITIES (POWER, WATER, GAS, TELEPHONE, SANITARY SEWER, ETC.)
- d. _____ ROADWAY PAVEMENT, SHOULDERS AND TOE OF FILL
- e. _____ ANY DEVELOPMENT ADJACENT TO SITE, UPSTREAM AND DOWNSTREAM
- f. _____ LIMITS OF FLOODPLAIN
- g. _____ DRAINAGE COURSES AND DRAINAGE DITCHES

2. LEVELS

- a. _____ CENTERLINE PROFILES OF NATURAL GROUND AND EXISTING HIGHWAY (WHERE APPLICABLE) ACROSS FLOODPLAIN
- b. _____ SECTION UNDER BRIDGE
- c. _____ SIZE, DEPTHS, AND INVERTS OF ALL CULVERTS AND STORM DRAINAGE SYSTEMS
- d. _____ STREAM BED, NATURAL GROUND, AND WATER SURFACE PROFILE ELEVATIONS (NORMAL, AT DATE OF SURVEY, AND ORDINARY HIGH WATER) UPSTREAM AND DOWNSTREAM FOR A SUFFICIENT DISTANCE BEYOND LIMITS OF CONSTRUCTION. (EXTEND OUTLET DITCH PROFILES AS FAR AS NECESSARY TO REACH ADEQUATE CAPACITY).
- e. _____ FLOODPLAIN CROSS-SECTIONS AS DEEMED NECESSARY FOR PERFORMING BACKWATER ANALYSIS
- f. _____ ELEVATION OF ANY UPSTREAM OR DOWNSTREAM DEVELOPMENT THAT WOULD BE CONSIDERED IN DESIGN (EXAMPLE: FINISHED FLOOR ELEVATION AND LOWEST ADJACENT GRADE OF HOUSES, BASEMENTS, YARDS, GARDENS, BARNs, AND PONDS)
- g. _____ ELEVATION OF ANY DEBRIS OR OTHER HIGH WATER MARKS

3. SCOUR POTENTIAL: OBTAIN THE FOLLOWING FIELD INFORMATION IN ADDITION TO THE NORMAL BRIDGE CROSSING DATA

- a. _____ WHAT IS THE STREAM BED AND FLOODPLAIN MATERIAL? IF SAND, IS IT FINE ,MEDIUM, OR COARSE?
- b. _____ ARE THE STREAM BANKS STABLE? ARE THERE VISIBLE SLUMPS, VERTICAL BANKS, LEANING TREES, OR UNDERCUT BANKS?

AT EXISTING CROSSING SITES:
- c. _____ OBTAIN A TYPICAL CHANNEL SECTION AT SUFFICIENT DISTANCE UP OR DOWNSTREAM BEYOND CROSSING EFFECTS
- d. _____ OBTAIN BED PROFILE EXTENDING WELL BEYOND SCOUR AREA
- e. _____ IDENTIFY THE TYPE FOUNDATION OF THE EXISTING STRUCTURE

IF FOOTING IS VISIBLE, NOTE CONDITION
- f. _____ OBSERVE GROUND CONDITIONS AROUND EXISTING PIERS AND ABUTMENTS IS THERE INDICATION OF PREVIOUS SCOUR? IF SO, NOTE APPROXIMATE DEPTH.

4. RECONNAISSANCE

- a. _____ DRIFT POTENTIAL, SIZE, AND QUANTITY. (QUESTION SOURCES WHEN HIGH-WATER INFORMATION IS OBTAINED).
- b. _____ IDENTIFY CULTURE IN FLOODPLAIN FOR DETERMINATION OF FLOW RESISTANCE AND DISTRIBUTION (ESTIMATE "N" VALUES)
- c. _____ IDENTIFY DEVELOPMENT IN FLOODPLAIN THAT COULD BE AFFECTED BY BACKWATER, DOWNSTREAM EROSION OR REDUCTION OF FLOW
- d. _____ IDENTIFY STORAGE AREAS SUCH AS PONDS, LAKES, ETC., FOR POSSIBLE ADJUSTMENT OF DISCHARGE RATES WHERE APPLICABLE
- e. _____ REVIEW ADEQUACY OF DOWNSTREAM CHANNELS FOR CONVEYANCE OF INCREASED DISCHARGE RATES
- f. _____ PHOTOGRAPHS OF SITE(S)
- g. _____ IDENTIFY POTENTIAL WETLAND / JURISDICTIONAL STREAMS

5. OBTAIN HISTORICAL H.W. INFORMATION SOURCES: (NAMES, ADDRESSES, AND PERIOD OF KNOWLEDGE OF PROVIDER).

- a. _____ LOCAL RESIDENTS
- b. _____ BRIDGE MAINTENANCE PERSONNEL
- c. _____ ROADWAY MAINTENANCE PERSONNEL
- d. _____ FREQUENT ROAD USERS (EX. MAILMAN, DELIVERY PEOPLE)

QUESTIONS:

- a. _____ MAXIMUM H.W. WHEN IT OCCURRED?, WHAT DAMAGE OCCURRED?,
- b. _____ OTHER LESSER FLOOD LEVELS, HOW OFTEN?
- c. _____ YEARLY OCCURRENCE

6. DATA ON UPSTREAM AND DOWNSTREAM CROSSINGS

- a. _____ SIZE
- b. _____ RELATIVE LEVELS OF STRUCTURE AND ROADWAY
- c. _____ EXISTING ISSUES (DEBRIS, SCOUR, ETC.)