HYDRAULIC REPORT

ELGIN O'HARE – WEST BYPASS
JOB NUMBER P-91-443-06

ELGIN O'HARE EXPRESSWAY
THORNDALE AVENUE
I-290
ELGIN O'HARE/ I-290 INTERCHANGE RAMPS
ILLINOIS ROUTE 53
OVER
DEVON AVENUE TRIBUTARY TO SALT CREEK
DUPAGE COUNTY, ILLINOIS

VOLUME 1

Prepared For:

Illinois Department of Transportation
201 West Center Court
Schaumburg, IL 60196-1096

Prepared By:

Christopher B. Burke Engineering, Ltd.
9575 W. Higgins Road, Suite 600
Rosemont, IL 60018

CBBEL Project No. 07-0404

October 2012

CH2MHILL®

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ELGIN O'HARE EXPRESSWAY AND THORNDALE AVENUE OVER DEVON AVENUE TRIBUTARY

Illinois Department of Transportation

HYDRAULIC REPORT OUTLINE (HRO)

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1. SN ___-___ (Existing); SN ___-___ (Proposed)

   Route/Stream: Eastern Park Blvd South (FEQ Node D310) Crossing Over Devon Avenue Tributary

   County: DuPage

2. Prepared By: ☒ Consultant: CBBEL
   ☐ District ____

3. Chapter 2 of the IDOT Drainage ☒ Yes ☐ No
   If no, explain ____

   Completed checklist (2-701.02) must be attached.

4. Design Considerations:
   a. Backwater limitations due to:
      IDNR Individual or Floodway Permit ☐ Yes ☒ No
      Sensitive Flood Receptor(s) ☒ Yes ☐ No
   b. Does proposed average design velocity through the structure exceed natural channel velocities? ☐ Yes ☒ No
   c. Is the clearance policy met? ☐ Yes ☐ No ☒ N/A
   d. Is the freeboard policy met? ☐ Yes ☐ No ☒ N/A

5. Project scope (check all that apply):
   a. ☒ Complete replacement.
   b. ☐ Superstructure replacement.
   c. ☐ Superstructure replacement and/or widening; Length of pier extension in the water, upstream ____ft., downstream ____ft.
   d. ☐ Bridge ☒ Culvert
   e. ☒ New alignment
   f. Work planned below Q100 HWE: ☒ Yes ☐ No

6. Hydrology: ☐ USGS ☐ FIS ☒ Other FEQ Model
   Gage data utilized? ☐ Yes ☒ No

7. WIT: Attached copy of all completed WIT(s) ☒ Yes ☐ No ____

8. Modeling:
   a. ☐ HEC RAS ☐ WSPRO ☒ Other FEQ. Existing FEQ N-values used↓
   b. N-values estimated according to Chapter 5 of Drainage Manual? ☒ Yes ☐ No
   c. Source of starting WSE Salt Creek
   d. Non-IDOT encroachments in survey? ☒ Yes ☐ No
      If yes, are they accounted for? ☒ Yes ☐ No
   e. Tail water controls(s)? ☐ Yes ☒ No
      If yes, list: _____
      Properly addressed? ☐ Yes ☐ No
   f. Expansion/Contraction cones addressed per Chapter 7 of Drainage Manual? ☐ Yes ☐ No
      If N/A, explain: Addressed per FEQ model requirements

9. IDNR-OWR Permit: Drainage Area 0.25 SM ☐ Rural; ☒ Urbanizing;
   Public Water or within Public Water boundaries ☐ Yes ☒ No
   Indicate Permit Type Required:
   a. Individual ☐
   b. Statewide #2 ☐
   c. Statewide #12 ☐
   d. Floodway ☐
   e. Other: _____
   f. None: ☒

10. Sensitive flood receptors ☒ Yes ☐ No
    Give type, elevations and locations: It is reported by the Village of Itasca and DuPage County that roadway inundation has occurred in the Wildspring Subdivision upstream of Park Boulevard.

    History of flooding or overtopping problems: ☒ Yes ☐ No
    Sources of observed highwater: _____

11. Scour/migration problems: ☒ None/minimal ☐ Significant ☐ Severe
    Comments: _____

    Ice/Debris concerns: None/minimal ☒ Significant ☐ Severe ☐
    Comments: _____

    Countermeasures proposed: _____

12. Deviations from the general procedures presented above and in Chapters 6 and 7 of the Drainage Manual: Used FEQ unsteady hydraulic model
    (Attach supporting documents if necessary)

Prepared by: Emily Anderson, PE, CFM Date: June 14, 2012

Signed: (AQ/QC) _____ Date: 6/14/2012

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1. SN ___-___ (Existing); SN ___-___ (Proposed)
   Route/Stream: EOH East (Proposed, FEQ Node D62) Crossing Over Devon Avenue Tributary
   County: DuPage

2. Prepared By: ☒ Consultant: CBBEL
   ☐ District ____

3. Chapter 2 of the IDOT Drainage ☒ Yes ☐ No
   If no, explain ____
   Completed checklist (2-701.02) must be attached.

4. Design Considerations:
   a. Backwater limitations due to:
      IDNR Individual or Floodway Permit ☐ Yes ☒ No
      Sensitive Flood Receptor(s) ☐ Yes ☒ No
   b. Does proposed average design velocity through the structure exceed natural channel velocities? ☐ Yes ☒ No
   c. Is the clearance policy met? ☐ Yes ☐ No ☒ N/A
   d. Is the freeboard policy met? ☐ Yes ☐ No ☒ N/A

5. Project scope (check all that apply):
   a. ☒ Complete replacement.
   b. ☐ Superstructure replacement.
   c. ☐ Superstructure replacement and/or widening; Length of pier extension in the water, upstream ____ft., downstream ____ft.
   d. ☐ Bridge ☒ Culvert
   e. ☒ New alignment
   f. Work planned below Q100 HWE: ☒ Yes ☐ No

6. Hydrology: ☐ USGS ☐ FIS ☒ Other FEQ Model
   Gage data utilized? ☐ Yes ☒ No

7. WIT: Attached copy of all completed WIT(s) ☒ Yes ☐ No ____

8. Modeling:
   a. ☐ HEC RAS ☐ WSPRO ☒ Other FEQ. Existing FEQ N-values used↓
   b. N-values estimated according to Chapter 5 of Drainage Manual? ☒ Yes ☐ No
   c. Source of starting WSE Salt Creek
   d. Non-IDOT encroachments in survey? ☒ Yes ☐ No
      If yes, are they accounted for? ☒ Yes ☐ No
   e. Tail water controls(s)? ☐ Yes ☒ No
      If yes, list: _____
      Properly addressed? ☐ Yes ☐ No
   f. Expansion/Contraction cones addressed per Chapter 7 of Drainage Manual? ☐ Yes ☐ No
      If N/A, explain: Addressed per FEQ model requirements

9. IDNR-OWR Permit: Drainage Area 0.24 SM ☐ Rural; ☒ Urbanizing;
   Public Water or within Public Water boundaries ☐ Yes ☒ No
   Indicate Permit Type Required:
   a. Individual ☐
   b. Statewide #2 ☐
   c. Statewide #12 ☐
   d. Floodway ☐
   e. Other: _____
   f. None: ☒

10. Sensitive flood receptors ☐ Yes ☒ No
    Give type, elevations and locations: _____

    History of flooding or overtopping problems: Yes ☐ No ☒
    Sources of observed highwater: _____

11. Scour/migration problems: ☒ None/minimal ☐ Significant ☐ Severe
    Comments: _____

    Ice/Debris concerns: None/minimal ☒ Significant ☐ Severe ☐
    Comments: _____

    Countermeasures proposed: _____

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1. SN ___-___ (Existing); SN ___-___ (Proposed)

   Route/Stream: I-290 North (FEQ Node F506) Crossing Over Devon Avenue Tributary

   County: DuPage

2. Prepared By: ☒ Consultant: CBBEL
   ☐ District ____

3. Chapter 2 of the IDOT Drainage ☒ Yes ☐ No
   If no, explain ____

   Completed checklist (2-701.02) must be attached.

4. Design Considerations:
   a. Backwater limitations due to:
      IDNR Individual or Floodway Permit ☐ Yes ☒ No
      Sensitive Flood Receptor(s) ☐ Yes ☒ No
   b. Does proposed average design velocity through the structure exceed natural channel velocities? ☐ Yes ☒ No
   c. Is the clearance policy met? ☐ Yes ☐ No ☒ N/A
   d. Is the freeboard policy met? ☐ Yes ☐ No ☒ N/A

5. Project scope (check all that apply):
   a. ☐ Complete replacement.
   b. ☐ Superstructure replacement.
   c. ☐ Superstructure replacement and/or widening; Length of pier extension in the water, upstream ____ft., downstream ____ft.
   d. ☐ Bridge ☒ Culvert
   e. ☐ New alignment
   f. Work planned below Q100 HWE: ☒ Yes ☐ No

6. Hydrology: ☐ USGS ☐ FIS ☒ Other FEQ Model
   Gage data utilized? ☐ Yes ☒ No

7. WIT: Attached copy of all completed WIT(s) ☒ Yes ☐ No ____

8. Modeling:
   a. ☐ HEC RAS ☐ WSPRO ☒ Other FEQ. Existing FEQ N-values used↓
   b. N-values estimated according to Chapter 5 of Drainage Manual? ☒ Yes ☐ No
   c. Source of starting WSE Salt Creek
   d. Non-IDOT encroachments in survey? ☒ Yes ☐ No
      If yes, are they accounted for? ☒ Yes ☐ No
   e. Tail water controls(s)? ☐ Yes ☒ No
      If yes, list: _____
      Properly addressed? ☐ Yes ☐ No
   f. Expansion/Contraction cones addressed per Chapter 7 of Drainage Manual? ☐ Yes ☐ No
      If N/A, explain: Addressed per FEQ model requirements

9. IDNR-OWR Permit: Drainage Area 0.93 SM ☐ Rural; ☒ Urbanizing;
   Public Water or within Public Water boundaries ☐ Yes ☒ No
   Indicate Permit Type Required:
   a. Individual ☐
   b. Statewide #2 ☐
   c. Statewide #12 ☐
   d. Floodway ☐
   e. Other: _____
   f. None: ☒

10. Sensitive flood receptors ☐ Yes ☒ No
    Give type, elevations and locations: _____

    History of flooding or overtopping problems: Yes ☐ No ☒
    Sources of observed highwater: _____

11. Scour/migration problems: ☒ None/minimal ☐ Significant ☐ Severe
    Comments: _____

    Ice/Debris concerns: None/minimal ☒ Significant ☐ Severe ☐
    Comments: _____

    Countermeasures proposed: _____

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1. SN ___-___ (Existing); SN ___-___ (Proposed)
   Route/Stream: I-290 South (FEQ Node F310) Crossing Over Devon Avenue Tributary
   County: DuPage

2. Prepared By: ☒ Consultant: CBBEL
   ☐ District ____

3. Chapter 2 of the IDOT Drainage ☒ Yes ☐ No
   If no, explain ____
   Completed checklist (2-701.02) must be attached.

4. Design Considerations:
   a. Backwater limitations due to:
      IDNR Individual or Floodway Permit ☐ Yes ☒ No
      Sensitive Flood Receptor(s) ☐ Yes ☒ No
   b. Does proposed average design velocity through the structure exceed natural channel velocities? ☐ Yes ☒ No
   c. Is the clearance policy met? ☐ Yes ☐ No ☒ N/A
   d. Is the freeboard policy met? ☐ Yes ☐ No ☒ N/A

5. Project scope (check all that apply):
   a. ☒ Complete replacement.
   b. ☐ Superstructure replacement.
   c. ☐ Superstructure replacement and/or widening; Length of pier extension in the water, upstream ____ft., downstream ____ft.
   d. ☐ Bridge ☒ Culvert
   e. ☒ New alignment
   f. Work planned below Q100 HWE: ☒ Yes ☐ No

6. Hydrology: ☐ USGS ☐ FIS ☒ Other FEQ Model
   Gage data utilized? ☐ Yes ☒ No

7. WIT: Attached copy of all completed WIT(s) ☒ Yes ☐ No ____

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   a. ☐ HEC RAS ☐ WSPRO ☒ Other FEQ. Existing FEQ N-values used↓
   b. N-values estimated according to Chapter 5 of Drainage Manual? ☒ Yes ☐ No
   c. Source of starting WSE Salt Creek
   d. Non-IDOT encroachments in survey? ☒ Yes ☐ No
      If yes, are they accounted for? ☒ Yes ☐ No
   e. Tail water controls(s)? ☐ Yes ☒ No
      If yes, list: _____
      Properly addressed? ☐ Yes ☐ No
   f. Expansion/Contraction cones addressed per Chapter 7 of Drainage Manual? ☐ Yes ☐ No
      If N/A, explain: Addressed per FEQ model requirements

9. IDNR-OWR Permit: Drainage Area 0.02 SM ☐ Rural; ☒ Urbanizing;
   Public Water or within Public Water boundaries ☐ Yes ☒ No
   Indicate Permit Type Required:
   a. Individual ☐
   b. Statewide #2 ☐
   c. Statewide #12 ☐
   d. Floodway ☐
   e. Other: _____
   f. None: ☒

10. Sensitive flood receptors ☐ Yes ☒ No
    Give type, elevations and locations: _____

    History of flooding or overtopping problems: Yes ☐ No ☒
    Sources of observed highwater: _____

11. Scour/migration problems: ☒ None/minimal ☐ Significant ☐ Severe
    Comments: _____

    Ice/Debris concerns: None/minimal ☒ Significant ☐ Severe ☐
    Comments: _____

    Countermeasures proposed: _____

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1. SN ___-___ (Existing); SN ___-___ (Proposed)
   Route/Stream: IL Route 53 South (FEQ Node F24) Crossing Over Devon Avenue Tributary
   County: DuPage

2. Prepared By: ☒ Consultant: CBBEL
   ☐ District ____

3. Chapter 2 of the IDOT Drainage ☒ Yes ☐ No
   If no, explain ____
   Completed checklist (2-701.02) must be attached.

4. Design Considerations:
   a. Backwater limitations due to:
      IDNR Individual or Floodway Permit ☐ Yes ☒ No
      Sensitive Flood Receptor(s) ☐ Yes ☒ No
   b. Does proposed average design velocity through the structure exceed natural channel velocities? ☐ Yes ☒ No
   c. Is the clearance policy met? ☐ Yes ☐ No ☒ N/A
   d. Is the freeboard policy met? ☐ Yes ☐ No ☒ N/A

5. Project scope (check all that apply):
   a. ☐ Complete replacement.
   b. ☐ Superstructure replacement.
   c. ☐ Superstructure replacement and/or widening; Length of pier extension in the water, upstream ____ft., downstream ____ft.
   d. ☐ Bridge ☒ Culvert
   e. ☐ New alignment
   f. Work planned below Q100 HWE: ☒ Yes ☐ No

6. Hydrology: ☐ USGS ☐ FIS ☒ Other FEQ Model
   Gage data utilized? ☐ Yes ☒ No

7. WIT: Attached copy of all completed WIT(s) ☒ Yes ☐ No ____

8. Modeling:
   a. ☐ HEC RAS ☐ WSPRO ☒ Other FEQ. Existing FEQ N-values used↓
   b. N-values estimated according to Chapter 5 of Drainage Manual? ☒ Yes ☐ No
   c. Source of starting WSE Salt Creek
   d. Non-IDOT encroachments in survey? ☒ Yes ☐ No
      If yes, are they accounted for? ☒ Yes ☐ No
   e. Tail water controls(s)? ☐ Yes ☒ No
      If yes, list: _____
      Properly addressed? ☐ Yes ☐ No
   f. Expansion/Contraction cones addressed per Chapter 7 of Drainage Manual? ☐ Yes ☐ No
      If N/A, explain: Addressed per FEQ model requirements

9. IDNR-OWR Permit: Drainage Area 0.17 SM ☐ Rural; ☒ Urbanizing;
   Public Water or within Public Water boundaries ☐ Yes ☒ No
   Indicate Permit Type Required:
   a. Individual ☐
   b. Statewide #2 ☐
   c. Statewide #12 ☐
   d. Floodway ☐
   e. Other: _____
   f. None: ☒

10. Sensitive flood receptors ☐ Yes ☒ No
    Give type, elevations and locations: _____

    History of flooding or overtopping problems: Yes ☐ No ☒
    Sources of observed highwater: _____

11. Scour/migration problems: ☒ None/minimal ☐ Significant ☐ Severe
    Comments: _____

    Ice/Debris concerns: None/minimal ☒ Significant ☐ Severe ☐
    Comments: _____

    Countermeasures proposed: _____

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1. SN ___-___ (Existing); SN ___-___ (Proposed)
   Route/Stream: Norwood Avenue (FEQ Node U62) Crossing Over Devon Avenue Tributary
   County: DuPage

2. Prepared By: ☒ Consultant: CBBEL
   ☐ District ____

3. Chapter 2 of the IDOT Drainage ☒ Yes ☐ No
   If no, explain ____
   Completed checklist (2-701.02) must be attached.

4. Design Considerations:
   a. Backwater limitations due to:
      IDNR Individual or Floodway Permit ☐ Yes ☒ No
      Sensitive Flood Receptor(s) ☐ Yes ☒ No
   b. Does proposed average design velocity through the structure exceed natural channel velocities? ☐ Yes ☒ No
   c. Is the clearance policy met? ☐ Yes ☐ No ☒ N/A
   d. Is the freeboard policy met? ☐ Yes ☐ No ☒ N/A

5. Project scope (check all that apply):
   a. ☒ Complete replacement.
   b. ☐ Superstructure replacement.
   c. ☐ Superstructure replacement and/or widening; Length of pier extension in the water, upstream ____ft., downstream ____ft.
   d. ☐ Bridge ☒ Culvert
   e. ☒ New alignment
   f. Work planned below Q100 HWE: ☒ Yes ☐ No

6. Hydrology: ☐ USGS ☐ FIS ☒ Other FEQ Model
   Gage data utilized? ☐ Yes ☒ No

7. WIT: Attached copy of all completed WIT(s) ☒ Yes ☐ No ____

8. Modeling:
   a. ☐ HEC RAS ☐ WSPRO ☒ Other FEQ. Existing FEQ N-values used↓
   b. N-values estimated according to Chapter 5 of Drainage Manual? ☒ Yes ☐ No
   c. Source of starting WSE Salt Creek
   d. Non-IDOT encroachments in survey? ☒ Yes ☐ No
      If yes, are they accounted for? ☒ Yes ☐ No
   e. Tail water controls(s)? ☐ Yes ☒ No
      If yes, list: _____
      Properly addressed? ☐ Yes ☐ No
   f. Expansion/Contraction cones addressed per Chapter 7 of Drainage Manual? ☐ Yes ☐ No
      If N/A, explain: Addressed per FEQ model requirements

9. IDNR-OWR Permit: Drainage Area 0.17 SM ☐ Rural; ☒ Urbanizing;
   Public Water or within Public Water boundaries ☐ Yes ☒ No
   Indicate Permit Type Required:
   a. Individual ☐
   b. Statewide #2 ☐
   c. Statewide #12 ☐
   d. Floodway ☐
   e. Other: _____
   f. None: ☒

10. Sensitive flood receptors ☐ Yes ☒ No
    Give type, elevations and locations: _____

    History of flooding or overtopping problems: Yes ☒ No ☐
    Sources of observed highwater: _____

11. Scour/migration problems: ☒ None/minimal ☐ Significant ☐ Severe
    Comments: _____

    Ice/Debris concerns: None/minimal ☒ Significant ☐ Severe ☐
    Comments: _____

    Countermeasures proposed: _____

12. Deviations from the general procedures presented above and in Chapters 6 and 7 of the Drainage Manual: Used FEQ unsteady hydraulic model
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1. SN ___-___ (Existing); SN ___-___ (Proposed)
   Route/Stream: EOH West (Proposed,Dep3-FEQ Node F556) Crossing Over Devon Avenue Tributary
   County: DuPage

2. Prepared By: ☒ Consultant: CBBEL
   ☐ District ____

3. Chapter 2 of the IDOT Drainage ☒ Yes ☐ No
   If no, explain ____
   Completed checklist (2-701.02) must be attached.

4. Design Considerations:
   a. Backwater limitations due to:
      IDNR Individual or Floodway Permit ☐ Yes ☒ No
      Sensitive Flood Receptor(s) ☐ Yes ☒ No
   b. Does proposed average design velocity through the structure exceed natural channel velocities? ☐ Yes ☒ No
   c. Is the clearance policy met? ☐ Yes ☐ No ☒ N/A
   d. Is the freeboard policy met? ☐ Yes ☐ No ☒ N/A

5. Project scope (check all that apply):
   a. ☒ Complete replacement.
   b. ☐ Superstructure replacement.
   c. ☐ Superstructure replacement and/or widening; Length of pier extension in the water, upstream ____ft., downstream ____ft.
   d. ☐ Bridge ☒ Culvert
   e. ☒ New alignment
   f. Work planned below Q100 HWE: ☒ Yes ☐ No

6. Hydrology: ☐ USGS ☐ FIS ☒ Other FEQ Model
   Gage data utilized? ☐ Yes ☒ No

7. WIT: Attached copy of all completed WIT(s) ☒ Yes ☐ No ____

8. Modeling:
   a. ☐ HEC RAS ☐ WSPRO ☒ Other FEQ. Existing FEQ N-values used↓
   b. N-values estimated according to Chapter 5 of Drainage Manual? ☒ Yes ☐ No
   c. Source of starting WSE Salt Creek
   d. Non-IDOT encroachments in survey? ☒ Yes ☐ No
      If yes, are they accounted for? ☒ Yes ☐ No
   e. Tail water controls(s)? ☐ Yes ☒ No
      If yes, list: _____
      Properly addressed? ☐ Yes ☐ No
   f. Expansion/Contraction cones addressed per Chapter 7 of Drainage Manual? ☐ Yes ☐ No
      If N/A, explain: Addressed per FEQ model requirements

9. IDNR-OWR Permit: Drainage Area 0.25 SM ☐ Rural; ☒ Urbanizing;
   Public Water or within Public Water boundaries ☐ Yes ☒ No
   Indicate Permit Type Required:
   a. Individual ☐
   b. Statewide #2 ☐
   c. Statewide #12 ☐
   d. Floodway ☐
   e. Other: _____
   f. None: ☒

10. Sensitive flood receptors ☐ Yes ☒ No
    Give type, elevations and locations: _____

    History of flooding or overtopping problems: Yes ☐ No ☒
    Sources of observed highwater: _____

11. Scour/migration problems: ☒ None/minimal ☐ Significant ☐ Severe
    Comments: _____

    Ice/Debris concerns: None/minimal ☒ Significant ☐ Severe ☐
    Comments: _____

    Countermeasures proposed: _____

12. Deviations from the general procedures presented above and in Chapters 6 and 7 of the Drainage Manual: Used FEQ unsteady hydraulic model
    (Attach supporting documents if necessary)

Prepared by: Emily Anderson, PE, CFM Date: June 14, 2012

Signed: (AQ/QC) _____ Date: 6/14/2012

Illinois Department of Transportation

HYDRAULIC REPORT OUTLINE (HRO)

In order to facilitate a more efficient and timely approval of Hydraulic Reports, a "Hydraulic Report Outline" shall be prepared and submitted with each hydraulic project. This Outline shall be submitted to the District Hydraulic Engineer along with the Hydraulic Report to aid in review of the report.

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1. SN ___-___ (Existing); SN ___-___ (Proposed)

   Route/Stream: IL Route 53 North (Dep1, FEQ Node F552) Crossing Over Devon Avenue Tributary

   County: DuPage

2. Prepared By: ☒ Consultant: CBBEL
   ☐ District ____

3. Chapter 2 of the IDOT Drainage ☒ Yes ☐ No
   If no, explain ____

   Completed checklist (2-701.02) must be attached.

4. Design Considerations:
   a. Backwater limitations due to:
      IDNR Individual or Floodway Permit ☐ Yes ☒ No
      Sensitive Flood Receptor(s) ☐ Yes ☒ No
   b. Does proposed average design velocity through the structure exceed natural channel velocities? ☐ Yes ☒ No
   c. Is the clearance policy met? ☐ Yes ☐ No ☒ N/A
   d. Is the freeboard policy met? ☐ Yes ☐ No ☒ N/A

5. Project scope (check all that apply):
   a. ☒ Complete replacement.
   b. ☐ Superstructure replacement.
   c. ☐ Superstructure replacement and/or widening; Length of pier extension in the water, upstream ____ft., downstream ____ft.
   d. ☐ Bridge ☒ Culvert
   e. ☒ New alignment
   f. Work planned below Q100 HWE: ☒ Yes ☐ No

6. Hydrology: ☐ USGS ☐ FIS ☒ Other FEQ Model
   Gage data utilized? ☐ Yes ☒ No

7. WIT: Attached copy of all completed WIT(s) ☒ Yes ☐ No ____

8. Modeling:
   a. ☐ HEC RAS ☐ WSPRO ☒ Other FEQ. Existing FEQ N-values used↓
   b. N-values estimated according to Chapter 5 of Drainage Manual? ☒ Yes ☐ No
   c. Source of starting WSE Salt Creek
   d. Non-IDOT encroachments in survey? ☒ Yes ☐ No
      If yes, are they accounted for? ☒ Yes ☐ No
   e. Tail water controls(s)? ☐ Yes ☒ No
      If yes, list: _____
      Properly addressed? ☐ Yes ☐ No
   f. Expansion/Contraction cones addressed per Chapter 7 of Drainage Manual? ☐ Yes ☐ No
      If N/A, explain: Addressed per FEQ model requirements

9. IDNR-OWR Permit: Drainage Area 0.10 SM ☐ Rural; ☒ Urbanizing;
   Public Water or within Public Water boundaries ☐ Yes ☒ No
   Indicate Permit Type Required:
   a. Individual ☐
   b. Statewide #2 ☐
   c. Statewide #12 ☐
   d. Floodway ☐
   e. Other: _____
   f. None: ☒

10. Sensitive flood receptors ☐ Yes ☒ No
    Give type, elevations and locations: _____

    History of flooding or overtopping problems: Yes ☐ No ☒
    Sources of observed highwater: _____

11. Scour/migration problems: ☒ None/minimal ☐ Significant ☐ Severe
    Comments: _____

    Ice/Debris concerns: None/minimal ☒ Significant ☐ Severe ☐
    Comments: _____

    Countermeasures proposed: _____

12. Deviations from the general procedures presented above and in Chapters 6 and 7 of the Drainage Manual: Used FEQ unsteady hydraulic model
    (Attach supporting documents if necessary)

Prepared by: Emily Anderson, PE, CFM Date: June 14, 2012

Signed: (AQ/QC) _____ Date: 6/14/2012

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1. SN ___-___ (Existing); SN ___-___ (Proposed)

   Route/Stream: Ramp G1 (Pond2, D6-NW, FEQ Node F504) Crossing Over Devon Avenue Tributary

   County: DuPage

2. Prepared By: ☒ Consultant: CBBEL
   ☐ District ____

3. Chapter 2 of the IDOT Drainage ☒ Yes ☐ No
   If no, explain ____

   Completed checklist (2-701.02) must be attached.

4. Design Considerations:
   a. Backwater limitations due to:
      IDNR Individual or Floodway Permit ☐ Yes ☒ No
      Sensitive Flood Receptor(s) ☐ Yes ☒ No
   b. Does proposed average design velocity through the structure exceed natural channel velocities? ☐ Yes ☒ No
   c. Is the clearance policy met? ☐ Yes ☐ No ☒ N/A
   d. Is the freeboard policy met? ☒ Yes ☐ No

5. Project scope (check all that apply):
   a. ☒ Complete replacement.
   b. ☐ Superstructure replacement.
   c. ☐ Superstructure replacement and/or widening; Length of pier extension in the water, upstream ____ft., downstream ____ft.
   d. ☐ Bridge ☒ Culvert
   e. ☒ New alignment
   f. Work planned below Q100 HWE: ☒ Yes ☐ No

6. Hydrology: ☐ USGS ☐ FIS ☒ Other FEQ Model
   Gage data utilized? ☐ Yes ☒ No

7. WIT: Attached copy of all completed WIT(s) ☒ Yes ☐ No ____

8. Modeling:
   a. ☐ HEC RAS ☐ WSPRO ☒ Other FEQ. Existing FEQ N-values used↓
   b. N-values estimated according to Chapter 5 of Drainage Manual? ☒ Yes ☐ No
   c. Source of starting WSE Salt Creek
   d. Non-IDOT encroachments in survey? ☒ Yes ☐ No
      If yes, are they accounted for? ☒ Yes ☐ No
   e. Tail water controls(s)? ☐ Yes ☒ No
      If yes, list: _____
      Properly addressed? ☐ Yes ☐ No
   f. Expansion/Contraction cones addressed per Chapter 7 of Drainage Manual? ☐ Yes ☐ No
      If N/A, explain: Addressed per FEQ model requirements

9. IDNR-OWR Permit: Drainage Area 0.39 SM ☐ Rural; ☒ Urbanizing;
   Public Water or within Public Water boundaries ☐ Yes ☒ No
   Indicate Permit Type Required:
   a. Individual ☐
   b. Statewide #2 ☐
   c. Statewide #12 ☐
   d. Floodway ☐
   e. Other: _____
   f. None: ☒

10. Sensitive flood receptors ☐ Yes ☒ No
    Give type, elevations and locations: _____

    History of flooding or overtopping problems: Yes ☐ No ☒
    Sources of observed highwater: _____

11. Scour/migration problems: ☒ None/minimal ☐ Significant ☐ Severe
    Comments: _____

    Ice/Debris concerns: None/minimal ☒ Significant ☐ Severe ☐
    Comments: _____

    Countermeasures proposed: _____

12. Deviations from the general procedures presented above and in Chapters 6 and 7 of the Drainage Manual: Used FEQ unsteady hydraulic model
    (Attach supporting documents if necessary)

Prepared by: Emily Anderson, PE, CFM Date: June 14, 2012

Signed: (AQ/QC) _____ Date: 6/14/2012

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1. SN ___-___ (Existing); SN ___-___ (Proposed)
   Route/Stream: Ramp G1, G2 (Dep2-FEQ Node F554) Crossing Over Devon Avenue Tributary
   County: DuPage

2. Prepared By: ☒ Consultant: CBBEL
   ☐ District ____

3. Chapter 2 of the IDOT Drainage ☒ Yes ☐ No
   If no, explain ____
   Completed checklist (2-701.02) must be attached.

4. Design Considerations:
   a. Backwater limitations due to:
      IDNR Individual or Floodway Permit ☐ Yes ☒ No
      Sensitive Flood Receptor(s) ☐ Yes ☒ No
   b. Does proposed average design velocity through the structure exceed natural channel velocities? ☐ Yes ☒ No
   c. Is the clearance policy met? ☐ Yes ☐ No ☒ N/A
   d. Is the freeboard policy met? ☐ Yes ☐ No ☒ N/A

5. Project scope (check all that apply):
   a. ☒ Complete replacement.
   b. ☐ Superstructure replacement.
   c. ☐ Superstructure replacement and/or widening; Length of pier extension in the water, upstream ____ft., downstream ____ft.
   d. ☐ Bridge ☒ Culvert
   e. ☒ New alignment
   f. Work planned below Q100 HWE: ☒ Yes ☐ No

6. Hydrology: ☐ USGS ☐ FIS ☒ Other FEQ Model
   Gage data utilized? ☐ Yes ☒ No

7. WIT: Attached copy of all completed WIT(s) ☒ Yes ☐ No ____

8. Modeling:
   a. ☐ HEC RAS ☐ WSPRO ☒ Other FEQ. Existing FEQ N-values used↓
   b. N-values estimated according to Chapter 5 of Drainage Manual? ☒ Yes ☐ No
   c. Source of starting WSE Salt Creek
   d. Non-IDOT encroachments in survey? ☒ Yes ☐ No
      If yes, are they accounted for? ☒ Yes ☐ No
   e. Tail water controls(s)? ☐ Yes ☒ No
      If yes, list: _____
      Properly addressed? ☐ Yes ☐ No
   f. Expansion/Contraction cones addressed per Chapter 7 of Drainage Manual? ☐ Yes ☐ No
      If N/A, explain: Addressed per FEQ model requirements

9. IDNR-OWR Permit: Drainage Area 0.50 SM ☐ Rural; ☒ Urbanizing;
   Public Water or within Public Water boundaries ☐ Yes ☒ No
   Indicate Permit Type Required:
   a. Individual ☐
   b. Statewide #2 ☐
   c. Statewide #12 ☐
   d. Floodway ☐
   e. Other: _____
   f. None: ☒

10. Sensitive flood receptors ☐ Yes ☒ No
    Give type, elevations and locations: _____

    History of flooding or overtopping problems: Yes ☐ No ☒
    Sources of observed highwater: _____

11. Scour/migration problems: ☒ None/minimal ☐ Significant ☐ Severe
    Comments: _____

    Ice/Debris concerns: None/minimal ☒ Significant ☐ Severe ☐
    Comments: _____

    Countermeasures proposed: _____

12. Deviations from the general procedures presented above and in Chapters 6 and 7 of the Drainage Manual: Used FEQ unsteady hydraulic model
    (Attach supporting documents if necessary)

Prepared by: Emily Anderson, PE, CFM Date: June 14, 2012

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1. SN ___-___ (Existing); SN ___-___ (Proposed)
   Route/Stream: Ramp G3 (Pond5, FEQ Node F312) Crossing Over Devon Avenue Tributary
   County: DuPage

2. Prepared By: ☒ Consultant: CBBEL
   ☐ District ____

3. Chapter 2 of the IDOT Drainage ☒ Yes ☐ No
   If no, explain ____
   Completed checklist (2-701.02) must be attached.

4. Design Considerations:
   a. Backwater limitations due to:
      IDNR Individual or Floodway Permit ☐ Yes ☒ No
      Sensitive Flood Receptor(s) ☐ Yes ☒ No
   b. Does proposed average design velocity through the structure exceed natural channel velocities? ☐ Yes ☒ No
   c. Is the clearance policy met? ☐ Yes ☐ No ☒ N/A
   d. Is the freeboard policy met? ☒ Yes ☐ No

5. Project scope (check all that apply):
   a. ☒ Complete replacement.
   b. ☐ Superstructure replacement.
   c. ☐ Superstructure replacement and/or widening; Length of pier extension in the water, upstream ____ft., downstream ____ft.
   d. ☐ Bridge ☒ Culvert
   e. ☒ New alignment
   f. Work planned below Q100 HWE: ☒ Yes ☐ No

6. Hydrology: ☐ USGS ☐ FIS ☒ Other FEQ Model
   Gage data utilized? ☐ Yes ☒ No

7. WIT: Attached copy of all completed WIT(s) ☒ Yes ☐ No ____

8. Modeling:
   a. ☐ HEC RAS ☐ WSPRO ☒ Other FEQ. Existing FEQ N-values used↓
   b. N-values estimated according to Chapter 5 of Drainage Manual? ☒ Yes ☐ No
   c. Source of starting WSE Salt Creek
   d. Non-IDOT encroachments in survey? ☒ Yes ☐ No
      If yes, are they accounted for? ☒ Yes ☐ No
   e. Tail water controls(s)? ☐ Yes ☒ No
      If yes, list: _____
      Properly addressed? ☐ Yes ☐ No
   f. Expansion/Contraction cones addressed per Chapter 7 of Drainage Manual? ☐ Yes ☐ No
      If N/A, explain: Addressed per FEQ model requirements

9. IDNR-OWR Permit: Drainage Area 0.04 SM ☐ Rural; ☒ Urbanizing;
   Public Water or within Public Water boundaries ☐ Yes ☒ No
   Indicate Permit Type Required:
   a. Individual ☐
   b. Statewide #2 ☐
   c. Statewide #12 ☐
   d. Floodway ☐
   e. Other: _____
   f. None: ☒

10. Sensitive flood receptors ☐ Yes ☒ No
    Give type, elevations and locations: _____

    History of flooding or overtopping problems: Yes ☐ No ☒
    Sources of observed highwater: _____

11. Scour/migration problems: ☒ None/minimal ☐ Significant ☐ Severe
    Comments: _____

    Ice/Debris concerns: None/minimal ☒ Significant ☐ Severe ☐
    Comments: _____

    Countermeasures proposed: _____

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1. SN ___-___ (Existing); SN ___-___ (Proposed)
   Route/Stream: Ramp G5 (Pond1, D6-W, FEQ Node F502) Crossing Over Devon Avenue Tributary
   County: DuPage

2. Prepared By: ☒ Consultant: CBBEL
   ☐ District ____

3. Chapter 2 of the IDOT Drainage ☒ Yes ☐ No
   If no, explain ____
   Completed checklist (2-701.02) must be attached.

4. Design Considerations:
   a. Backwater limitations due to:
      IDNR Individual or Floodway Permit ☐ Yes ☒ No
      Sensitive Flood Receptor(s) ☐ Yes ☒ No
   b. Does proposed average design velocity through the structure exceed natural channel velocities? ☐ Yes ☒ No
   c. Is the clearance policy met? ☐ Yes ☐ No ☒ N/A
   d. Is the freeboard policy met? ☒ Yes ☐ No

5. Project scope (check all that apply):
   a. ☒ Complete replacement.
   b. ☐ Superstructure replacement.
   c. ☐ Superstructure replacement and/or widening; Length of pier extension in the water, upstream ____ft., downstream ____ft.
   d. ☐ Bridge ☒ Culvert
   e. ☒ New alignment
   f. Work planned below Q100 HWE: ☒ Yes ☐ No

6. Hydrology: ☐ USGS ☐ FIS ☒ Other FEQ Model
   Gage data utilized? ☐ Yes ☒ No

7. WIT: Attached copy of all completed WIT(s) ☒ Yes ☐ No ____

8. Modeling:
   a. ☐ HEC RAS ☐ WSPRO ☒ Other FEQ. Existing FEQ N-values used↓
   b. N-values estimated according to Chapter 5 of Drainage Manual? ☒ Yes ☐ No
   c. Source of starting WSE Salt Creek
   d. Non-IDOT encroachments in survey? ☒ Yes ☐ No
      If yes, are they accounted for? ☒ Yes ☐ No
   e. Tail water controls(s)? ☐ Yes ☒ No
      If yes, list: _____
      Properly addressed? ☐ Yes ☐ No
   f. Expansion/Contraction cones addressed per Chapter 7 of Drainage Manual? ☐ Yes ☐ No
      If N/A, explain: Addressed per FEQ model requirements

9. IDNR-OWR Permit: Drainage Area 0.38 SM ☐ Rural; ☒ Urbanizing;
   Public Water or within Public Water boundaries ☐ Yes ☒ No
   Indicate Permit Type Required:
   a. Individual ☐
   b. Statewide #2 ☐
   c. Statewide #12 ☐
   d. Floodway ☐
   e. Other: _____
   f. None: ☒

10. Sensitive flood receptors ☐ Yes ☒ No
    Give type, elevations and locations: _____

    History of flooding or overtopping problems: Yes ☐ No ☒
    Sources of observed highwater: _____

11. Scour/migration problems: ☒ None/minimal ☐ Significant ☐ Severe
    Comments: _____

    Ice/Debris concerns: None/minimal ☒ Significant ☐ Severe ☐
    Comments: _____

    Countermeasures proposed: _____

12. Deviations from the general procedures presented above and in Chapters 6 and 7 of the Drainage Manual: Used FEQ unsteady hydraulic model
    (Attach supporting documents if necessary)

Prepared by: Emily Anderson, PE, CFM Date: June 14, 2012

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1. SN ___-___ (Existing); SN ___-___ (Proposed)

   Route/Stream: Ramp G6, K4 (FEQ Node F314) Crossing Over Devon Avenue Tributary

   County: DuPage

2. Prepared By: ☒ Consultant: CBBEL
   ☐ District ____

3. Chapter 2 of the IDOT Drainage ☒ Yes ☐ No
   If no, explain ____

   Completed checklist (2-701.02) must be attached.

4. Design Considerations:
   a. Backwater limitations due to:
      IDNR Individual or Floodway Permit ☐ Yes ☒ No
      Sensitive Flood Receptor(s) ☒ Yes ☐ No
   b. Does proposed average design velocity through the structure exceed natural channel velocities? ☐ Yes ☒ No
   c. Is the clearance policy met? ☐ Yes ☐ No ☒ N/A
   d. Is the freeboard policy met? ☐ Yes ☐ No ☒ N/A

5. Project scope (check all that apply):
   a. ☒ Complete replacement.
   b. ☐ Superstructure replacement.
   c. ☐ Superstructure replacement and/or widening; Length of pier extension in the water, upstream ____ft., downstream ____ft.
   d. ☐ Bridge ☒ Culvert
   e. ☒ New alignment
   f. Work planned below Q100 HWE: ☒ Yes ☐ No

6. Hydrology: ☐ USGS ☐ FIS ☒ Other FEQ Model
   Gage data utilized? ☐ Yes ☒ No

7. WIT: Attached copy of all completed WIT(s) ☒ Yes ☐ No ____

8. Modeling:
   a. ☐ HEC RAS ☐ WSPRO ☒ Other FEQ. Existing FEQ N-values used↓
   b. N-values estimated according to Chapter 5 of Drainage Manual? ☒ Yes ☐ No
   c. Source of starting WSE Salt Creek
   d. Non-IDOT encroachments in survey? ☒ Yes ☐ No
      If yes, are they accounted for? ☒ Yes ☐ No
   e. Tail water controls(s)? ☐ Yes ☒ No
      If yes, list: _____
      Properly addressed? ☐ Yes ☐ No
   f. Expansion/Contraction cones addressed per Chapter 7 of Drainage Manual? ☐ Yes ☐ No
      If N/A, explain: Addressed per FEQ model requirements

9. IDNR-OWR Permit: Drainage Area 0.04 SM ☐ Rural; ☒ Urbanizing;
   Public Water or within Public Water boundaries ☐ Yes ☒ No
   Indicate Permit Type Required:
   a. Individual ☐
   b. Statewide #2 ☐
   c. Statewide #12 ☐
   d. Floodway ☐
   e. Other: _____
   f. None: ☒

10. Sensitive flood receptors ☒ Yes ☐ No
    Give type, elevations and locations: Downstream Wildspring Subdivision with reported flooding

    History of flooding or overtopping problems: ☒ Yes ☐ No
    Sources of observed highwater: _____

11. Scour/migration problems: ☒ None/minimal ☐ Significant ☐ Severe
    Comments: _____

    Ice/Debris concerns: None/minimal ☒ Significant ☐ Severe ☐
    Comments: _____

    Countermeasures proposed: _____

12. Deviations from the general procedures presented above and in Chapters 6 and 7 of the Drainage Manual: Used FEQ unsteady hydraulic model
    (Attach supporting documents if necessary)

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1. SN ___-___ (Existing); SN ___-___ (Proposed)

   Route/Stream: Ramp G7 (Pond 4, D6-E, FEQ Node F508) Crossing Over Devon Avenue Tributary

   County: DuPage

2. Prepared By: ☒ Consultant: CBBEL
   ☐ District ____

3. Chapter 2 of the IDOT Drainage ☒ Yes ☐ No
   If no, explain ____

   Completed checklist (2-701.02) must be attached.

4. Design Considerations:
   a. Backwater limitations due to:
      IDNR Individual or Floodway Permit ☐ Yes ☒ No
      Sensitive Flood Receptor(s) ☐ Yes ☒ No
   b. Does proposed average design velocity through the structure exceed natural channel velocities? ☐ Yes ☒ No
   c. Is the clearance policy met? ☐ Yes ☐ No ☒ N/A
   d. Is the freeboard policy met? ☐ Yes ☐ No ☒ N/A

5. Project scope (check all that apply):
   a. ☒ Complete replacement.
   b. ☐ Superstructure replacement.
   c. ☐ Superstructure replacement and/or widening; Length of pier extension in the water, upstream ____ft., downstream ____ft.
   d. ☐ Bridge ☒ Culvert
   e. ☒ New alignment
   f. Work planned below Q100 HWE: ☒ Yes ☐ No

6. Hydrology: ☐ USGS ☐ FIS ☒ Other FEQ Model
   Gage data utilized? ☐ Yes ☒ No

7. WIT: Attached copy of all completed WIT(s) ☒ Yes ☐ No ____

8. Modeling:
   a. ☐ HEC RAS ☐ WSPRO ☒ Other FEQ. Existing FEQ N-values used↓
   b. N-values estimated according to Chapter 5 of Drainage Manual? ☒ Yes ☐ No
   c. Source of starting WSE Salt Creek
   d. Non-IDOT encroachments in survey? ☒ Yes ☐ No
      If yes, are they accounted for? ☒ Yes ☐ No
   e. Tail water controls(s)? ☐ Yes ☒ No
      If yes, list: _____
      Properly addressed? ☐ Yes ☐ No
   f. Expansion/Contraction cones addressed per Chapter 7 of Drainage Manual? ☐ Yes ☐ No
      If N/A, explain: Addressed per FEQ model requirements

9. IDNR-OWR Permit: Drainage Area 0.27 SM ☐ Rural; ☒ Urbanizing;
   Public Water or within Public Water boundaries ☐ Yes ☒ No
   Indicate Permit Type Required:
   a. Individual ☐
   b. Statewide #2 ☐
   c. Statewide #12 ☐
   d. Floodway ☐
   e. Other: _____
   f. None: ☒

10. Sensitive flood receptors ☐ Yes ☒ No
    Give type, elevations and locations: _____

    History of flooding or overtopping problems: Yes ☐ No ☒
    Sources of observed highwater: _____

11. Scour/migration problems: ☒ None/minimal ☐ Significant ☐ Severe
    Comments: _____

    Ice/Debris concerns: None/minimal ☒ Significant ☐ Severe ☐
    Comments: _____

    Countermeasures proposed: _____

12. Deviations from the general procedures presented above and in Chapters 6 and 7 of the Drainage Manual: Used FEQ unsteady hydraulic model
    (Attach supporting documents if necessary)

Prepared by: Emily Anderson, PE, CFM Date: June 14, 2012

Signed: (AQ/QC) _____ Date: 6/14/2012

Hydraulic Report Checklist

The District or Consultant should complete the following checklist before submitting the Hydraulic Report for approval.

1. ☒ Title Page
2. ☒ Table of Contents
3. ☒ Narrative - (as outlined in Section 2-601.01 Item #3)
4. ☒ Waterway Information Table (WIT) - (as outlined in Section 2-601.01 Item #4)
5. ☒ Hydraulic Report Data Sheets
6. ☒ Location Map - should show the subject structure along with nearby location defining landmarks (cities, roads, highways, etc.)
7. ☒ USGS Hydraulic Investigation Map (District 1 only)
8. ☒ Photographs - (Minimum: U/S & D/S Structure Faces, Up & Down Channel, Up & Down Roadway Across Structure)
9. ☒ Hydrology (map and calculations)
10. ☒ Streambed Profile
11. ☒ Roadway Profile (existing and proposed)
12. ☒ Cross Section Plots - with plan layout preferably overlayed upon an aerial photo with the contours
13. ☐ Bridge Opening Plots
14. ☒ Natural Condition Analysis
15. ☒ Existing Condition Analysis
16. ☒ Proposed Condition Analysis

When HEC-RAS modeling is being used, ALL Plans (Natural, Existing, & Proposed) shall be included in ONE Project File.

17. ☐ Scour Analysis – Existing and Proposed Conditions
18. ☐ Compensatory Storage Calculations (if required)
19. ☒ Survey Notes (if available, No Electronic Point Files)
20. ☒ Correspondence Notes
21. ☒ CD with Project Files (Include pdf copy of the Hydraulic Report)

SECTION 1

NARRATIVE
ELGIN O'HARE EXPRESSWAY AND THORNDALE AVENUE, I-290, ELGIN O'HARE/I-290 INTERCHANGE RAMPS, ILLINOIS ROUTE 53 OVER DEVON AVENUE TRIBUTARY

SECTION 1

NARRATIVE
ELGIN O'HARE EXPRESSWAY AND THORNDALE AVENUE, I-290, ELGIN O'HARE/I-290 INTERCHANGE RAMPS, ILLINOIS ROUTE 53 OVER DEVON AVENUE TRIBUTARY

NARRATIVE

Project Description

The Elgin O'Hare - West Bypass (EOWB) study area encompasses nine (9) watersheds that are the West Branch DuPage River, Spring Brook, Meacham Creek, Salt Creek, Willow Creek, Higgins Creek, Bensenville Ditch, Addison Creek and Silver Creek. The length of the expressway and interchanges to be improved is approximately 50 miles that includes Elgin O'Hare Expressway/Thorndale Avenue approximately from Gary Avenue to York Road, I-90 approximately from Arlington Heights Road to Wolf Road and I-294 approximately from North Avenue to Mannheim Road. It is estimated that approximately 25 miles of arterials and frontage roads also will be included in the study. A general project location map is included in Section 3 of this report.

This hydraulic report is submitted for the impacted structures located within the Devon Avenue Tributary watershed. The Existing Conditions Culvert Location Map (Exhibit 9.2), is included in Section 9. The Proposed Conditions Culvert Location Map, (Exhibit 11.2), is included in Section 11. Both the existing and proposed culvert locations are also shown on the Devon Avenue Tributary Proposed Plan Exhibit 5.1 included in Section 5 with open areas and detention basin locations. It is recommended to use these exhibits as guides due to the large number of affected drainage structures.

Devon Avenue Tributary is located at the Elgin O'Hare Expressway/Thorndale Avenue highway exit at I-290. The highway exit is proposed to be improved to a full interchange for the Elgin O'Hare Expressway and I-290. Devon Avenue Tributary will be rerouted through the interchange in a series of open areas between ramps. This hydraulic report documents the hydraulic conditions of the impacted structures at the following road crossings in the Village of Itasca, DuPage County, Illinois:

- IL Route 53 South
- Elgin O'Hare Expressway West
- Elgin O'Hare Expressway East
- Elgin O'Hare Expressway East Ramp
- I-290 North
- I-290 South
- Thorndale Avenue/ Park Boulevard (North and South)

In addition, several proposed structures have been analyzed in relation to their potential hydrologic and hydraulic impact to the surrounding area. This includes:

- IL Route 53 North
- Ramp G-5
- Ramp G-1
- Ramp G-1, G-2
- Ramp G-7
- Ramp G-3

The USGS Hydrologic Investigations Atlas, Flood Insurance Rate Map (FIRM), and DuPage County Regulatory Flood Map (RFM) are included in Section 3. The FIRM and RFM do not show regulatory floodplain for Devon Avenue Tributary west of I-290 or south of the Elgin O'Hare Expressway.

Site Description

A dual 60 inches (W) by 38 inches (H) reinforced concrete elliptical pipe (RCEP) was used for the IL Route 53 existing conditions waterway crossing. The existing conditions are based on IDOT feedback that construction of the dual RCEP under IL Route 53 will be completed prior to the EOWB project. The IL Route 53 structure will carry two lanes of traffic in each direction. The overall structure length is 92.2 feet face to face.

The existing Elgin O'Hare Expressway West structure is a 48 inches diameter reinforced concrete pipe (RCP) that carries four lanes of traffic in each direction. The overall structure length is 185.6 feet face to face. The existing structure crossing has a skew angle of approximately 25 degrees.

The existing Elgin O'Hare Expressway East structures are two 54 inches diameter RCP's that carry four lanes of traffic in each direction. The overall structure length is 235.5 feet face to face.

The existing westbound Elgin O'Hare Expressway East Ramp structures are two 54 inches diameter RCP's that carry one lane of traffic west. The overall structure length is 205.0 feet face to face.

The existing I-290 North structure consist of a 9.5 feet (W) by 3.64 feet (H) reinforced concrete box culvert (RCBC) that carry four lanes of traffic in each direction. The overall structure length is 320.0 feet face to face. The existing structure crossing has a skew angle of approximately 10 degrees.

The existing I-290 South structure consists of a 42 inches RCP that carries four lanes of traffic in each direction. The overall structure length is 230.0 feet face to face.

The existing Thorndale Avenue structures is a 60 inches (W) by 38 inches (H) RCEP that carries two lanes of traffic in each direction. The overall structure length is 152.0 feet face to face. The existing structure crossing has a skew angle of approximately 35 degrees. Just upstream of the Thorndale Avenue structure is the Park Boulevard South structure, a 60 inches (W) by 38 inches (H) RCEP. Just downstream of the Thorndale Avenue structure is a unnamed 60 inches (W) by 38 inches (H) corrugated metal pipe (CMEP) and the Park Boulevard North structure, a 54 inches x 36 inches CMEP.

Field Observations

A field visit to the project site was made on November 5, 2010. Photographs of the structures discussed are included in Sections 4. This visit was also completed to photograph and observe surrounding structures within the modeling limits of this study.

IL Route 53 (2- 60" x 38" RCEP)

The IL Route 53 crossing is located upstream of both the Norwood Avenue and the Extended Stay America Hotel. Norwood Avenue, located just northeast of IL Route 53, is not inundated for the 100-year storm event as shown by the FEQ hydraulic model results and topographic map. The channel extends upstream west from IL Route 53 for approximately 450 feet where it enters an industrial park. The area upstream of IL Route 53 is a manmade pond. The pond is well defined throughout this reach, and the banks are well maintained and vegetated with grass. A twin 60 inches (W) by 38 inches (H) RCEP is assumed for the IL Route 53 crossing for the existing conditions. There is no siltation upstream of the structure. There is no evidence of scour at the structure.

The downstream end of the structure is completely submerged. The floodplain area downstream of IL Route 53 extends through 400 feet of wetlands then enters a well defined channel. The well defined channel extends downstream of the wetland for approximately 1500 feet then enters a 60 inches diameter CMP structure which discharges to the ditch upstream of the Elgin O'Hare Expressway East crossing.

Elgin O'Hare Expressway West (48" RCP)

The Elgin O'Hare Expressway West crossing is located approximately 450 feet east of the IL Route 53 intersection with Elgin O'Hare Expressway. The channel extends upstream southwest from Elgin O'Hare Expressway West for approximately 350 feet, it then crosses under the IL Route 53 access road to the Extended Stay America Hotel. The area upstream of the Elgin O'Hare Expressway West structure is a manmade channel. The channel is well defined throughout this reach, and the channel banks are densely vegetated with grass and bushes. The main channel flows through a 48 inches diameter RCP under Elgin O'Hare Expressway West. There is some siltation and the channel is overgrown immediately upstream and downstream of the structure. This causes flow in the channel to be restricted for baseflow conditions. Under flood stages, the overgrowth area is submerged. There is no evidence of scour at the structure.

Elgin O'Hare Expressway East (2 - 54" RCP)

The Elgin O'Hare Expressway East crossing is located upstream of the Elgin O'Hare Expressway East Ramp crossing. The dual 54 inches RCP crosses Elgin O'Hare Expressway where the I-290 southbound exit ramp (Elgin O'Hare Expressway East Ramp) meets the Elgin O'Hare Expressway. The channel extends upstream southeast from the Elgin O'Hare Expressway East structure for approximately 350 feet, where it enters a 60 inches corrugated metal pipe (CMP) ditch structure. The channel is well defined throughout this reach, and the channel banks are densely vegetated with grass and bushes.

Downstream of Elgin O'Hare Expressway East, the channel section is also highly channelized. The channel extends downstream from the Elgin O'Hare Expressway East for approximately 50 feet prior to the structure under the Elgin O'Hare Expressway East Ramp. The area downstream of Elgin O'Hare Expressway is an overgrown manmade channel.

Elgin O'Hare Expressway East Ramp (2 - 54" RCP)

The Elgin O'Hare Expressway East Ramp crossing is located upstream of the I-290 North crossing 9.5' (W) by 3.64' (H) RCBC. This ramp exits southbound traffic from I-290 either westbound to Elgin O'Hare Expressway or eastbound to Thorndale Avenue. The well defined channel extends upstream southwest from the I-290 Ramp for approximately 50 feet, it then enters the Elgin O'Hare Expressway East structure. The area upstream of the Elgin O'Hare Expressway East Ramp is a manmade channel within the ramp infield. The channel is overgrown throughout this reach, and the channel banks are densely vegetated with grass and bushes. The main channel flows through a dual 54 inches diameter RCP under the Elgin O'Hare Expressway East Ramp. There is some overgrowth immediately upstream and downstream of the structure. This overgrowth causes flow in the channel to be restricted for baseflow conditions only. Under flood stages, the overgrowth area is submerged. There is no evidence of scour at the structure.

Downstream of the Elgin O'Hare Expressway East Ramp, the channel section is also highly channelized. The channel extends downstream of the Elgin O'Hare Expressway East Ramp for approximately 1,300 feet prior to the 9.5' (W) by 3.64' (H) RCBC structure under I-290 North. The area downstream of the Elgin O'Hare Expressway is an overgrown manmade channel.

I-290 North (9.5' (W) by 3.64' (H) RCBC)

The Devon Avenue Tributary is highly channelized and overgrown in the vicinity of I-290 North. The channel extends upstream southwest from I-290 North for approximately 1,050 feet; it then splits, crossing under the Elgin O'Hare Expressway East Ramp and under a service road which runs along Elgin O'Hare Expressway. The channel is well defined throughout this reach and the channel banks are densely vegetated with grass and bushes. There is some standing water upstream and downstream of the I-290 North structure as well as throughout the structure opening. There is no evidence of scour at the structure.

Downstream of I-290 North, the channel section is also highly channelized for approximately 300 feet running along the east side of I-290 North then turning east and widening to become an open water facility. The channel extends downstream of I-290 North for approximately 480 feet prior to the structure under Park Boulevard. The area downstream of I-290 North is an open water facility.

Thorndale Avenue (60" x 38" RCEP)

The Devon Avenue Tributary is highly channelized in the vicinity of Thorndale Avenue. The channel extends upstream southwest from Thorndale Avenue for approximately 170 feet, it then enters a 60 inches (W) by 38 inches (H) RCEP Park Boulevard structure. The area upstream of Thorndale Avenue is a manmade channel. The channel is well defined throughout this reach, and the channel banks

are lightly vegetated with grass and bushes. The main channel flows through a 60 inches (W) by 38 inches (H) RCEP under Thorndale Avenue. There is little siltation immediately upstream and downstream of the structure. This siltation causes no constriction for any flow conditions. There is no evidence of scour at the structure.

Downstream of Thorndale Avenue, the channel section is also highly channelized. The channel extends downstream of Thorndale Avenue for approximately 20 feet prior to the 60 inches (W) by 38 inches (H) CMP structure through the Park Boulevard infield. The area downstream of Thorndale Avenue is a well maintained manmade channel.

Stream Survey

A stream survey of the Devon Avenue Tributary was prepared by D. B. Sterlin Consultants, Inc. in accordance with the stream survey requirements in Section 2-600 of the IDOT Drainage Manual. The stream survey was based on the IDOT datum for the Elgin O'Hare - West Bypass project, which is same as the NAVD 1988 datum.

Datum Correlation

A datum correlation is required because the FIS datum of NGVD 1929 was used in the FEQ regulatory model and the IDOT datum of NAVD 1988 was used for the survey. The DuPage County FIS and model results are each based on the NGVD 1929 datum. The IDOT datum, the stream survey, all roadway plans, and tables included in this report are based on the NAVD 1988 datum. Modeling input and output are in the NGVD 1929 datum. The Waterway Information Tables (WIT's) and Hydraulic Report Data Sheets, included in Section 2, are presented in NAVD 1988.

DuPage County calculated the countywide vertical datum conversion factors for each watershed as provided in Section 8. The Devon Avenue Tributary watershed NAVD 1988 datum elevations can be determined by subtracting 0.28 feet from the NGVD 1929 datum elevations.

The Waterway Information Tables included in this report are based on the NAVD 1988 datum.

Historical Flooding Observations

According to the USGS Hydrologic Investigations Atlas HA-143 (1964) Lombard Quadrangle, the flood of record for Devon Avenue Tributary occurred in October 1954. There was no recorded flood stage at Thorndale Avenue, I-290, Elgin O'Hare Expressway East, Elgin O'Hare Expressway West or IL Route 53. The Salt Creek model calibration includes 31 flood events that occurred during the time period of 1995-2008, and compared with USGS gages located throughout the Salt Creek Watershed.

Sensitive Flood Receptors

There is a sensitive flood receptor reported within the Devon Avenue Tributary floodplain in the vicinity of I-290, Elgin O'Hare Expressway and IL Route 53. As shown on Exhibit 9.3 included in Section 9, Norwood Avenue is inundated for the 100-year storm event west of IL Route 53, blocking access to businesses further west. No buildings are inundated for the 100-year storm event as these are several feet higher than the roadway sag point.

There are sensitive flood receptors reported within the Devon Avenue Tributary floodplain in the vicinity of Thorndale Avenue. It was reported by the Village of Itasca and DuPage County that roadway inundation has occurred in the Wildspring Subdivision located south of Park Boulevard South. The Elgin O'Hare – West Bypass Devon Avenue Tributary-Existing Conditions (Exhibit 9.3) shows the 100-year floodplain delineated on DuPage County 2-foot contour topography. Willow Street and residential structures south of Park Boulevard are shown to be inundated for the 100-year storm event. Road overtop elevations indicate a maximum flooding depth of 2.1 feet and a home low entry 0.2 foot below the high water elevation along Willow Street as shown on the low entry and road overtop elevations exhibit (Exhibit 9.4) included in Section 9. Another home low entry along Bryn Mawr is 0.5 feet below the high water level. The Drainage Investigation section of this report goes into further detail and analysis of the Wildspring Subdivision flooding.

Other Studies and Reports

The regulatory 100-year flood profile ends approximately 850 feet upstream of Pierce Road with an elevation of 687.5 feet, according to Sheet 94P of the Flood Insurance Study for DuPage County, Illinois and Incorporated Areas, dated March 2007 which is included in Section 3 of this report.

There are no flood profile elevations shown at Thorndale Avenue, I-290, Westbound Thorndale Avenue Ramp, Elgin O'Hare Expressway East, Elgin O'Hare Expressway West or IL Route 53 for the 10-year, 50-year, and 100-year storm events. The Flood Insurance Rate Map (FIRM), Map Number 17043C0301H, dated December 16, 2004 is included in Section 3 of this report. The FIRM reports no floodplain flood zone designation upstream or downstream of any of the crossings.

The baseline conditions hydraulic model of the Devon Avenue Tributary used in this analysis was obtained from a floodplain mapping study prepared by Montgomery, Watson, Harza, Inc. (MWH) for DuPage County, dated August 26, 2010.

Waterway Modeling

A hydraulic analysis of the Devon Avenue Tributary was performed to develop the existing conditions and natural conditions flood elevations for determining effects of

a proposed structure on water surface profiles. The basis for the hydraulic analysis is the current FEQ unsteady flow hydraulic model of the Devon Avenue Tributary and its tributaries.

Hydrologic Analysis

DuPage County employs a long-term continuous record of rainfall and potential evapotranspiration to simulate historical runoff to create a homogeneous record of flood flows. This simulation employs the HSPF software program which was released by the USEPA in 1980 and is currently in Version 12.2. The Salt Creek HSPF model calibration includes 31 flood events that occurred during the time period of 1995-2008. The results of this analysis are compared with USGS gages located throughout the Salt Creek Watershed (Devon Avenue Tributary is tributary to Salt Creek). Peak elevations, flows and volumes are computed for each of the 31 simulated storm events and then are compared at each of the gages.

Once the model results are judged to accurately simulate the calibration period, a series of historical storms is extracted from the continuous HSPF record and used in the hydraulic model simulation. The historical period of record used in the DuPage County simulation is from 1949-2008. There are 165 discrete storm events contained in the simulations.

Hydraulic Analysis

Hydraulic analysis in the DuPage County floodplain mapping procedure is performed using the FEQ modeling software developed by Dr. Delbert Franz and distributed by the USGS. It has been supported by USGS and has been a FEMA approved model since 1997. The USGS approval process included an in-depth validation and verification of the model's capabilities and accuracy. The FEQ model of the Salt Creek was prepared and calibrated according to FEMA standards for the development of hydraulic model input data. The FEQ model uses input from the HSPF hydrologic model and also from the FEQUTL program. FEQUTL is used to generate tabular files that are used by FEQ to compute the elevation and flow at each location contained in the model.

Statistical Analysis

HSPF and FEQ are used to generate a series of simulated floods. Although the floods are based on historical rainfall input, the floods themselves are not historical. Instead, they are representative of the flood peaks that might have occurred if current watershed development had been in place during the past 60 years (1949-2008).

This simulated historical series consist of 157 floods that have been extracted from the long term continuous simulation. Multiple floods are extracted from many of the years because the largest flood in any given year might be produced by different rainfall events in different watersheds or different locations in the same watershed.

The floods with the 60 largest peaks at each location are employed in the statistical analysis. The selected number of peaks is based on the 60 years of simulated data.

For each selected flood, the flood volume is determined using a baseflow separation program called BFILTER. The 60 flood volumes are then fitted to a statistical distribution which allows flood volume quantities to be determined, such as the 100-year volume. Next, a functional relationship between peak elevation and volume is developed. This relationship is derived from pairs of peak elevation and flood volumes obtained from the simulated data. Often the historical storm simulations do not contain data points at the high end of the peak elevation versus volume curve. Additional data is obtained to extend the curve by simulating a sequence of extreme Midwestern rain events. These extreme events are simply used to obtain stage and volume results beyond the envelope of locally recorded storms. The two steps involving the statistical fits and the derivation of the peak elevation versus volume curve are performed using the software known as PVSTATS.

Baseline Conditions Model

The baseline model was obtained from MWH and is an updated version of the watershed plan model originally prepared in 2005. This model was recently updated to run a more current version of FEQ (version 10.61) which will be used as part of the overall floodplain mapping effort being completed by DuPage County.

The FEQ model for Devon Avenue Tributary is part of a larger model of the lower Salt Creek watershed (which includes the Devon Avenue Tributary). The Devon Avenue Tributary portion of the Salt Creek model is linked to the Salt Creek model south of Devon Avenue and uses the Salt Creek backwater to determine starting water conditions. The Devon Avenue Tributary confluence with the Salt Creek is located approximately 350 feet downstream of Devon Avenue. The FEQ model functions such that for each flood profile analyzed along the Devon Avenue Tributary, the starting water surface elevation is taken from the same flood profile at the Salt Creek. Therefore, the 100-year Devon Avenue Tributary profile will start with the 100-year elevation of the Salt Creek. Using a constant storm event such as the 10-year elevation of the Salt Creek as the starting elevation for all flood profiles analyzed was considered to be not applicable with use of the HSPF/FEQ/PVSTATS analysis.

Since the FEMA regulatory model did not extend upstream to the crossings investigated in this report there are no results to be tabulated for comparison in this section. The baseline conditions watershed boundary map, FEQ model schematic, and PVSTATS results summary are included in Section 8.

Existing Conditions Model

The surveyed Cross Sections B1 through B7, and B19 through B21 were added to the existing conditions FEQ model. The cross section data was converted to NGVD 1929 datum by adding 0.28 to the surveyed elevations. The surveyed cross sections were extended using the data from the baseline FEQ model cross sections. The surveyed Cross Section B9, B12, and B14 were not added to the existing FEQ

model because these cross sections are located within the existing pond located downstream of I-290. The existing pond was modeled as a level pool reservoir, FEQ Node F20. Cross Sections B8 and B16 were used in the FEQUTL file used to model the culverts under Park Boulevard and I-290. The associated FEQUTL file "xs_exist_r1.ftl" description is included in Section 9. Cross Sections J1 through J4 were added to the existing conditions FEQ model. The associated FEQUTL file "xsj_existr1.ftl" description is included in Section 9. Also, FEQ Branch 60 was replaced with a dummy branch F319/F320 to model the overflow from ditch, located between IL 53 and 60-inch Unnamed Culvert. The associated FEQUTL file "ovfb60.FTL" is included in Section 9.

The culverts under I-290, Park Boulevard, Pierce Road, Park Boulevard North, Unnamed Culvert, Thorndale Avenue, and Park Boulevard South were updated to match the survey data, and the culvert under Illinois Route 53 was replaced with two RCEPs. Also, the level pool reservoir (FEQ Node F22) located upstream of I-290 was replaced with a channel flow branch (FEQ Branch 47) as requested by IDOT. The associated FEQUTL files are included in Section 9.

The existing conditions model was updated by adding the I-290 South 42" RCP, located south of the interchange ramp from northbound I-290 to eastbound Thorndale Avenue, and Park Boulevard South culverts located west and north of the Wildspring Subdivision.

The baseline conditions hydraulic model of the Devon Avenue Tributary used in this analysis was obtained from a floodplain mapping study prepared by Montgomery, Watson, Harza, Inc. (MWH) for DuPage County, dated August 26, 2010. The DuPage County FEQ model implements a flow reduction capability available within the model which represents the impacts caused by stormwater mitigation within the watershed. At the request of IDOT, this reduction factor was removed from the subbasins, located west of I-290 and south of Thorndale Avenue, to reflect the observed flooding reported in locations within the drainage study area. This includes subbasins DA15, DA16, DA16A, DA17, DA18, DA19, DA21, DA22, DA303A, DA303B, DA304B, DA304C, DA304D, and DA305 shown on the watershed exhibit (Exhibit 9.1) included in Section 9. A DTEN FRACTION of 0.8 was used for Subbasin DA20 because 80 percent of this subbasin is detained. The baseline Subbasin DA14 was divided into new Subbasins DA14, DA14E, and DA14F. The new Subbasin DA14 was assigned to Branch 47 without DETEN FRACTION. The tributary areas from Subbasins DA14E and DA14F were added to FEQ Nodes F202 and F204, respectively. The modification increased the 100-year water surface elevation approximately 1.3 feet within the Wildspring Subdivision, 4.0 feet downstream of Park Boulevard near the Hamilton Lakes, 1.6 feet upstream of IL Route 53, and 1.7 – 2.0 feet downstream of IL Route 53. The existing conditions watershed boundary map, FEQ model schematic, and PVSTATS results summary are included in Section 9. Exhibit 9.3 shows the existing conditions cross-sections and 100-year floodplain boundary, and is included in Section 9.

A comparison of the Baseline Conditions WSEL and Existing Conditions WSEL is included in Table 1.

Table 1
Existing Conditions WSEL vs. Baseline Conditions WSEL
Based on NAVD 1988 Datum

Model Section	10-Year Recurrence Interval			50-Year Recurrence Interval			100-Year Recurrence Interval		
	Baseline WSEL	EX. WSEL	Diff. (Ft.)	Baseline WSEL	EX. WSEL	Diff. (Ft.)	Baseline WSEL	EX. WSEL	Diff. (Ft.)
SOUTH TRIBUTARY TO DEVON AVENUE TRIBUTARY									
F310 I-290 South		707.7			708.1			708.3	
F312 (I-290 Northbound Ramp)		704.8			705.3			705.6	
F314 Western Park Blvd South									
XS338	692.3	693.7	1.4	692.8	694.2	1.4	693.0	694.4	1.3
XS336	692.3	693.7	1.4	692.8	694.2	1.4	693.0	694.4	1.3
XS334	692.3	693.7	1.3	692.8	694.2	1.4	693.0	694.4	1.3
XS332	691.6	692.5	0.9	691.9	693.5	1.6	692.2	693.9	1.7
XS330	691.4	692.5	1.0	691.9	693.5	1.6	692.2	693.9	1.7
XS328	691.4	692.5	1.0	691.9	693.5	1.6	692.2	693.9	1.7
XS326	691.4	692.5	1.1	691.9	693.5	1.6	692.2	693.9	1.7
XS324	691.4	692.5	1.1	691.9	693.5	1.6	692.2	693.9	1.7
XS322 U/S Eastern Park Blvd South	691.4	692.5	1.1	691.9	693.5	1.6	692.2	693.9	1.7
XS320 D/S Eastern Park Blvd South	691.4	692.3	0.9	691.8	693.4	1.6	692.2	693.9	1.7
XS318	691.4	692.3	0.9	691.8	693.4	1.6	692.0	693.8	1.8
XS316/ XS_9316 (J4) U/S Thorndale Avenue	691.3	692.3	1.0	691.8	693.4	1.6	692.0	693.8	1.8
XS314/ XS_9314 (J3) D/S Thorndale Avenue	690.6	691.6	0.9	691.1	692.8	1.7	691.4	693.4	1.9
XS312 U/S Unnamed Culvert	690.6	691.6	0.9	691.1	692.8	1.7	691.4	693.4	1.9

Model Section	10-Year Recurrence Interval			50-Year Recurrence Interval			100-Year Recurrence Interval		
	Baseline WSEL	EX. WSEL	Diff. (Ft.)	Baseline WSEL	EX. WSEL	Diff. (Ft.)	Baseline WSEL	EX. WSEL	Diff. (Ft.)
XS310 D/S Unnamed Culvert	690.0	691.2	1.3	690.2	692.7	2.5	690.4	693.3	2.9
XS308	689.5	691.1	1.5	690.0	692.5	2.6	690.3	693.1	2.9
XS306/ XS9306 (J2) U/S Park Blvd North	689.4	691.0	1.6	689.9	692.5	2.6	690.3	693.1	2.9
XS304/ XS9304 (J1) D/S Park Blvd North	688.7	690.6	1.9	688.9	691.9	3.1	689.8	692.4	2.7
XS3018/ XS302	686.9	690.6	3.6	688.6	691.9	3.4	689.8	692.4	2.7
XS3019	686.9	690.6	3.6	688.6	691.9	3.4	689.8	692.4	2.7
XS3020		690.4	690.4		691.9	691.9		692.4	692.4
DEVON AVENUE TRIBUTARY (EAST BOUND LOOP)									
F24 U/S IL Route 53	712.2	714.3	2.2	712.6	715.4	2.8	713.0	715.9	2.9
XS224 D/S IL Route 53 and U/S Norwood Avenue	712.1	713.8	1.7	712.5	714.4	1.9	712.8	714.7	1.9
XS222	712.1	713.8	1.7	712.5	714.4	1.9	712.8	714.7	1.9
XS220	712.1	713.8	1.7	712.5	714.4	1.9	712.8	714.7	1.9
XS218	712.1	713.8	1.7	712.5	714.4	1.9	712.7	714.7	2.0
XS216	712.1	713.8	1.7	712.5	714.4	1.9	712.7	714.7	2.0
XS214	712.1	713.8	1.7	712.4	714.4	2.0	712.6	714.7	2.1
XS212	711.7	713.5	1.9	712.0	714.2	2.1	712.3	714.6	2.3
XS210	711.1	713.3	2.3	711.3	714.2	2.8	711.5	714.6	3.0
XS208	710.8	713.1	2.3	711.0	714.2	3.1	711.2	714.6	3.3
XS206 U/S Unnamed Culvert	709.7	713.1	3.4	710.3	714.2	3.9	710.7	714.6	3.9
XS204 D/S Unnamed Culvert	709.7	712.3	2.7	710.3	713.2	3.0	710.7	713.5	2.8
XS202 U/S E-O East	709.6	712.1	2.5	710.2	713.1	2.9	710.4	713.4	3.0
XS6401	708.6	710.4	1.8	709.1	711.1	2.0	709.4	711.4	1.9

Model Section	10-Year Recurrence Interval			50-Year Recurrence Interval			100-Year Recurrence Interval		
	Baseline WSEL	EX. WSEL	Diff. (Ft.)	Baseline WSEL	EX. WSEL	Diff. (Ft.)	Baseline WSEL	EX. WSEL	Diff. (Ft.)
D/S E-O East									
XS6401a U/S E-O East Ramp	707.7	710.1	2.4	708.2	711.0	2.8	708.5	711.4	2.9
DEVON AVENUE TRIBUTARY (NORTH BOUND LOOP)									
XS196 D/S Norwood Avenue	712.1	713.2	1.1	712.3	713.4	1.1	712.4	713.5	1.1
XS194 U/S Access Road	710.5	712.3	1.8	710.8	712.8	2.1	711.1	713.1	1.9
XS192 D/S Access Road	710.5	711.7	1.3	710.7	712.0	1.3	710.9	712.2	1.2
XS190	709.2	710.4	1.1	709.4	710.9	1.6	709.5	711.2	1.7
XS188 U/S E-O West	708.3	710.3	2.1	708.6	710.9	2.4	708.8	711.2	2.4
XS186 D/S E-O West		707.1			707.3			707.4	
XS184	704.0	705.9	1.9	704.6	707.0	2.4	704.9	707.4	2.5
XS182	704.0	705.9	1.9	704.6	707.0	2.4	704.9	707.4	2.5
XS180 U/S Access Road	704.0	705.9	1.9	704.6	707.0	2.4	704.9	707.4	2.5
XS4905c D/S Access Road	693.3	704.8	11.5	694.5	706.6	12.2	695.5	707.3	11.7
XS4905	693.3	704.2	10.9	694.5	706.3	11.8	695.5	707.0	11.5
XS4904	693.3	700.5	7.2	694.5	702.4	7.9	695.5	703.1	7.6
XS4903	693.3	699.2	5.8	694.5	700.4	5.9	695.5	700.8	5.3
XS9183 (B21)	693.3	697.6	4.3	694.5	698.7	4.2	695.5	699.1	3.5
XS4902	693.3	695.9	2.6	694.5	697.5	3.0	695.5	698.2	2.7
XS9182 (B20)	693.3	695.1	1.7	694.5	696.9	2.5	695.5	697.8	2.3
XS9181 (B19)	693.3	695.0	1.7	694.5	696.9	2.4	695.5	697.8	2.3
XS9181 (B18) U/S I-290	693.3	694.9	1.6	694.5	696.9	2.4	695.5	697.8	2.3
B16 D/S I-290	692.3	693.4	1.1	692.8	694.4	1.9	693.4	695.0	2.1
B14	692.3	693.4	1.1	692.8	694.4	1.9	693.4	695.0	2.1
B12	692.3	693.4	1.1	692.8	694.4	1.9	693.4	695.0	2.1

Model Section	10-Year Recurrence Interval			50-Year Recurrence Interval			100-Year Recurrence Interval		
	Baseline WSEL	EX. WSEL	Diff. (Ft.)	Baseline WSEL	EX. WSEL	Diff. (Ft.)	Baseline WSEL	EX. WSEL	Diff. (Ft.)
F20	692.3	693.4	1.0	692.8	694.4	1.6	693.4	695.0	1.6
B9	692.3	693.4	1.1	692.8	694.4	1.9	693.4	695.0	2.1
B8 U/S Park Blvd	692.3	693.4	1.1	692.8	694.4	1.9	693.4	695.0	2.1
XS9178 (B7) D/S Park Blvd	690.9	691.8	1.0	691.4	692.3	0.9	691.8	692.5	0.7
XS178a	690.8	691.8	1.0	691.4	692.3	0.9	691.8	692.5	0.7
XS176	689.5	690.1	0.7	689.8	690.6	0.8	690.2	690.8	0.7
XS174	689.5	690.1	0.7	689.8	690.6	0.8	690.2	690.8	0.7
XS172	689.5	690.1	0.7	689.8	690.6	0.8	690.1	690.8	0.7
XS170	688.0	689.0	1.0	688.6	689.7	1.1	689.1	690.1	1.0
XS9170 (B6) U/S Feet Bridge #2	688.0	689.0	1.0	688.6	689.7	1.1	689.1	690.0	1.0
XS9168 (B5) D/S Feet Bridge #2	688.0	689.0	1.0	688.6	689.7	1.1	689.0	690.0	1.0
XS168a	688.0	689.0	1.0	688.6	689.7	1.1	689.0	690.0	1.0
XS166	688.0	689.0	1.0	688.6	689.7	1.1	689.0	690.0	1.0
XS164	688.0	689.0	1.0	688.5	689.6	1.1	689.0	690.0	1.0
XS162	688.0	689.0	1.0	688.5	689.6	1.1	688.9	689.9	1.1
XS160	688.0	689.0	1.0	688.5	689.6	1.1	688.8	689.9	1.1
XS158	686.2	687.2	0.9	687.0	688.5	1.5	688.0	689.1	1.2
XS9158 (B4) U/S Feet Bridge #1	686.2	687.1	0.9	687.0	688.5	1.5	688.0	689.1	1.1
XS9156 (B3) D/S Feet Bridge #1	686.2	687.1	0.9	687.0	688.4	1.4	688.0	689.0	1.0
XS156A	686.2	687.1	0.9	687.0	688.4	1.4	688.0	689.0	1.0
XS154	686.2	687.1	0.9	687.0	688.4	1.4	688.0	689.0	1.0
XS154A	686.2	687.1	0.9	687.0	688.4	1.4	688.0	689.0	1.0
XS152	686.2	687.0	0.8	687.0	688.3	1.3	688.0	688.9	1.0
XS152A	686.2	687.0	0.8	687.0	688.3	1.3	688.0	688.9	1.0
XS150	686.2	687.0	0.8	687.0	688.3	1.3	688.0	688.9	1.0
XS148	686.2	687.0	0.8	687.0	688.3	1.3	688.0	688.9	1.0
XS9146 (B2) U/S Pierce Road	686.2	687.0	0.8	687.0	688.3	1.3	688.0	688.9	1.0
XS9144 (B1) D/S Pierce Road	686.2	686.8	0.7	686.9	687.9	0.9	688.0	688.4	0.5
XS144A	686.2	686.8	0.6	686.9	687.9	0.9	688.0	688.4	0.5

Natural Conditions Model

The proposed Elgin O'Hare – West Bypass improvements, located at the intersection of Thorndale Avenue and I-290, cause the relocation or removal of nearly all existing culvert crossings. The natural condition model was developed by removing the following crossings listed below from the existing conditions model. The natural conditions PVSTATS results summary is included in Section 10.

Due to the large number of culverts being reviewed, Exhibit 9.2 was created to show the locations and names of the removed culverts. The Existing conditions Culvert Location Map exhibit is included in Section 9.

- Park Boulevard North
- Unnamed median culvert south of Park Boulevard North
- Thorndale Avenue
- Eastern Park Boulevard South
- Western Park Boulevard South
- I-290 Northbound Ramp
- I-290 South
- I-290 North
- Elgin O'Hare Expressway East Ramp
- Elgin O'Hare Expressway East
- Elgin O'Hare Expressway West
- Unnamed 60" CMP south of Thorndale Ave.
- Norwood Avenue
- 48" storm sewer parallel to IL Route 53 Access Road
- IL Route 53 crossing

The natural condition model determined the natural water surface elevations at the following crossings for application in the associated WIT.

- Eastern Park Boulevard South
- I-290 South
- I-290 North
- Unnamed 60" CMP south of Thorndale Ave.
- Elgin O'Hare Expressway East Ramp
- Elgin O'Hare Expressway East
- Elgin O'Hare Expressway West
- Norwood Avenue
- IL Route 53

The Existing Conditions WSEL is compared with the Natural Conditions WSEL in Table 2.

Table 2
Existing Conditions WSEL vs. Natural Conditions WSEL
Based on NAVD 1988 Datum

Model Section	10-Year Recurrence Interval			50-Year Recurrence Interval			100-Year Recurrence Interval		
	EX. WSEL	NAT. WSEL	Diff. (Ft.)	EX. WSEL	NAT WSEL	Diff. (Ft.)	EX. WSEL	NAT WSEL	Diff. (Ft.)
SOUTH TRIBUTARY TO DEVON AVENUE TRIBUTARY									
F310 I-290 South	707.7	706.5	-1.1	708.1	706.6	-1.5	708.3	706.7	-1.6
F312 (I-290 Northbound Ramp)	704.8	703.8	-1.0	705.3	704.1	-1.3	705.6	704.2	-1.4
F314 Western Park Blvd South									
XS338	693.7	693.7	0.0	694.2	694.1	-0.1	694.4	694.2	-0.1
XS336	693.7	693.7	0.0	694.2	694.1	-0.1	694.4	694.2	-0.1
XS334	693.7	693.7	0.0	694.2	694.1	-0.1	694.4	694.2	-0.1
XS332	692.5	692.1	-0.4	693.5	692.6	-0.9	693.9	693.1	-0.8
XS330	692.5	692.1	-0.4	693.5	692.6	-0.9	693.9	693.1	-0.8
XS328	692.5	692.1	-0.4	693.5	692.6	-0.9	693.9	693.1	-0.8
XS326	692.5	692.1	-0.4	693.5	692.6	-0.9	693.9	693.1	-0.8
XS324	692.5	692.1	-0.4	693.5	692.6	-0.9	693.9	693.1	-0.8
XS322 U/S Eastern Park Blvd South	692.5	692.1	-0.4	693.5	692.6	-0.9	693.9	693.1	-0.8
XS320 D/S Eastern Park Blvd South	692.3	692.0	-0.3	693.4	692.6	-0.8	693.9	693.1	-0.8
XS318	692.3	692.0	-0.3	693.4	692.6	-0.8	693.8	693.1	-0.7
XS316/ XS_9316 (J4) U/S Thorndale Ave	692.3	691.6	-0.8	693.4	692.6	-0.8	693.8	693.1	-0.7
XS314/ XS_9314 (J3) D/S Thorndale Ave	691.6	691.5	0.0	692.8	692.6	-0.2	693.4	693.1	-0.3
XS312 U/S Unnamed Culvert	691.6	691.3	-0.3	692.8	692.6	-0.2	693.4	693.1	-0.3
XS310	691.2	691.3	0.0	692.7	692.6	-0.1	693.3	693.1	-0.2

Model Section	10-Year Recurrence Interval			50-Year Recurrence Interval			100-Year Recurrence Interval		
	EX. WSEL	NAT. WSEL	Diff. (Ft.)	EX. WSEL	NAT WSEL	Diff. (Ft.)	EX. WSEL	NAT WSEL	Diff. (Ft.)
D/S Unnamed Culvert									
XS308	691.1	691.1	0.1	692.5	692.6	0.1	693.1	693.1	0.0
XS306/ XS9306 (J2) U/S Park Blvd North	691.0	691.1	0.1	692.5	692.6	0.1	693.1	693.1	0.0
XS304/ XS9304 (J1) D/S Park Blvd North	690.6	691.1	0.5	691.9	692.6	0.7	692.4	693.1	0.7
XS3018	690.6	691.1	0.5	691.9	692.6	0.7	692.4	693.1	0.7
XS3019	690.6	691.1	0.6	691.9	692.6	0.7	692.4	693.1	0.7
XS3020	690.4	691.0	0.6	691.9	692.6	0.7	692.4	693.1	0.7
DEVON AVENUE TRIBUTARY (EAST BOUND LOOP)									
F24 U/S IL Route 53	714.3	713.7	-0.6	715.4	714.2	-1.2	715.9	714.4	-1.4
XS224 D/S IL Route 53 and U/S Norwood Avenue	713.8	713.7	-0.1	714.4	714.2	-0.3	714.7	714.4	-0.3
XS222	713.8	713.7	-0.1	714.4	714.2	-0.3	714.7	714.4	-0.3
XS220	713.8	713.7	-0.1	714.4	714.2	-0.3	714.7	714.4	-0.3
XS218	713.8	713.7	-0.1	714.4	714.2	-0.3	714.7	714.4	-0.3
XS216	713.8	713.7	-0.1	714.4	714.2	-0.3	714.7	714.4	-0.3
XS214	713.8	713.6	-0.2	714.4	714.1	-0.3	714.7	714.3	-0.3
XS212	713.5	713.3	-0.2	714.2	713.7	-0.5	714.6	713.9	-0.7
XS210	713.3	713.0	-0.3	714.2	713.4	-0.8	714.6	713.5	-1.1
XS208	713.1	712.6	-0.6	714.2	712.9	-1.3	714.6	713.0	-1.6
XS206 U/S Unnamed Culvert	713.1	711.7	-1.4	714.2	712.3	-1.9	714.6	712.5	-2.1
XS204 D/S Unnamed Culvert	712.3	711.7	-0.6	713.2	712.3	-0.9	713.5	712.5	-1.0
XS202 U/S E-O East	712.1	710.2	-1.9	713.1	710.5	-2.5	713.4	710.7	-2.7
XS6401 D/S E-O East	710.4	710.2	-0.2	711.1	710.5	-0.5	711.4	710.7	-0.7
XS6401a	710.1	708.5	-1.6	711.0	709.0	-2.0	711.4	709.2	-2.1

Model Section	10-Year Recurrence Interval			50-Year Recurrence Interval			100-Year Recurrence Interval		
	EX. WSEL	NAT. WSEL	Diff. (Ft.)	EX. WSEL	NAT WSEL	Diff. (Ft.)	EX. WSEL	NAT WSEL	Diff. (Ft.)
U/S E-O East Ramp									
DEVON AVENUE TRIBUTARY (NORTH BOUND LOOP)									
XS196 D/S Norwood Avenue	713.2	713.6	0.5	713.4	714.1	0.7	713.5	714.2	0.7
XS194 U/S Access Road	712.3	712.2	-0.1	712.8	712.8	-0.1	713.1	713.0	-0.1
XS192 D/S Access Road	711.7	712.2	0.5	712.0	712.8	0.7	712.2	713.0	0.8
XS190	710.4	710.2	-0.2	710.9	710.5	-0.5	711.2	710.6	-0.6
XS188 U/S E-O West	710.3	708.4	-2.0	710.9	708.6	-2.4	711.2	708.7	-2.5
XS186 D/S E-O West	707.1	707.4	0.3	707.3	708.2	0.9	707.4	708.5	1.1
XS184	705.9	706.7	0.8	707.0	708.0	1.0	707.4	708.5	1.1
XS182	705.9	706.7	0.8	707.0	708.0	1.0	707.4	708.5	1.1
XS180 U/S Access Road	705.9	706.6	0.7	707.0	708.0	1.0	707.4	708.5	1.1
XS4905c D/S Access Road	704.8	705.1	0.3	706.6	706.9	0.2	707.3	707.5	0.3
XS4905	704.2	704.5	0.3	706.3	706.5	0.2	707.0	707.2	0.2
XS4904	700.5	700.8	0.3	702.4	702.9	0.6	703.1	703.8	0.6
XS4903	699.2	699.4	0.2	700.4	700.8	0.4	700.8	701.3	0.5
XS9183 (B21)	697.6	697.7	0.1	698.7	698.7	0.1	699.1	699.1	0.0
XS4902	695.9	695.7	-0.2	697.5	696.9	-0.6	698.2	697.4	-0.8
XS9182 (B20)	695.1	694.1	-1.0	696.9	695.3	-1.7	697.8	695.8	-2.0
XS9181 (B19)	695.0	693.8	-1.3	696.9	695.0	-1.9	697.8	695.5	-2.3
XS9181 (B18) U/S I-290	694.9	693.5	-1.4	696.9	694.8	-2.1	697.8	695.4	-2.4
B16 D/S I-290	693.4	693.5	0.1	694.4	694.8	0.3	695.0	695.4	0.4
B14	693.4	693.5	0.1	694.4	694.8	0.3	695.0	695.4	0.4
B12	693.4	693.5	0.1	694.4	694.8	0.3	695.0	695.4	0.4
F20	693.4	693.5	0.1	694.4	694.8	0.3	695.0	695.4	0.4
B9	693.4	693.5	0.1	694.4	694.8	0.3	695.0	695.4	0.4

Model Section	10-Year Recurrence Interval			50-Year Recurrence Interval			100-Year Recurrence Interval		
	EX. WSEL	NAT. WSEL	Diff. (Ft.)	EX. WSEL	NAT WSEL	Diff. (Ft.)	EX. WSEL	NAT WSEL	Diff. (Ft.)
B8 U/S Park Blvd	693.4	693.5	0.1	694.4	694.8	0.3	695.0	695.4	0.4
XS9178 (B7) D/S Park Blvd	691.8	691.9	0.1	692.3	692.4	0.1	692.5	692.7	0.1
XS178a	691.8	691.9	0.1	692.3	692.4	0.1	692.5	692.6	0.1
XS176	690.1	690.2	0.1	690.6	690.7	0.1	690.8	691.0	0.1
XS174	690.1	690.2	0.1	690.6	690.7	0.1	690.8	691.0	0.1
XS172	690.1	690.2	0.0	690.6	690.7	0.1	690.8	690.9	0.1
XS170	689.0	689.0	0.1	689.7	689.9	0.1	690.1	690.2	0.2
XS9170 (B6) U/S Feet Bridge #2	689.0	689.0	0.1	689.7	689.9	0.1	690.0	690.2	0.2
XS9168 (B5) D/S Feet Bridge #2	689.0	689.0	0.1	689.7	689.8	0.1	690.0	690.1	0.2
XS168a	689.0	689.0	0.1	689.7	689.8	0.1	690.0	690.1	0.2
XS166	689.0	689.0	0.1	689.7	689.8	0.1	690.0	690.1	0.2
XS164	689.0	689.0	0.1	689.6	689.8	0.2	690.0	690.1	0.2
XS162	689.0	689.0	0.1	689.6	689.8	0.2	689.9	690.1	0.2
XS160	689.0	689.0	0.1	689.6	689.8	0.1	689.9	690.1	0.2
XS158	687.2	687.3	0.1	688.5	688.8	0.3	689.1	689.5	0.3
XS9158 (B4) U/S Feet Bridge #1	687.1	687.3	0.1	688.5	688.8	0.3	689.1	689.4	0.3
XS9156 (B3) D/S Feet Bridge #1	687.1	687.2	0.1	688.4	688.7	0.3	689.0	689.4	0.3
XS156A	687.1	687.2	0.1	688.4	688.7	0.3	689.0	689.3	0.3
XS154	687.1	687.2	0.1	688.4	688.7	0.3	689.0	689.3	0.3
XS154A	687.1	687.2	0.1	688.4	688.7	0.3	689.0	689.3	0.3
XS152	687.0	687.1	0.1	688.3	688.4	0.1	688.9	689.1	0.2
XS152A	687.0	687.1	0.1	688.3	688.4	0.1	688.9	689.1	0.2
XS150	687.0	687.1	0.1	688.3	688.4	0.1	688.9	689.1	0.2
XS148	687.0	687.1	0.1	688.3	688.4	0.1	688.9	689.1	0.2
XS9146 (B2) U/S Pierce Road	687.0	687.1	0.1	688.3	688.4	0.1	688.9	689.1	0.2
XS9144 (B1) D/S Pierce Road	686.8	686.9	0.1	687.9	688.1	0.2	688.4	688.6	0.2
XS144A	686.8	686.9	0.1	687.9	688.0	0.2	688.4	688.6	0.2

IL Route 53 crossing

Removal of the crossings lowered the 10-year WSEL 0.6 foot at the upstream face of the IL Route 53 crossing, and lowered the 10-year WSEL downstream of the IL Route 53 crossing 0.1 foot.

Removal of the crossings lowered the 50-year WSEL 1.2 feet at the upstream face of the IL Route 53 crossing, and lowered the 50-year WSEL downstream of the IL Route 53 crossing 0.3 foot.

Removal of the crossings lowered the 100-year WSEL 1.4 feet at the upstream face of the IL Route 53 crossing, and lowered the 100-year WSEL downstream of the IL Route 53 crossing 0.3 foot.

Norwood Avenue

Removal of the crossings lowered the 10-year WSEL 0.1 foot at the upstream face of Norwood Avenue, and raised the 10-year WSEL downstream Norwood Avenue 0.5 foot.

Removal of the crossings lowered the 50-year WSEL 0.3 foot at the upstream face of Norwood Avenue, and raised the 50-year WSEL downstream of Norwood Avenue 0.7 foot.

Removal of the crossings lowered the 100-year WSEL 0.3 foot at the upstream face of Norwood Avenue, and raised the 100-year WSEL downstream of Norwood Avenue 0.7 foot.

Elgin O'Hare Expressway West

Removal of the crossings lowered the 10-year WSEL 2.0 foot at the upstream face of the Elgin O'Hare Expressway West, and raised the 10-year WSEL downstream of the Elgin O'Hare Expressway West 0.3 foot.

Removal of the crossings lowered the 50-year WSEL 2.4 foot at the upstream face of the Elgin O'Hare Expressway West, and raised the 50-year WSEL downstream of the Elgin O'Hare Expressway West 0.9 foot.

Removal of the crossings lowered the 100-year WSEL 2.5 feet at the upstream face of the Elgin O'Hare Expressway West, and raised the 100-year WSEL downstream of the Elgin O'Hare Expressway West 1.1 foot.

Unnamed 60" CMP South of Thorndale Avenue (XS206/XS204)

Removal of the crossings lowered the 10-year WSEL 1.4 feet at the upstream face of the Unnamed 60" CMP south of Thorndale Avenue, and lowered the 10-year WSEL downstream of the Unnamed 60" CMP south of Thorndale Avenue 0.6 feet.

Removal of the crossings lowered the 50-year WSEL 1.9 feet at the upstream face of the Unnamed 60" CMP south of Thorndale Avenue, and lowered the 50-year WSEL downstream of the Unnamed 60" CMP south of Thorndale Avenue 0.9 feet.

Removal of the crossings lowered the 100-year WSEL 2.1 feet at the upstream face of the Unnamed 60" CMP south of Thorndale Avenue, and lowered the 100-year WSEL downstream of the Unnamed 60" CMP south of Thorndale Avenue 1.0 feet.

Elgin O'Hare Expressway East

Removal of the crossings lowered the 10-year WSEL 1.9 foot at the upstream face of the Elgin O'Hare Expressway East, and lowered the 10-year WSEL downstream of the Elgin O'Hare Expressway East 0.2 foot.

Removal of the crossings lowered the 50-year WSEL 2.5 feet at the upstream face of the Elgin O'Hare Expressway East, and lowered the 50-year WSEL downstream of the Elgin O'Hare Expressway East 0.5 foot.

Removal of the crossings lowered the 100-year WSEL 2.7 feet at the upstream face of the Elgin O'Hare Expressway East, and lowered the 100-year WSEL downstream of the Elgin O'Hare Expressway East 0.7 feet.

I-290 North

Removal of the crossings lowered the 10-year WSEL 1.4 feet at the upstream face of I-290 North and raised the 10-year WSEL downstream of I-290 North 0.1 foot.

Removal of the crossings lowered the 50-year WSEL 2.1 feet at the upstream face of I-290 North, and raised the 50-year WSEL downstream of I-290 North 0.3 foot.

Removal of the crossings lowered the 100-year WSEL 2.4 feet at the upstream face of I-290 North, and raised the 100-year WSEL downstream of I-290 North 0.4 foot.

I-290 South

Removal of the crossings lowered the 10-year WSEL 1.1 feet at the upstream face of I-290 South and lowered the 10-year WSEL downstream of I-290 South 1.0 foot.

Removal of the crossings lowered the 50-year WSEL 1.5 feet at the upstream face of I-290 South, and lowered the 50-year WSEL downstream of I-290 South 1.3 feet.

Removal of the crossings lowered the 100-year WSEL 1.6 feet at the upstream face of I-290 South, and lowered the 100-year WSEL downstream of I-290 South 1.4 feet.

Eastern Park Boulevard South

Removal of the crossings lowered the 10-year WSEL 0.4 foot at the upstream face of Eastern Park Boulevard South, and lowered the 10-year WSEL downstream of Eastern Park Boulevard South 0.3 foot.

Removal of the crossings lowered the 50-year WSEL 0.9 feet at the upstream face of Eastern Park Boulevard South, and lowered the 50-year WSEL downstream of Eastern Park Boulevard South 0.8 feet.

Removal of the crossings lowered the 100-year WSEL 0.8 feet at the upstream face of Eastern Park Boulevard South, and lowered the 100-year WSEL downstream of Eastern Park Boulevard South 0.8 feet.

Impacts to the flood profile upstream of Eastern Park Boulevard South do not extend further upstream than Willow Court due to restrictive flow path along Willow Street.

The water surface elevations for the natural conditions reported in Table 2 illustrate that it is possible to have WSEL increases associated with the removal of an existing structure. The FEQ model accounts for the velocity and volume of floodwater within a studied waterway. If an existing structure is restrictive and then removed, water impounded behind the structure will be released to continue downstream until it encounters the next restrictive location. Since increasing the culvert size would result in a decrease in the frequency and duration of roadway flooding reported upstream of the crossing it is possible that the improvement could be consistent with the DuPage County Stormwater Management Ordinance if it were considered a flood control project and caused no significant adverse impacts downstream.

Proposed Conditions Model

The proposed Elgin O'Hare – West Bypass improvements, located at the interchange of Elgin O'Hare Expressway (Thorndale Avenue) and I-290, cause the relocation or removal of nearly all current culvert crossings. The proposed condition model is based on the natural conditions model with the addition of the following crossings which are required to accommodate the design geometry and detention design.

Due to the large number of culverts being reviewed, Exhibit 11.2 was created to show the locations and names of the new culverts. The Proposed Conditions Culvert LocationMap exhibit is included in Section 11.

- IL Route 53 North
- IL Route 53 South
- Norwood Avenue
- Elgin O'Hare Expressway West (EOH West)
- Ramp G5 (Pond 1, FEQ Node F501)
- Ramp G1 (Pond 2, FEQ Node F504)
- Ramp G1, G2 (Dep 2, FEQ Node F554)
- Elgin O'Hare Expressway East (EOH East)
- Ramp G7 (Pond 4, FEQ Node F508)
- I-290 North (the existing culvert will be modified by reducing the length from the upstream end, by increasing the length at the downstream end)
- I-290 South
- Ramp G3 (Pond 5, FEQ Node F312)
- Ramp G6, K4 (FEQ Node F314)
- Park Boulevard South

The proposed conditions culverts were selected to either maintain the required elevations within the stormwater mitigation facilities or to decrease the flooding elevations to the greatest extent possible within the areas reported as Sensitive Flood Receptors. Three detention ponds (Ponds, 1, 2, and 5) are proposed to mitigate the increase in impervious area to maintain upstream and downstream flood elevations. Ponds 3 and 4 will be used for water conveyance only. The stage-storage calculations for these basins are provided in Section 11.

A triple celled 60 inch by 38 inch RCEP is proposed at the IL Route 53 South crossing to lower the upstream 100-year flood elevation within the pond from 715.7 to 715.3. A single 9 feet by 3 feet RCBC is proposed from Park Boulevard South to Park Boulevard North to lower the upstream flood elevation within the Wildspring Subdivision from 693.9 feet to 692.7 feet.

In addition to the enlarged culvert crossing from Park Boulevard South to Park Boulevard North, a downstream bypass ditch is required along the north side of the Park Boulevard North extension to the Pierce Road waterway crossing. The bypass ditch is required because a portion of the existing ditch downstream of Park

Boulevard North will be filled during construction of the Elgin O'Hare Expressway and the remaining portion of the existing ditch would restrict flows from the enlarged culvert. Refer to the Drainage Investigation section of the report for further analysis of the Wildspring Subdivision flood control project.

The proposed conditions watershed boundary map, culvert location map, FEQ model schematic, and PVSTATS results summary are included in Section 11. Exhibit 11.3 shows the proposed conditions cross-sections and 100-year floodplain boundary, and is included in Section 11.

The proposed conditions model water surface elevations at the listed crossings were recorded in WITs. When an existing crossing was located relatively close to the proposed crossing, the natural and existing conditions information was included on the WIT.

The Proposed Conditions WSEL is compared with the Existing Conditions WSEL in Table 3.

Table 3
Existing Conditions WSEL vs. Proposed Conditions WSEL
Based on NAVD 1988 Datum

Model Section	10-Year Recurrence Interval			50-Year Recurrence Interval			100-Year Recurrence Interval		
	EX. WSEL	PROP. WSEL	Diff. (Ft.)	EX. WSEL	PROP. WSEL	Diff. (Ft.)	EX. WSEL	PROP. WSEL	Diff. (Ft.)
SOUTH TRIBUTARY TO DEVON AVENUE TRIBUTARY									
F310 I-290 South	707.7	706.2	-1.5	708.1	706.6	-1.5	708.3	706.8	-1.5
F312 (I-290 Northbound Ramp)	704.8			705.3			705.6		
F314 Western Park Blvd South									
XS338	693.7	693.5	-0.2	694.2	694.0	-0.1	694.4	694.2	-0.2
XS336	693.7	693.5	-0.2	694.2	694.0	-0.1	694.4	694.2	-0.2
XS334	693.7	693.5	-0.2	694.2	694.0	-0.1	694.4	694.2	-0.2
XS332	692.5	691.8	-0.7	693.5	692.3	-1.2	693.9	692.7	-1.3
XS330	692.5	691.7	-0.8	693.5	692.3	-1.2	693.9	692.7	-1.3
XS328	692.5	691.7	-0.8	693.5	692.3	-1.2	693.9	692.7	-1.3
XS326	692.5	691.7	-0.8	693.5	692.3	-1.2	693.9	692.7	-1.3
XS324	692.5	691.7	-0.8	693.5	692.3	-1.2	693.9	692.7	-1.3
XS322/ XS9322 U/S Park Blvd	692.5	691.6	-0.9	693.5	692.3	-1.2	693.9	692.7	-1.3

Model Section	10-Year Recurrence Interval			50-Year Recurrence Interval			100-Year Recurrence Interval		
	EX. WSEL	PROP. WSEL	Diff. (Ft.)	EX. WSEL	PROP. WSEL	Diff. (Ft.)	EX. WSEL	PROP. WSEL	Diff. (Ft.)
South									
XS304/ XS9304 (J1) D/S Park Blvd North	690.6	689.8	-0.8	691.9	690.4	-1.5	692.4	690.8	-1.6
XS3018	690.6	689.6	-1.0	691.9	690.4	-1.5	692.4	690.8	-1.6
XS3019	690.6	689.5	-1.0	691.9	690.4	-1.5	692.4	690.8	-1.6
XS3020	690.4	689.1	-1.3	691.9	690.4	-1.5	692.4	690.8	-1.6
DEVON AVENUE TRIBUTARYN (EAST BOUND LOOP)									
F24 U/S IL Route 53	714.3	713.8	-0.5	715.4	714.9	-0.5	715.9	715.3	-0.5
XS224 D/S IL Route 53 and U/S Norwood Avenue	713.8	713.4	-0.4	714.4	713.9	-0.5	714.7	714.1	-0.6
XS222	713.8	713.4	-0.4	714.4	713.9	-0.5	714.7	714.1	-0.6
XS220	713.8	713.4	-0.4	714.4	713.9	-0.5	714.7	714.1	-0.6
XS218	713.8	713.4	-0.4	714.4	713.9	-0.5	714.7	714.1	-0.6
XS216	713.8	713.4	-0.4	714.4	713.9	-0.5	714.7	714.1	-0.6
XS214	713.8	713.4	-0.4	714.4	713.9	-0.5	714.7	714.1	-0.6
XS212	713.5	713.1	-0.4	714.2	713.5	-0.6	714.6	713.7	-0.9
XS210	713.3	712.9	-0.4	714.2	713.3	-0.9	714.6	713.4	-1.2
XS208	713.1	712.4	-0.7	714.2	712.9	-1.3	714.6	713.1	-1.5
XS206 U/S Unnamed and U/S EOH East Culverts	713.1	711.7	-1.4	714.2	712.7	-1.5	714.6	713.0	-1.5
F508 – Pond 5 U/S Ramp G3		694.9			696.4			697.2	
DEVON AVENUE TRIBUTARYN (NORTH BOUND LOOP)									
F556-Dep 3 U/S EOH West		710.5			711.1			711.4	
F552-Dep 1 U/S IL53 North		708.8			709.4			709.8	
F502-Pond 1 U/S Ramp G5		706.7			708.3			709.1	
F504-Pond 2 U/S Ramp G1		705.2			706.6			707.2	

Model Section	10-Year Recurrence Interval			50-Year Recurrence Interval			100-Year Recurrence Interval		
	EX. WSEL	PROP. WSEL	Diff. (Ft.)	EX. WSEL	PROP. WSEL	Diff. (Ft.)	EX. WSEL	PROP. WSEL	Diff. (Ft.)
F554-Dep 2 U/S Ramp G1, G2		694.8			697.1			698.5	
XS9181 (B18)/ F506-Pond 3 U/S I-290 North	694.9	694.1	-0.8	696.9	695.5	-1.4	697.8	696.1	-1.7
B16 D/S I-290	693.4	693.1	-0.3	694.4	693.9	-0.6	695.0	694.3	-0.7
B14	693.4	693.1	-0.3	694.4	693.9	-0.6	695.0	694.3	-0.7
B12	693.4	693.1	-0.3	694.4	693.9	-0.6	695.0	694.3	-0.7
F20	693.4	693.1	-0.3	694.4	693.9	-0.6	695.0	694.3	-0.7
B9	693.4	693.1	-0.3	694.4	693.9	-0.6	695.0	694.3	-0.7
B8 U/S Park Blvd	693.4	693.1	-0.3	694.4	693.9	-0.6	695.0	694.3	-0.7
XS9178 (B7) D/S Park Blvd	691.8	691.6	-0.2	692.3	692.1	-0.2	692.5	692.3	-0.3
XS178a	691.8	691.6	-0.2	692.3	692.1	-0.2	692.5	692.2	-0.3
XS176	690.1	690.0	-0.1	690.6	690.4	-0.2	690.8	690.6	-0.2
XS174	690.1	690.0	-0.1	690.6	690.4	-0.2	690.8	690.6	-0.2
XS172	690.1	690.0	-0.1	690.6	690.4	-0.2	690.8	690.6	-0.2
XS170	689.0	688.8	-0.2	689.7	689.5	-0.2	690.1	689.9	-0.2
XS9170 (B6) U/S Feet Bridge #2	689.0	688.8	-0.2	689.7	689.5	-0.2	690.0	689.9	-0.2
XS9168 (B5) D/S Feet Bridge #2	689.0	688.8	-0.2	689.7	689.5	-0.2	690.0	689.8	-0.2
XS168a	689.0	688.8	-0.2	689.7	689.5	-0.2	690.0	689.8	-0.2
XS166	689.0	688.8	-0.2	689.7	689.5	-0.2	690.0	689.8	-0.2
XS164	689.0	688.7	-0.2	689.6	689.4	-0.2	690.0	689.8	-0.2
XS162	689.0	688.7	-0.2	689.6	689.4	-0.2	689.9	689.7	-0.2
XS160	689.0	688.7	-0.2	689.6	689.4	-0.2	689.9	689.7	-0.2
XS158	687.2	687.1	-0.1	688.5	688.4	-0.1	689.1	689.1	0.0
XS9158 (B4) U/S Feet Bridge #1	687.1	687.1	-0.1	688.5	688.4	-0.1	689.1	689.1	0.0
XS9156 (B3) D/S Feet Bridge #1	687.1	687.1	0.0	688.4	688.4	0.0	689.0	689.1	0.1
XS156A	687.1	687.1	0.0	688.4	688.4	0.1	689.0	689.1	0.1
XS154	687.1	687.1	0.0	688.4	688.4	0.1	689.0	689.1	0.1
XS154A	687.1	687.1	0.0	688.4	688.4	0.1	689.0	689.1	0.1
XS152	687.0	687.1	0.0	688.3	688.4	0.1	688.9	689.1	0.2

Model Section	10-Year Recurrence Interval			50-Year Recurrence Interval			100-Year Recurrence Interval		
	EX. WSEL	PROP. WSEL	Diff. (Ft.)	EX. WSEL	PROP. WSEL	Diff. (Ft.)	EX. WSEL	PROP. WSEL	Diff. (Ft.)
XS152A	687.0	687.1	0.0	688.3	688.4	0.1	688.9	689.1	0.2
XS150	687.0	687.1	0.0	688.3	688.4	0.1	688.9	689.1	0.2
XS148	687.0	687.1	0.0	688.3	688.3	0.0	688.9	688.8	-0.1
XS9146 (B2) U/S Pierce Road	687.0	687.1	0.0	688.3	688.3	0.0	688.9	688.8	-0.1
XS9144 (B1) D/S Pierce Road	686.8	686.8	0.0	687.9	687.9	0.0	688.4	688.5	0.0
XS144A	686.8	686.8	0.0	687.9	687.9	0.0	688.4	688.5	0.0

The proposed conditions model reflects the proposed structures, road profiles, and stormwater facilities created to mitigate increased impervious cover and filling due to the proposed roadway widening as illustrated on the Elgin O'Hare Expressway Construction Plans. This model demonstrates that the proposed structures and detention basins are sized properly and that there is no increase in flood stages upstream of the improvements for all storm events up to and including the 100-year storm due to the project. The downstream increase of 0.2 feet is not shown to cause damages and this is warranted because of the reduction of the upstream WSEL that currently is shown to cause damages. This is described in more detail in the drainage investigation section at the end of this document

IDNR-OWR Permit Analysis

Since the total area tributary to all of the crossings included in this report is less than one square mile, a permit is not required from the Illinois Department of Natural Resources – Office of Water Resources for any work proposed at these crossings.

Conclusion and Design Recommendations

In order to facilitate the IDOT review, a "Hydraulic Report Outline" and "Hydraulic Report Checklist" for the Devon Avenue Tributary crossings are included at the front of the hydraulic report. All proposed structures meet ISTHA and IDOT design requirements. The proposed 50-year freeboard is:

- IL Route 53 South – 2.06 feet
- Norwood Avenue – 3.80 feet
- Elgin O'Hare Expressway East – 3.56 feet
- I-290 North – 2.96 feet
- I-290 South – 3.61 feet
- Eastern Park Blvd South – 1.60 feet
- IL Route 53 North – 4.89 feet
- Elgin O'Hare Expressway West – 7.14 feet

- Ramp G1, G2 – 1.85 feet
- Ramp G7 – 3.65 feet
- Ramp G6, K4 – 15.96 feet

Several crossings include designated detention basins upstream. The proposed 100-year freeboard is:

- Ramp G5 – 5.67 feet
- Ramp G1 – 7.72 feet
- Ramp G3 – 4.10 feet

Drainage Investigation

Based on discussions with residents and the Village of Itasca staff documented in Section 13, portions of the Wildspring Subdivision were reported to flood on several occasions. In order to duplicate the reported flooding, the baseline conditions hydraulic model of Devon Avenue Tributary created for DuPage County by Montgomery, Watson, Harza, Inc. (MWH) was revised for existing conditions to increase the runoff and associated flood elevations upstream of Park Boulevard South.

Supplemental survey of Willow Street, Park Boulevard South, and Bryn Mawr Road centerline elevations, and selected residential lowest adjacent grade and finished floor elevations was completed by D.B. Sterlin on January 16, 2012. Exhibit 9.4 in Section 9 shows several low entry elevations. A comparison of the surveyed elevations and the modeled flood elevations reported the following flooding conditions:

- A maximum roadway flooding depth of 2.1 feet
- A home low entry 0.2 foot below the 100-year high water elevation along Willow Street
- A home low entry 0.5 foot below the 100-year high water elevation along Bryn Mawr

In order to alleviate the flooding occurring within these areas, the culvert under Thorndale Avenue was increased from a 60 inches (W) by 38 inches (H) RCEP to a 9 feet (W) by 3 feet (H) RCBC. This culvert replacement alone would cause 100-year flood elevations downstream of Park Boulevard (North) to increase by approximately 0.5 feet. Therefore, a bypass ditch with a 3 feet bottom width, 4:1 (H:V) right bank side slope, and 3:1 (H:V) left bank side slope was proposed along the north side of the proposed Park Boulevard North extension to mitigate the 100-year flood elevation increases. The bypass channel would require an additional 35 feet of right-of-way adjacent to the Park Boulevard North extension as shown on Exhibit 11.4 in Section 11. The Bypass channel meets the main stem of Devon Avenue Tributary upstream of Pierce Road where the 100-year flood increases in the Hamilton Lakes pond are 0.2 feet.

The implementation of these stormwater improvements lowered the 100-year WSEL by 1.3 feet at the upstream face of Eastern Park Boulevard South while raising the 100-year WSEL by 0.2 feet within the Hamilton Lakes located downstream of the south tributary by opening the restrictive culvert. Based on state requirements, a downstream increase in flood stages is allowable if no downstream damages will be caused when mitigating a restrictive culvert creating artificial storage volume upstream.

The proposed lowering of the 100-year storm event flood profile reduced the roadway flooding at Willow Street from 2.1 feet to 0.8 foot, removed the home along Willow Street from the flooding elevation, and lowered the flood elevation at the home along Bryn Mawr from 0.5 foot to 0.3 foot. The proposed improvements

lowered the 10-year storm event flood depth at the homes along Bryn Mawr from 0.2 foot to 0.1 foot.

Any additional lowering of the flood elevations south of Willow Court would require improvements to Willow Street and Willow Court, outside the EOWB right-of-way.

Since opening of the restrictive crossings will result in a decrease in the frequency and duration of roadway and residential flooding reported upstream of Eastern Park Boulevard South and will not cause flood damages to downstream property, DuPage County concurred with the proposed improvement during a March 1, 2012 coordination meeting with DuPage County Department of Economic Development and Planning.

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SECTION 2

WATERWAY INFORMATION TABLES
HYDRAULIC REPORT DATA SHEETS

LIST OF WATERWAY INFORMATION TABLES (WIT)

1. IL53-South (FEQ Node F24)
2. Norwood Avenue (FEQ Node U62)
3. EOH-East (Proposed, FEQ Node D62)
4. I290-North (Pond 3, FEQ Node F506)
5. I290-South (FEQ Node F310)
6. Eastern Park Blvd-South (FEQ Node D310)
7. EOH-West (Existing, FEQ Node D48)
8. EOH-East (Existing, FEQ Node D60)
9. EOH-East Ramp (Existing, FEQ Node D64)
10. IL53-North (Dep1, FEQ Node F552)
11. EOH-West (Proposed,Dep3- FEQ Node F556)
12. Ramp G5 (Pond1- F502, FEQ Node, D6-W)
13. Ramp G1 (Pond2- FEQ Node F504, D6-NW)
14. Ramp G1, G2 (Dep2- FEQ Node F554)
15. Ramp G7 (Pond4- FEQ Node F508, D6-E)
16. Ramp G3 (Pond5- FEQ Node F312)
17. Ramp G6, K4 (FEQ Node F314)

Six (6) Waterway Information Tables
where data is reported for existing, natural, and proposed conditions

IL53-South (FEQ Node F24)

Illinois Department of Transportation

Culvert Waterway Information Table

Route: EOWB
Section: IL Route 53 South
County: DuPage
Station: 244+00

S.N. Exist: NA
S.N. Prop: NA
Waterway: Devon Avenue Trib.

Computed by: M. Younus Date: 5-22-2012
Checked by: M. Cothard Date: 5-22-2012

Drainage Area = 0.17 Square Miles

Existing Overtopping Elevation: 715.68 ft. @ Sta 243+50
Proposed Overtopping Evaluation: 717.65 ft. @ Sta 241+50

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.) Existing	Waterway Opening (sq. ft.) Proposed	Natural H.W.E.	Head (ft.) Existing	Head (ft.) Proposed	Headwater Elev. (ft.) Existing	Headwater Elev. (ft.) Proposed
	10	132	24.8	37.2	713.7	0.6	0.1	714.3	713.8
Design	50	199	24.8	37.2	714.2	1.3	0.7	715.4	714.9
Base	100	230	24.8	37.2	714.4	1.4	0.9	715.9	715.3
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	309	24.8	37.2	714.9	2.1	1.5	717.0	716.4

10-Year Outlet Velocity from Existing Structure = 5.3 fps
10-Year Outlet Velocity from Proposed Structure = 3.5 fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: NA - October 1954

SCOPE OF WORK:

EXISTING STRUCTURE

Bridge or Culvert Type: RCEP
Cell Dimensions (W x H): 60"X38"
# of spans \ cells: 2
Length: 93
U/S Flowline: 710.80
D/S Flowline: 709.76
Skew: 0
Low EOP: 714.5

EXISTING DROPBOX

Dimensions:
Drop:
Weir Elevation:

PROPOSED STRUCTURE

Culvert Type: RCEP
Cell Dimensions (W x H): 60"X38"
# of cells: 3
Length: 114
U/S Flowline: 710.87
D/S Flowline: 709.59
Skew: 0
Low EOP: 716.96

PROPOSED DROPBOX

Dimensions:
Drop:
Weir Elevation:

NOTE(S): NAVD88 = NGVD29 – 0.28, Discharges are used from Proposed Conditions

Flood Frequency Summary for Peak Discharge: Flows

Sect	Return Period (years): 2.0	5.0	10.0	25.0	50.0	75.0
1	63.7	104.1	132.2	169.7	199.1	217.0
2	32.5	53.9	66.6	83.0	96.2	104.4
3	32.2	54.4	67.0	83.3	96.5	104.7
4	32.1	54.6	67.5	84.5	98.3	106.9
5	29.4	49.5	62.7	82.2	97.9	107.4
6	18.4	40.1	55.8	78.8	98.6	111.2
7	18.6	45.0	63.7	90.3	112.9	127.3
8	20.4	47.6	67.1	94.8	118.3	133.4
9	23.2	53.5	75.1	105.1	130.0	145.8
10	26.3	59.6	83.5	116.1	142.7	159.4
11	28.0	62.9	88.1	122.1	149.9	167.3
12	20.7	44.9	61.1	82.8	100.8	112.3

Sect	Return Period (years): 100.0	200.0	300.0	400.0	500.0
1	229.9	262.5	282.6	297.3	309.1
2	110.5	126.0	135.8	143.1	148.9
3	110.7	126.3	136.1	143.4	149.3
4	113.2	129.4	139.5	147.0	153.0
5	114.4	132.1	143.4	151.8	158.7
6	120.7	145.8	161.9	174.1	183.9
7	138.1	166.4	184.6	198.2	209.3
8	144.7	174.6	193.8	208.3	220.0
9	157.7	188.7	208.5	223.4	235.5
10	171.8	204.2	224.8	240.2	252.7
11	180.2	213.9	235.4	251.6	264.6
12	121.0	143.8	158.7	170.0	179.2

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.62	714.05	714.21	714.54	
XS_194	usf of Access Road (50: 8)	1396	700.27	712.21	712.75	712.96	713.40	
XS_192	dsf of Access Road (48: 1)	1337	699.95	712.21	712.75	712.95	713.40	
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.17	710.46	710.57	710.80	
XS_188	usf of EOH - West (48: 12)	642	696.92	708.35	708.58	708.68	709.58	
XS_186	U46 dsf of EOH -West Culvert (46: 1)	455	696.14	707.43	708.18	708.51	709.58	
XS_184	222 feet ds of EOH - West Culvert (46: 6)	233	693.28	706.66	708.01	708.51	709.58	
XS_182	294 feet d/s of EOH - West Culvert (46: 9)	161	692.11	706.65	708.01	708.51	709.58	
XS_180	D46 usf of Access Road(46: 13)	0	692.72	706.64	708.01	708.51	709.58	
XS_4905c	dsf of Access Road (U47)	1085	692.62	705.09	706.86	707.53	709.03	
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.48	706.48	707.20	708.75	
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.83	702.92	703.76	705.70	
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.36	700.76	701.33	702.62	
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.69	698.72	699.10	699.93	
XS_4902	155 feet us of I-290 - North (47:81)	155	691.22	695.65	696.89	697.39	698.56	
XS_9182 (B20)	37 feet us of I-290- North (47:113)	37	690.98	694.05	695.26	695.81	697.22	
XS_9181 (B19)	20 feet us of I-290- North (47:21)	20	690.95	693.76	694.98	695.54	697.22	
XS_9181 (B19)	usf of I-290- North (D47)	0	690.95	693.46	694.75	695.41	697.22	
F20	F20 Pond downstream of I-290- North (0: F20)		691.52	693.46	694.75	695.41	697.22	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.88	692.44	692.66	693.13	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.86	692.41	692.62	693.08	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.19	690.73	690.96	691.50	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.19	690.72	690.95	691.48	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.17	690.71	690.94	691.48	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	689.04	689.86	690.24	691.16	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	689.04	689.85	690.21	691.08	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	689.01	689.79	690.14	690.99	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	689.01	689.79	690.14	690.99	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	689.01	689.79	690.14	690.99	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	689.01	689.79	690.13	690.99	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	689.01	689.79	690.13	690.99	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	689.01	689.78	690.11	690.99	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.27	688.80	689.45	690.99	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.25	688.77	689.42	690.99	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.18	688.67	689.35	690.99	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.17	688.66	689.34	690.99	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.17	688.66	689.34	690.98	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.17	688.65	689.32	690.93	
F24	**Pond us of Rohlwing Road (IL 53) (0: F24)**		**710.62**	**713.69**	**714.21**	**714.43**	**714.92**	**Natural Elevations**
XS_224	dsf of Rohlwing Road (IL 53) (62: 1)	12608	697.64	713.67	714.18	714.38	714.81	
XS_222	Approx. 11 feet ds of Rohlwing Road (IL 53) (62: 6)	12597	697.64	713.67	714.18	714.38	714.81	
XS_220	Approx. 59 feet ds of Rohlwing Road (IL 53) (62: 11)	12549	697.64	713.67	714.18	714.38	714.81	
XS_218	Approx. 163 feet ds of Rohlwing Road (IL 53) (62: 16)	12445	700.94	713.67	714.18	714.38	714.81	
XS_216	Approx. 341 feet ds of Rohlwing Road (IL 53) (62: 21)	12267	700.22	713.67	714.18	714.38	714.79	
XS_214	Approx. 698 feet ds of Rohlwing Road (IL 53) (62: 26)	11910	701.47	713.61	714.12	714.31	714.71	
XS_212	Approx. 883 feet ds of Rohlwing Road (IL 53) (62: 31)	11725	700.61	713.30	713.71	713.86	714.19	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (IL 53) (62: 36)	11505	700.47	713.02	713.35	713.47	713.72	
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.02	713.35	713.47	713.72	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	712.56	712.88	713.00	713.25	
XS_206	usf of Unnamed Culv 1 (58: 14)	435	698.75	711.68	712.28	712.50	712.97	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	711.68	712.28	712.50	712.97
XS_202	usf of EOH - East (56: 4)	0	698.32	710.16	710.53	710.67	710.94
XS6401	dsf of EOH - East (64: 1)	10864	697.72	710.16	710.53	710.66	710.93
XS6401	usf of Westbound Thorndale Ave Ramp (64: 4)	10798	695.72	708.46	709.03	709.24	709.67
F310	usf of I-290 (South)		706.20	706.54	706.64	706.69	706.80
F312	Usf of I-290 Northbound Ramp		703.04	703.79	704.05	704.18	704.51
F314	usf of Western Park Blvd - south		797.66				
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.67	694.08	694.23	694.54
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.67	694.08	694.23	694.54
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.08	694.23	694.54
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.08	694.23	694.54
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.10	692.60	693.10	694.07
XS_332	Approx. 1088 feet us of Eastern Park Blvd - South (310: 1)	2712	681.18	692.10	692.60	693.10	694.07
XS_330	Approx 931 feet us of EasternPark Blvd - South (310: 7)	2555	680.40	692.10	692.60	693.10	694.07
XS_328	Approx 689 feet us of EasternPark Blvd - South (310: 11)	2313	679.82	692.10	692.60	693.10	694.07
XS_326	Approx 468 feet us of Eastern Park Blvd - South (310: 15)	2092	679.44	692.10	692.60	693.10	694.07
XS_324	Approx 283 feet us of Eastern Park Blvd - South (310: 20)	1907	680.66	692.10	692.60	693.10	694.07
XS_322	D310 usf of Eastern Park Blvd - South (310 :25)	1624	679.67	692.08	692.60	693.10	694.07
XS_320	U308 dsf of Eastern Park Blvd - South (308: 1)	1544	680.41	692.02	692.60	693.10	694.07
XS_318	53 feet DS of Eastern Park Blvd south(308: 5)	1465	680.41	692.00	692.60	693.10	694.07
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	691.55	692.60	693.10	694.07
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.53	692.60	693.10	694.07
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.25	692.60	693.10	694.07
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.25	692.60	693.10	694.07
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.13	692.60	693.10	694.07
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.13	692.60	693.10	694.07
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	691.13	692.60	693.10	694.07
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	691.13	692.60	693.10	694.07
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	691.13	692.60	693.10	694.07
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	691.11	692.60	693.10	694.07
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	691.03	692.60	693.10	694.07
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.12	688.44	689.08	690.61
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.10	688.44	689.08	690.61
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.08	688.44	689.08	690.57
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.08	688.44	689.08	690.54
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.08	688.44	689.08	690.54
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.91	688.05	688.62	690.05
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.87	688.01	688.60	690.05
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.87	688.01	688.60	690.05
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.86	688.01	688.60	690.05
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.85	688.01	688.60	690.05

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.16	713.39	713.48	713.66	
XS_194	usf of Access Road (50: 8)	1396	700.27	712.33	712.84	713.05	713.48	
XS_192	dsf of Access Road (48: 1)	1337	699.95	711.73	712.03	712.15	712.40	
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.35	710.94	711.18	711.68	
XS_188	usf of Thorndale Avenue (48: 12)	642	696.92	710.34	710.94	711.18	711.68	
XS_186	U46 dsf of Thorndale Ave Culvert (46: 1)	455	696.14	707.12	707.29	707.43	708.67	
XS_184	222 feet ds of Thorndale Ave Culvert (46: 6)	233	693.28	705.90	707.00	707.43	708.67	
XS_182	294 feet d/s of Thorndale Ave Culvert (46: 9)	161	692.11	705.90	706.99	707.41	708.67	
XS_180	D46 usf of Access Road(46: 13)	0	692.72	705.90	706.97	707.40	708.67	
XS_4905c	dsf of Access Road (U47)	1085	692.62	704.82	706.62	707.27	708.67	
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.18	706.28	707.04	708.66	
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.51	702.36	703.11	704.86	
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.16	700.36	700.84	701.95	
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.59	698.65	699.07	700.38	
XS_4902	155 feet us of I-290 (47:81)	155	691.22	695.89	697.45	698.18	700.38	
XS_9182 (B20)	37 feet us of I-290 (47:113)	37	690.98	695.06	696.91	697.84	700.38	
XS_9181 (B19)	20 feet us of I-290 (47:21)	20	690.95	695.02	696.88	697.82	700.38	
XS_9181 (B19)	usf of I-290 (D47)	0	690.95	694.90	696.85	697.82	700.38	
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.35	694.44	694.97	696.39	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.82	692.33	692.52	692.94	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.80	692.30	692.49	692.90	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.14	690.62	690.83	691.31	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.14	690.62	690.82	691.30	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.14	690.60	690.80	691.26	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.98	689.72	690.05	690.86	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.98	689.70	690.03	690.80	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.95	689.66	689.98	690.75	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.95	689.66	689.98	690.75	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.95	689.65	689.98	690.75	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.95	689.64	689.96	690.72	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.95	689.63	689.94	690.62	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.95	689.63	689.93	690.61	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.16	688.51	689.13	690.55	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.14	688.48	689.10	690.54	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.08	688.38	689.01	690.52	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.37	689.01	690.52	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.37	689.01	690.52	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.37	689.01	690.52	
F24	**Pond us of Rohlwing Road (0: F24)**		**710.62**	**714.32**	**715.39**	**715.85**	**716.98**	**Existing Elevations**
XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.82	714.44	714.69	715.43	
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 6)	12597	697.64	713.82	714.44	714.69	715.43	
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 11)	12549	697.64	713.82	714.44	714.69	715.43	
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 16)	12445	700.94	713.82	714.44	714.69	715.43	
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 21)	12267	700.22	713.82	714.44	714.69	715.43	
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 26)	11910	701.47	713.78	714.40	714.65	715.43	
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 31)	11725	700.61	713.52	714.16	714.55	715.43	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 36)	11505	700.47	713.32	714.15	714.55	715.43	
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.32	714.15	714.55	715.43	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	713.14	714.15	714.55	715.43	
XS_206	usf of Unnamed Culv 1 (58: 14)	435	698.75	713.09	714.15	714.55	715.43	
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	712.32	713.20	713.53	714.26	
XS_202	usf of Thorndale Avenue (56: 4)	0	698.32	712.10	713.05	713.41	714.20	
XS6401	dsf of Thorndate Avenue (64: 1)	10864	697.72	710.38	711.05	711.38	712.15	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS6401	usf of HWY Ramp (64: 4)	10798	695.72	710.08	711.02	711.38	712.15
XS_200	U54 (54: 1)	402	705.22				
XS_200	Approx. 149 feet ds of U54 (54: 4)	253	702.87				
XS_202	usf of Unnamed Culv 2 (D54) (54: 7)	0	698.32				
XS_198	dsf of Unnamed Culv 2 (U52) (52: 1)	447	705.22				
XS_198	Approx 132 feet ds of Unnamed Culv 2 (52: 4)	315	703.32				
XS_188	usf of Thorndale Avenue (D52) (52: 7)	0	696.92				
F310	Depressional area west of I-290		706.20	707.67	708.11	708.30	708.79
F312	Depressional area east of I-290		703.04	704.76	705.32	705.56	706.16
F314	Depressional area east of I-290 ramp		797.66				
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.70	694.16	694.36	694.79
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.70	694.16	694.36	694.79
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.16	694.36	694.79
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.16	694.36	694.79
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.46	693.48	693.92	694.81
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	692.46	693.48	693.92	694.81
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	692.46	693.48	693.92	694.81
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	692.46	693.48	693.92	694.81
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	692.46	693.48	693.92	694.81
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	692.46	693.48	693.92	694.81
XS_322	D310 usf of Park Blvd - South (310 :25)	1624	679.67	692.46	693.48	693.92	694.81
XS_320	U308 dsf of Park Blvd - South (308: 1)	1544	680.41	692.33	693.41	693.85	694.77
XS_318	53 feet DS of Park Blvd south(308: 5)	1465	680.41	692.33	693.38	693.80	694.69
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	692.32	693.35	693.79	694.69
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.55	692.82	693.35	694.48
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.55	692.82	693.35	694.48
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.24	692.73	693.29	694.48
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.06	692.53	693.12	694.39
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.04	692.52	693.12	694.39
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	690.58	691.94	692.44	693.46
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	690.58	691.94	692.44	693.46
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	690.58	691.94	692.44	693.46
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	690.55	691.94	692.44	693.46
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	690.43	691.94	692.44	693.46
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.04	688.32	688.92	690.33
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.03	688.32	688.92	690.33
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.03	688.32	688.92	690.33
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.03	688.32	688.92	690.33
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.03	688.32	688.92	690.32
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.84	687.85	688.44	690.00
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.81	687.85	688.44	690.00
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.81	687.85	688.44	690.00
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.81	687.85	688.44	690.00
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.80	687.85	688.44	690.00

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS6401	usf of HWY Ramp (64: 4)	10798	695.72	710.08	711.02	711.38	712.15
XS_200	U54 (54: 1)	402	705.22				
XS_200	Approx. 149 feet ds of U54 (54: 4)	253	702.87				
XS_202	usf of Unnamed Culv 2 (D54) (54: 7)	0	698.32				
XS_198	dsf of Unnamed Culv 2 (U52) (52: 1)	447	705.22				
XS_198	Approx 132 feet ds of Unnamed Culv 2 (52: 4)	315	703.32				
XS_188	usf of Thorndale Avenue (D52) (52: 7)	0	696.92				
F310	Depressional area west of I-290		706.20	707.67	708.11	708.30	708.79
F312	Depressional area east of I-290		703.04	704.76	705.32	705.56	706.16
F314	Depressional area east of I-290 ramp		797.66				
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.70	694.16	694.36	694.79
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.70	694.16	694.36	694.79
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.16	694.36	694.79
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.16	694.36	694.79
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.46	693.48	693.92	694.81
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	692.46	693.48	693.92	694.81
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	692.46	693.48	693.92	694.81
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	692.46	693.48	693.92	694.81
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	692.46	693.48	693.92	694.81
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	692.46	693.48	693.92	694.81
XS_322	D310 usf of Park Blvd - South (310 :25)	1624	679.67	692.46	693.48	693.92	694.81
XS_320	U308 dsf of Park Blvd - South (308: 1)	1544	680.41	692.33	693.41	693.85	694.77
XS_318	53 feet DS of Park Blvd south(308: 5)	1465	680.41	692.33	693.38	693.80	694.69
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	692.32	693.35	693.79	694.69
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.55	692.82	693.35	694.48
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.55	692.82	693.35	694.48
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.24	692.73	693.29	694.48
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.06	692.53	693.12	694.39
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.04	692.52	693.12	694.39
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	690.58	691.94	692.44	693.46
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	690.58	691.94	692.44	693.46
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	690.58	691.94	692.44	693.46
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	690.55	691.94	692.44	693.46
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	690.43	691.94	692.44	693.46
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.04	688.32	688.92	690.33
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.03	688.32	688.92	690.33
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.03	688.32	688.92	690.33
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.03	688.32	688.92	690.33
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.03	688.32	688.92	690.32
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.84	687.85	688.44	690.00
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.81	687.85	688.44	690.00
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.81	687.85	688.44	690.00
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.81	687.85	688.44	690.00
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.80	687.85	688.44	690.00

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)	
F556	Structure ustream of E-O west (Dep3, F556)		708.00	710.53	711.13	711.38	711.95	
F552	Structure at northwest corner of IL53 and E-O Expy (Dep1, F552)		707.20	708.76	709.44	709.80	710.80	
F502	Pond 1 (0: F502)		703.00	706.66	708.27	709.09	711.25	
F504	Pond 2 (0: F504)		701.00	705.24	706.58	707.22	708.86	
F554	Structure west of I-290 Ramp G2 (Dep2, F554))		692.00	694.77	697.07	698.46	702.80	
F506	usf of I-290 (Pond 3, F506)		691.14	694.13	695.48	696.14	697.89	
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.07	693.89	694.29	695.37	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.64	692.09	692.27	692.65	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.63	692.07	692.24	692.61	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.01	690.43	690.61	691.06	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.01	690.42	690.60	691.03	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.00	690.41	690.58	691.00	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.78	689.50	689.85	690.81	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.78	689.50	689.85	690.81	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.76	689.46	689.80	690.81	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.76	689.46	689.80	690.81	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.76	689.46	689.80	690.81	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.74	689.42	689.75	690.81	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.74	689.41	689.74	690.81	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.74	689.41	689.74	690.81	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.10	688.42	689.10	690.81	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.08	688.42	689.10	690.81	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.06	688.42	689.10	690.81	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.42	689.10	690.81	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.42	689.10	690.81	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.42	689.10	690.81	
F24	**Pond us of Rohlwing Road (0: F24)**		**710.62**	**713.84**	**714.89**	**715.33**	**716.41**	**Proposed Elevations**
XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.43	713.92	714.07	714.52	
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 11)	12597	697.64	713.43	713.92	714.07	714.52	
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 21)	12549	697.64	713.43	713.92	714.07	714.52	
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 31)	12445	700.94	713.43	713.92	714.07	714.52	
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 41)	12267	700.22	713.43	713.92	714.07	714.52	
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 51)	11910	701.47	713.38	713.87	714.05	714.43	
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 61)	11725	700.61	713.13	713.52	713.66	713.96	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 71)	11505	700.47	712.94	713.27	713.39	713.83	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (62: 85)	11286	700.43	712.44	712.90	713.08	713.83	
XS_206	usf of Unnamed Culv 1 (62: 97)	11175	698.75	711.69	712.67	713.03	713.83	
F508	Pond 4 (0: F508)		692.50	694.88	696.36	697.15	699.43	
F310	Depressional area west of I-290		706.20	706.18	706.62	706.81	707.28	
F312	Depressional area east of I-290		703.04					
F314	Depressional area east of I-290 ramp		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 33)	3609	680.08	693.51	694.02	694.18	694.59	
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 57)	3312	679.94	693.51	694.02	694.18	694.51	
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 97)	3090	680.72	693.51	694.02	694.18	694.51	
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.51	694.02	694.18	694.51	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	691.75	692.32	692.67	693.57
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	691.75	692.32	692.67	693.57
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	691.69	692.32	692.67	693.57
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	691.69	692.32	692.67	693.57
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	691.69	692.32	692.67	693.57
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	691.69	692.32	692.67	693.57
XS_9322	D310 usf of E-O Expy/Park Blvd - South (310 :25)	1624	679.67	691.61	692.32	692.67	693.57
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	689.79	690.40	690.84	691.75
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	689.59	690.40	690.84	691.75
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	689.59	690.40	690.84	691.75
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	689.54	690.40	690.84	691.75
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	689.11	690.40	690.84	691.75
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.06	688.42	689.10	690.77
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.06	688.42	689.10	690.77
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.06	688.42	689.10	690.77
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.06	688.29	688.83	690.07
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.06	688.29	688.83	690.07
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.83	687.90	688.45	689.79
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.82	687.90	688.45	689.79
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.82	687.90	688.45	689.79
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.82	687.90	688.45	689.79
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.82	687.90	688.45	689.79

Existing Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
MULCON
TABID=  928 SAVE22 NOOUT
WSLOT= 0.10
HSLOT= 30.0
NPIPES=     2
TYPE:        NHE        NHE
SPAN:       5.00       5.00
RISE:       3.17       3.17
BOTT:        0.0       0.00
ROUG:      0.013      0.013


CULVERT
TABLE#=  C952
TYPE=  13
LABEL=Double Celled 60-in X 38-in RCEP under IL Route 53
Approach Section Data
APPTAB#= 2001
APPELV= 710.98
APPLEN=  30.0
APPLOS= 0.0
APPEXP= 1.0
Culvert Description
NODEID=YES
SFAC= 1.0
 NODE   NODEID  XNUM   STATION ELEVATION   KA   KD HTAB
  300   QRDUP    928     93.00    711.08  0.0  0.0    0




        QRDDN    928      0.00    710.04  0.0  0.0
   -1
CULCLS=BOX
Departure Section Data
DEPTAB#=  224
DEPELV=  707.42
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
KWING= 1.00
KPROJ= 1.0
C46= 0.87
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
        0.     999.0       10.     658.0 PAVED
      100.     999.0               658.0 END
Head Sequence Definition
NFRAC= 11
POWER= 2.0
0.2
0.5
0.7
1.0
1.5
2.0
2.5
```

```
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.
11.
12.
13.
14.
16.
18.
20.
22.
-1.

EMBANKQ
TABLE#= E952
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
LABEL=IL Route 53 Bridge Crossing overflow
    OFFSET      CREST      WIDTH  APPROACH SURFACE
   24000.      718.50      92.20    710.7  PAVED
   24050.      718.20
   24100.      717.90
   24150.      717.60
   24200.      717.30
   24250.      717.03
   24300.      716.94
   24350.      717.07
   24400.      717.38
   24450.      717.72
   24500.      718.06
   24550.      718.40
   24600.      718.74
   24650.      719.08
   24700.      719.42
   24750.      719.76                      END

UPSTREAM HEADS TO USE IN COMPUTING THE TABLE
NFRAC=40
POWER=2.0
LIPREC=0.02
MINPFD=0.01
     0.100
    13.000
    -1.000
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Proposed Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
FTABIN
FILE=  \utlheader\embweir.mtb
FILE=  \utlheader\type5.mtb
TABID= -1

FEQX
TABID=    2001  NOOUT SAVE12 EXTEND
STATION= 0
NAVM=    0  SCALE=     1.000 SHIFT=     0.000
NSUB     1 0.03
    OFFSET ELEVATION SUBS
      0.00        30    1
      0.10       0.1
     50.00         0
    100.00       0.1
    100.10        30   -1

FEQX
GISID=   001SCDA0224
;468.000 468.000 468.000 468.000 468.000 468.000 NAVD88
TABLE#=   224  NOOUT SAVE12 EXTEND
STATION= 12607.7
NAVM=    0 LEFT= 0.00 RIGHT= 0.00 SCALE= 1.00 SHIFT= 0.00
NSUB     5   0.010   0.025   0.1   0.025   0.010
xs 224
    -91.31    716.51    1 1937233.12 1066358.98 0001 TM Extend Sta.
    -51.20    715.35    2 1937198.01 1066378.37 0002 ALPT GR
    -32.35    713.22    2 1937179.22 1066379.87 0003 TE
     -7.46    711.79    2 1937154.37 1066378.47 0004 H2O
     -1.87    711.79    3
     -1.37    711.29    3
;    -1.32    697.92    3
     -1.27    707.42    3
     -0.77    707.92    3
      4.83    707.92    4 1937142.28 1066376.26 0005 H2O
     53.38    712.53    4 1937093.79 1066378.64 0006 H2O
    103.66    712.63    4 1937043.51 1066378.08 0007 H2O
    155.38    712.93    5 1936991.85 1066380.65 0008 ALPT H2O
    181.99    715.70    5 1936975.29 1066359.82 0009 TM Extend Sta.
    218.85    717.02   -1 1936953.31 1066330.23 0010 TM Extend Sta.

MULCON
TABID=  928 SAVE22 NOOUT
WSLOT= 0.10
HSLOT= 30.0
NPIPES=    3
TYPE:       NHE       NHE       NHE
SPAN:      5.00      5.00      5.00
RISE:      3.17      3.17      3.17
BOTT:       0.0      0.00      0.00
ROUG:     0.013     0.013     0.013


CULVERT
TABLE#=  C952
TYPE=  13
LABEL=Triple Celled 60-in X 38-in RCEP under IL Route 53
Approach Section Data
APPTAB#= 2001
APPELV= 710.98
APPLEN=  30.0
APPLOS= 0.0
APPEXP= 1.0
Culvert Description
NODEID=YES
SFAC= 1.0
```

```
 NODE    NODEID  XNUM    STATION ELEVATION    KA    KD HTAB
  300    QRDUP    928     114.00    711.15   0.0   0.0    0




        QRDDN    928       0.00    709.87   0.0   0.0
   -1
CULCLS=BOX
Departure Section Data
DEPTAB#=  224
DEPELV=  707.42
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
KWING= 1.00
KPROJ= 1.0
C46= 0.87
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET      CREST      WIDTH  APPROACH SURFACE
        0.      999.0       10.     658.0 PAVED
      100.      999.0              658.0 END
Head Sequence Definition
NFRAC= 11
POWER= 2.0
0.2
0.5
0.7
1.0
1.5
2.0
2.5
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.
11.
12.
13.
14.
16.
18.
20.
22.
-1.

EMBANKQ
TABLE#= E952
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
```

```
GSUBTB= 9999
LABEL=IL Route 53 Bridge Crossing overflow
    OFFSET      CREST      WIDTH  APPROACH SURFACE
   24000.      718.50      92.20    710.7  PAVED
   24050.      718.20
   24100.      717.90
   24150.      717.60
   24200.      717.30
   24250.      717.03
   24300.      716.94
   24350.      717.07
   24400.      717.38
   24450.      717.72
   24500.      718.06
   24550.      718.40
   24600.      718.74
   24650.      719.08
   24700.      719.42
   24750.      719.76                      END

UPSTREAM HEADS TO USE IN COMPUTING THE TABLE
NFRAC=40
POWER=2.0
LIPREC=0.02
MINPFD=0.01
     0.100
    13.000
    -1.000


FINISH
```

Norwood Avenue (FEQ Node U62)

Illinois Department of Transportation

Culvert Waterway Information Table

Route:	EOWB	S.N. Exist:	NA	Computed by:	M. Younus	Date:	5-22-2012
Section:	Norwood Ave	S.N. Prop:	NA	Checked by:	M. Cothard	Date:	5-22-2012
County:	DuPage	Waterway:	Devon Avenue Trib.				
Station:	16+00						

Drainage Area = 0.17 Square Miles

Existing Overtopping Elevation: 715.53 ft. @ Sta 13+50
Proposed Overtopping Evaluation: 718.03 ft. @ Sta 17+00

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.) Existing	Waterway Opening (sq. ft.) Proposed	Natural H.W.E.	Head (ft.) Existing	Head (ft.) Proposed	Headwater Elev. (ft.) Existing	Headwater Elev. (ft.) Proposed
	10	22	4.9	15.0	713.7	0.1		713.8	713.4
Design	50	30	4.9	15.0	714.2	0.2		714.4	713.9
Base	100	33	4.9	15.0	714.4	0.3		714.7	714.1
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	41	4.9	15.0	714.8	0.6		715.4	714.5

10-Year Outlet Velocity from Existing Structure = 4.5 fps
10-Year Outlet Velocity from Proposed Structure = 1.5 fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: NA - October 1954

SCOPE OF WORK:

EXISTING STRUCTURE

Bridge or Culvert Type:	RCP
Cell Dimensions (W x H):	30"
# of spans \ cells:	1
Length:	77.6
U/S Flowline:	709.92
D/S Flowline:	709.92
Skew:	0
Low EOP:	715.0

PROPOSED STRUCTURE

Culvert Type:	RCBC
Cell Dimensions (W x H):	5'X3'
# of cells:	1
Length:	970
U/S Flowline:	709.92
D/S Flowline:	708.0
Skew:	0
Low EOP:	717.70

EXISTING DROPBOX

Dimensions:
Drop:
Weir Elevation:

PROPOSED DROPBOX

Dimensions:
Drop:
Weir Elevation:

NOTE(S): NAVD88 = NGVD29 – 0.28, Used existing conditions discharges
Proposed conditions lower than natural conditions because replacing 2 restrictive ditches and 2 culverts with 1 larger culvert, lower downstream invert.

Flood Frequency Summary for Peak Discharge: Flows

Sect	Return Period (years): 2.0	5.0	10.0	25.0	50.0	75.0
1	11.9	18.4	22.2	26.7	29.9	31.8
2	16.2	26.4	32.9	41.3	47.8	51.7
3	16.2	26.4	32.9	41.3	47.8	51.7
4	16.6	28.5	35.9	45.5	53.1	57.6
5	16.7	27.8	34.8	44.0	51.3	55.8
6	16.3	27.0	33.7	42.5	49.3	53.5
7	18.0	28.9	36.8	47.5	56.0	61.1
8	16.8	27.5	35.4	46.5	55.6	61.3
9	17.5	29.1	37.7	50.0	60.4	67.0
10	64.8	110.2	143.9	190.9	228.8	252.2
11	65.7	112.2	147.0	196.2	236.4	261.3
12	71.9	122.4	161.4	218.0	265.4	295.2
13	75.8	128.6	170.8	231.7	282.4	314.2
14	79.4	135.9	183.1	251.8	309.1	345.0
15	82.5	139.9	188.1	259.2	319.2	357.1
16	83.6	143.9	194.4	268.2	330.1	369.0
17	84.5	144.7	195.2	269.1	331.1	370.0
18	84.6	145.3	196.0	270.4	332.7	371.8
19	70.1	122.3	164.9	228.4	282.5	316.7
20	70.1	122.3	164.9	228.4	282.5	316.7
21	70.1	122.3	164.9	228.4	282.5	316.7
22	70.1	122.3	164.9	228.4	282.5	316.7
23	67.4	119.0	162.0	226.6	281.9	317.1
24	69.0	120.9	163.1	226.8	282.1	317.6
25	69.0	120.9	163.1	226.8	282.1	317.6
26	69.0	120.9	163.1	226.7	282.0	317.4
27	69.0	120.9	163.1	226.7	282.0	317.4
28	67.7	119.3	162.2	227.7	284.0	319.8
29	67.7	119.3	162.2	227.7	284.0	319.8
30	69.0	121.1	162.6	224.9	278.8	313.2
31	68.7	121.1	162.4	224.5	278.1	312.4
32	68.8	121.3	162.6	224.6	278.2	312.4
33	68.8	121.3	162.6	224.6	278.2	312.4
34	68.8	121.3	162.6	224.6	278.2	312.3
35	68.8	121.3	162.6	224.6	278.2	312.3
36	68.7	121.0	162.2	224.0	277.4	311.4
37	68.7	121.0	162.2	224.0	277.4	311.4
38	63.5	112.8	152.2	211.7	263.2	296.1

Sect	Return Period (years): 100.0	200.0	300.0	400.0	500.0
1	33.1	36.4	38.4	39.8	40.9
2	54.6	61.8	66.3	69.6	72.2
3	54.6	61.8	66.3	69.6	72.2
4	61.0	69.5	74.8	78.8	81.9
5	59.1	67.3	72.3	76.1	79.1
6	56.5	64.1	68.8	72.2	74.9
7	64.9	74.4	80.3	84.5	88.0
8	65.5	76.1	82.8	87.8	91.8
9	72.0	85.1	93.4	99.7	104.8
10	269.4	313.4	341.0	361.5	378.1
11	279.7	326.9	356.7	379.0	397.0
12	317.4	374.9	411.6	439.1	461.5
13	337.9	399.3	438.4	467.7	491.5
14	371.7	440.8	484.7	517.6	544.3
15	385.5	459.4	506.7	542.4	571.3
16	397.9	472.8	520.5	556.2	585.2
17	399.0	473.9	521.6	557.4	586.3
18	400.9	476.2	524.0	559.9	588.9

19	342.3	409.0	451.8	484.0	510.1
20	342.3	409.0	451.8	484.0	510.1
21	342.4	409.1	451.9	484.1	510.2
22	342.4	409.1	451.9	484.1	510.2
23	343.3	411.9	455.9	489.2	516.3
24	344.3	414.6	460.1	494.6	522.7
25	344.3	414.6	460.1	494.6	522.7
26	344.2	414.4	459.9	494.3	522.4
27	344.2	414.4	459.9	494.3	522.4
28	346.5	416.3	461.1	494.9	522.5
29	346.5	416.3	461.1	494.9	522.5
30	339.1	406.7	450.2	483.0	509.6
31	338.1	405.2	448.3	480.7	507.0
32	338.0	404.8	447.7	479.9	506.0
33	338.0	404.8	447.7	479.9	506.0
34	338.0	404.8	447.6	479.8	506.0
35	338.0	404.8	447.6	479.8	506.0
36	336.9	403.4	446.0	478.0	504.0
37	336.9	403.4	446.0	478.0	504.0
38	320.7	384.9	426.0	456.9	481.9

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.62	714.05	714.21	714.54	
XS_194	usf of Access Road (50: 8)	1396	700.27	712.21	712.75	712.96	713.40	
XS_192	dsf of Access Road (48: 1)	1337	699.95	712.21	712.75	712.95	713.40	
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.17	710.46	710.57	710.80	
XS_188	usf of EOH - West (48: 12)	642	696.92	708.35	708.58	708.68	709.58	
XS_186	U46 dsf of EOH -West Culvert (46: 1)	455	696.14	707.43	708.18	708.51	709.58	
XS_184	222 feet ds of EOH - West Culvert (46: 6)	233	693.28	706.66	708.01	708.51	709.58	
XS_182	294 feet d/s of EOH - West Culvert (46: 9)	161	692.11	706.65	708.01	708.51	709.58	
XS_180	D46 usf of Access Road(46: 13)	0	692.72	706.64	708.01	708.51	709.58	
XS_4905c	dsf of Access Road (U47)	1085	692.62	705.09	706.86	707.53	709.03	
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.48	706.48	707.20	708.75	
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.83	702.92	703.76	705.70	
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.36	700.76	701.33	702.62	
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.69	698.72	699.10	699.93	
XS_4902	155 feet us of I-290 - North (47:81)	155	691.22	695.65	696.89	697.39	698.56	
XS_9182 (B20)	37 feet us of I-290- North (47:113)	37	690.98	694.05	695.26	695.81	697.22	
XS_9181 (B19)	20 feet us of I-290- North (47:21)	20	690.95	693.76	694.98	695.54	697.22	
XS_9181 (B19)	usf of I-290- North (D47)	0	690.95	693.46	694.75	695.41	697.22	
F20	F20 Pond downstream of I-290- North (0: F20)		691.52	693.46	694.75	695.41	697.22	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.88	692.44	692.66	693.13	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.86	692.41	692.62	693.08	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.19	690.73	690.96	691.50	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.19	690.72	690.95	691.48	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.17	690.71	690.94	691.48	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	689.04	689.86	690.24	691.16	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	689.04	689.85	690.21	691.08	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	689.01	689.79	690.14	690.99	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	689.01	689.79	690.14	690.99	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	689.01	689.79	690.14	690.99	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	689.01	689.79	690.13	690.99	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	689.01	689.79	690.13	690.99	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	689.01	689.78	690.11	690.99	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.27	688.80	689.45	690.99	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.25	688.77	689.42	690.99	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.18	688.67	689.35	690.99	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.17	688.66	689.34	690.99	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.17	688.66	689.34	690.98	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.17	688.65	689.32	690.93	
F24	Pond us of Rohlwing Road (IL 53) (0: F24)		710.62	713.69	714.21	714.43	714.92	
XS_224	**dsf of Rohlwing Road (IL 53) (62: 1)**	**12608**	**697.64**	**713.67**	**714.18**	**714.38**	**714.81**	**Natural Elevations**
XS_222	Approx. 11 feet ds of Rohlwing Road (IL 53) (62: 6)	12597	697.64	713.67	714.18	714.38	714.81	
XS_220	Approx. 59 feet ds of Rohlwing Road (IL 53) (62: 11)	12549	697.64	713.67	714.18	714.38	714.81	
XS_218	Approx. 163 feet ds of Rohlwing Road (IL 53) (62: 16)	12445	700.94	713.67	714.18	714.38	714.81	
XS_216	Approx. 341 feet ds of Rohlwing Road (IL 53) (62: 21)	12267	700.22	713.67	714.18	714.38	714.79	
XS_214	Approx. 698 feet ds of Rohlwing Road (IL 53) (62: 26)	11910	701.47	713.61	714.12	714.31	714.71	
XS_212	Approx. 883 feet ds of Rohlwing Road (IL 53) (62: 31)	11725	700.61	713.30	713.71	713.86	714.19	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (IL 53) (62: 36)	11505	700.47	713.02	713.35	713.47	713.72	
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.02	713.35	713.47	713.72	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	712.56	712.88	713.00	713.25	
XS_206	usf of Unnamed Culv 1 (58: 14)	435	698.75	711.68	712.28	712.50	712.97	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	711.68	712.28	712.50	712.97
XS_202	usf of EOH - East (56: 4)	0	698.32	710.16	710.53	710.67	710.94
XS6401	dsf of EOH - East (64: 1)	10864	697.72	710.16	710.53	710.66	710.93
XS6401	usf of Westbound Thorndale Ave Ramp (64: 4)	10798	695.72	708.46	709.03	709.24	709.67
F310	usf of I-290 (South)		706.20	706.54	706.64	706.69	706.80
F312	Usf of I-290 Northbound Ramp		703.04	703.79	704.05	704.18	704.51
F314	usf of Western Park Blvd - south		797.66				
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.67	694.08	694.23	694.54
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.67	694.08	694.23	694.54
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.08	694.23	694.54
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.08	694.23	694.54
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.10	692.60	693.10	694.07
XS_332	Approx. 1088 feet us of Eastern Park Blvd - South (310: 1)	2712	681.18	692.10	692.60	693.10	694.07
XS_330	Approx 931 feet us of EasternPark Blvd - South (310: 7)	2555	680.40	692.10	692.60	693.10	694.07
XS_328	Approx 689 feet us of EasternPark Blvd - South (310: 11)	2313	679.82	692.10	692.60	693.10	694.07
XS_326	Approx 468 feet us of Eastern Park Blvd - South (310: 15)	2092	679.44	692.10	692.60	693.10	694.07
XS_324	Approx 283 feet us of Eastern Park Blvd - South (310: 20)	1907	680.66	692.10	692.60	693.10	694.07
XS_322	D310 usf of Eastern Park Blvd - South (310 :25)	1624	679.67	692.08	692.60	693.10	694.07
XS_320	U308 dsf of Eastern Park Blvd - South (308: 1)	1544	680.41	692.02	692.60	693.10	694.07
XS_318	53 feet DS of Eastern Park Blvd south(308: 5)	1465	680.41	692.00	692.60	693.10	694.07
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	691.55	692.60	693.10	694.07
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.53	692.60	693.10	694.07
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.25	692.60	693.10	694.07
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.25	692.60	693.10	694.07
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.13	692.60	693.10	694.07
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.13	692.60	693.10	694.07
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	691.13	692.60	693.10	694.07
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	691.13	692.60	693.10	694.07
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	691.13	692.60	693.10	694.07
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	691.11	692.60	693.10	694.07
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	691.03	692.60	693.10	694.07
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.12	688.44	689.08	690.61
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.10	688.44	689.08	690.61
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.08	688.44	689.08	690.57
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.08	688.44	689.08	690.54
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.08	688.44	689.08	690.54
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.91	688.05	688.62	690.05
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.87	688.01	688.60	690.05
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.87	688.01	688.60	690.05
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.86	688.01	688.60	690.05
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.85	688.01	688.60	690.05

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.16	713.39	713.48	713.66	
XS_194	usf of Access Road (50: 8)	1396	700.27	712.33	712.84	713.05	713.48	
XS_192	dsf of Access Road (48: 1)	1337	699.95	711.73	712.03	712.15	712.40	
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.35	710.94	711.18	711.68	
XS_188	usf of Thorndale Avenue (48: 12)	642	696.92	710.34	710.94	711.18	711.68	
XS_186	U46 dsf of Thorndale Ave Culvert (46: 1)	455	696.14	707.12	707.29	707.43	708.67	
XS_184	222 feet ds of Thorndale Ave Culvert (46: 6)	233	693.28	705.90	707.00	707.43	708.67	
XS_182	294 feet d/s of Thorndale Ave Culvert (46: 9)	161	692.11	705.90	706.99	707.41	708.67	
XS_180	D46 usf of Access Road(46: 13)	0	692.72	705.90	706.97	707.40	708.67	
XS_4905c	dsf of Access Road (U47)	1085	692.62	704.82	706.62	707.27	708.67	
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.18	706.28	707.04	708.66	
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.51	702.36	703.11	704.86	
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.16	700.36	700.84	701.95	
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.59	698.65	699.07	700.38	
XS_4902	155 feet us of I-290 (47:81)	155	691.22	695.89	697.45	698.18	700.38	
XS_9182 (B20)	37 feet us of I-290 (47:113)	37	690.98	695.06	696.91	697.84	700.38	
XS_9181 (B19)	20 feet us of I-290 (47:21)	20	690.95	695.02	696.88	697.82	700.38	
XS_9181 (B19)	usf of I-290 (D47)	0	690.95	694.90	696.85	697.82	700.38	
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.35	694.44	694.97	696.39	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.82	692.33	692.52	692.94	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.80	692.30	692.49	692.90	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.14	690.62	690.83	691.31	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.14	690.62	690.82	691.30	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.14	690.60	690.80	691.26	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.98	689.72	690.05	690.86	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.98	689.70	690.03	690.80	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.95	689.66	689.98	690.75	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.95	689.66	689.98	690.75	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.95	689.65	689.98	690.75	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.95	689.64	689.96	690.72	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.95	689.63	689.94	690.62	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.95	689.63	689.93	690.61	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.16	688.51	689.13	690.55	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.14	688.48	689.10	690.54	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.08	688.38	689.01	690.52	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.37	689.01	690.52	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.37	689.01	690.52	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.37	689.01	690.52	
F24	Pond us of Rohlwing Road (0: F24)		710.62	714.32	715.39	715.85	716.98	
XS_224	**dsf of Rohlwing Road (62: 1)**	**12608**	**697.64**	**713.82**	**714.44**	**714.69**	**715.43**	**Existing Elevations**
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 6)	12597	697.64	713.82	714.44	714.69	715.43	
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 11)	12549	697.64	713.82	714.44	714.69	715.43	
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 16)	12445	700.94	713.82	714.44	714.69	715.43	
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 21)	12267	700.22	713.82	714.44	714.69	715.43	
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 26)	11910	701.47	713.78	714.40	714.65	715.43	
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 31)	11725	700.61	713.52	714.16	714.55	715.43	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 36)	11505	700.47	713.32	714.15	714.55	715.43	
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.32	714.15	714.55	715.43	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	713.14	714.15	714.55	715.43	
XS_206	usf of Unnamed Culv 1 (58: 14)	435	698.75	713.09	714.15	714.55	715.43	
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	712.32	713.20	713.53	714.26	
XS_202	usf of Thorndale Avenue (56: 4)	0	698.32	712.10	713.05	713.41	714.20	
XS6401	dsf of Thorndate Avenue (64: 1)	10864	697.72	710.38	711.05	711.38	712.15	

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Sheet: summary (Fixed-NAVD88) WIT

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS6401	usf of HWY Ramp (64: 4)	10798	695.72	710.08	711.02	711.38	712.15
XS_200	U54 (54: 1)	402	705.22				
XS_200	Approx. 149 feet ds of U54 (54: 4)	253	702.87				
XS_202	usf of Unnamed Culv 2 (D54) (54: 7)	0	698.32				
XS_198	dsf of Unnamed Culv 2 (U52) (52: 1)	447	705.22				
XS_198	Approx 132 feet ds of Unnamed Culv 2 (52: 4)	315	703.32				
XS_188	usf of Thorndale Avenue (D52) (52: 7)	0	696.92				
F310	Depressional area west of I-290		706.20	707.67	708.11	708.30	708.79
F312	Depressional area east of I-290		703.04	704.76	705.32	705.56	706.16
F314	Depressional area east of I-290 ramp		797.66				
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.70	694.16	694.36	694.79
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.70	694.16	694.36	694.79
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.16	694.36	694.79
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.16	694.36	694.79
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.46	693.48	693.92	694.81
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	692.46	693.48	693.92	694.81
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	692.46	693.48	693.92	694.81
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	692.46	693.48	693.92	694.81
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	692.46	693.48	693.92	694.81
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	692.46	693.48	693.92	694.81
XS_322	D310 usf of Park Blvd - South (310 :25)	1624	679.67	692.46	693.48	693.92	694.81
XS_320	U308 dsf of Park Blvd - South (308: 1)	1544	680.41	692.33	693.41	693.85	694.77
XS_318	53 feet DS of Park Blvd south(308: 5)	1465	680.41	692.33	693.38	693.80	694.69
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	692.32	693.35	693.79	694.69
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.55	692.82	693.35	694.48
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.55	692.82	693.35	694.48
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.24	692.73	693.29	694.48
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.06	692.53	693.12	694.39
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7) .	959	678.57	691.04	692.52	693.12	694.39
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	690.58	691.94	692.44	693.46
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	690.58	691.94	692.44	693.46
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	690.58	691.94	692.44	693.46
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	690.55	691.94	692.44	693.46
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	690.43	691.94	692.44	693.46
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.04	688.32	688.92	690.33
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.03	688.32	688.92	690.33
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.03	688.32	688.92	690.33
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.03	688.32	688.92	690.33
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.03	688.32	688.92	690.32
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.84	687.85	688.44	690.00
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.81	687.85	688.44	690.00
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.81	687.85	688.44	690.00
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.81	687.85	688.44	690.00
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.80	687.85	688.44	690.00

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)	
F556	Structure ustream of E-O west (Dep3, F556)		708.00	710.53	711.13	711.38	711.95	
F552	Structure at northwest corner of IL53 and E-O Expy (Dep1, F552)		707.20	708.76	709.44	709.80	710.80	
F502	Pond 1 (0: F502)		703.00	706.66	708.27	709.09	711.25	
F504	Pond 2 (0: F504)		701.00	705.24	706.58	707.22	708.86	
F554	Structure west of I-290 Ramp G2 (Dep2, F554))		692.00	694.77	697.07	698.46	702.80	
F506	usf of I-290 (Pond 3, F506)		691.14	694.13	695.48	696.14	697.89	
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.07	693.89	694.29	695.37	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.64	692.09	692.27	692.65	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.63	692.07	692.24	692.61	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.01	690.43	690.61	691.06	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.01	690.42	690.60	691.03	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.00	690.41	690.58	691.00	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.78	689.50	689.85	690.81	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.78	689.50	689.85	690.81	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.76	689.46	689.80	690.81	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.76	689.46	689.80	690.81	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.76	689.46	689.80	690.81	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.74	689.42	689.75	690.81	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.74	689.41	689.74	690.81	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.74	689.41	689.74	690.81	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.10	688.42	689.10	690.81	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.08	688.42	689.10	690.81	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.06	688.42	689.10	690.81	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.42	689.10	690.81	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.42	689.10	690.81	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.42	689.10	690.81	
F24	Pond us of Rohlwing Road (0: F24)		710.62	713.84	714.89	715.33	716.41	
XS_224	**dsf of Rohlwing Road (62: 1)**	**12608**	**697.64**	**713.43**	**713.92**	**714.07**	**714.52**	**Proposed Elevations**
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 11)	12597	697.64	713.43	713.92	714.07	714.52	
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 21)	12549	697.64	713.43	713.92	714.07	714.52	
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 31)	12445	700.94	713.43	713.92	714.07	714.52	
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 41)	12267	700.22	713.43	713.92	714.07	714.52	
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 51)	11910	701.47	713.38	713.87	714.05	714.43	
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 61)	11725	700.61	713.13	713.52	713.66	713.96	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 71)	11505	700.47	712.94	713.27	713.39	713.83	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (62: 85)	11286	700.43	712.44	712.90	713.08	713.83	
XS_206	usf of Unnamed Culv 1 (62: 97)	11175	698.75	711.69	712.67	713.03	713.83	
F508	Pond 4 (0: F508)		692.50	694.88	696.36	697.15	699.43	
F310	Depressional area west of I-290		706.20	706.18	706.62	706.81	707.28	
F312	Depressional area east of I-290		703.04					
F314	Depressional area east of I-290 ramp		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 33)	3609	680.08	693.51	694.02	694.18	694.59	
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 57)	3312	679.94	693.51	694.02	694.18	694.51	
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 97)	3090	680.72	693.51	694.02	694.18	694.51	
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.51	694.02	694.18	694.51	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	691.75	692.32	692.67	693.57
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	691.75	692.32	692.67	693.57
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	691.69	692.32	692.67	693.57
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	691.69	692.32	692.67	693.57
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	691.69	692.32	692.67	693.57
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	691.69	692.32	692.67	693.57
XS_9322	D310 usf of E-O Expy/Park Blvd - South (310 :25)	1624	679.67	691.61	692.32	692.67	693.57
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	689.79	690.40	690.84	691.75
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	689.59	690.40	690.84	691.75
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	689.59	690.40	690.84	691.75
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	689.54	690.40	690.84	691.75
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	689.11	690.40	690.84	691.75
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.06	688.42	689.10	690.77
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.06	688.42	689.10	690.77
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.06	688.42	689.10	690.77
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.06	688.29	688.83	690.07
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.06	688.29	688.83	690.07
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.83	687.90	688.45	689.79
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.82	687.90	688.45	689.79
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.82	687.90	688.45	689.79
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.82	687.90	688.45	689.79
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.82	687.90	688.45	689.79

Existing Conditions Culvert Data
(Based on NGVD 1929 Datum)

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CULVERT
TABID= C50
TYPE=  13
LABEL= Norwood Avenue - Mainstem/west
Approach-Section Data
APPTAB= 2001
APPELV= 710.20
APPLEN=  10.0
APPLOS= 0.5
APPEXP= 1.0
Culvert Description
NODEID=YES
SFAC= 1.0
 NODE        NODEID  XNUM   STATION ELEVATION   KA   KD
  100           U/S  3030      0.00    710.20  0.0  0.0
                D/S  3030     77.60    710.20  0.0  0.0
   -1
CULCLS= PIPE
Departure Section Data
DEPTAB= 2001
DEPELV= 710.20
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
KWING= 1.00
KPROJ= 1.00
C46= 0.85
TYPE 5 flow parameters
RBVALUE= 0.03
BVANGLE= 0.0
WWANGLE= 0.0
LPOVERD= 0.0
TYPE5SBF= 0.75
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
    -99.69    717.06     50.0      710.0 PAVED
    -76.81    717.30
    -62.41    717.48
    -39.80    717.08
      0.00    715.91
     44.24    715.81
    111.53    717.11
    154.94    718.49
    210.94    718.31
    271.87    718.79                     END
Head Sequence Definition
NFRAC= 10
POWER= 2.0
0.05
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
2.0
2.3
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2.4
2.5
2.6
2.7
2.8
3.0
5.0
5.6
5.7
5.9
6.2
6.8
7.0
7.5
8.0
9.0
9.5
10.0
-1
```

Proposed Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
MULCON
TABID= B4X3 SAVE22 NOOUT
WSLOT= 0.10
HSLOT= 30.0
NPIPES=     1
TYPE:        BOX
SPAN:       5.00
RISE:       3.00
BOTT:        0.0
ROUG:      0.013
MUDL:       0.03
ROUG:      0.030

CULVERT
TABID= CNWD1
TYPE=  13
LABEL= Culvert between U62 and Dep3
Approach-Section Data
APPTAB=   224
APPELV= 707.42
APPLEN=  10.0
APPLOS= 0.5
APPEXP= 1.0
Culvert Description
NODEID=YES
SFAC= 1.0
 NODE        NODEID  XNUM   STATION ELEVATION   KA   KD
  100           U/S  B4X3    970.00    710.20  0.0  0.0

                D/S  B4X3      0.00    708.28  0.0  0.0
   -1
CULCLS= BOX
Departure Section Data
DEPTAB=  1002
DEPELV= 708.28
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
KWING= 1.00
KPROJ= 1.00
C46= 0.85
TYPE 5 flow parameters
RBVALUE= 0.03
BVANGLE= 0.0
WWANGLE= 0.0
LPOVERD= 0.0
TYPE5SBF= 0.75
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
    -99.69    717.06     50.0      710.0 PAVED
    -76.81    717.30
    -62.41    717.48
    -39.80    717.08
      0.00    715.91
     44.24    715.81
    111.53    717.11
    154.94    718.49
    210.94    718.31
    271.87    718.79                     END
Head Sequence Definition
NFRAC= 10
```

```
POWER= 2.0
0.05
0.1
0.2
0.25
0.3
0.5
0.8
1.0
2.0
2.5
3.0
3.1
3.2
3.3
3.4
3.5
3.6
3.7
3.8
3.9
4.0
4.5
4.6
4.7
4.8
4.9
5.0
5.5
6.0
6.5
7.0
8.0
9.0
-1
```

EOH-East (Proposed, FEQ Node D62)

Illinois Department of Transportation

Culvert Waterway Information Table

Route: EOWB
Section: EOH East (Proposed)

S.N. Exist: NA
S.N. Prop: NA

Computed by: M. Younus Date: 5-22-2012
Checked by: M. Cothard Date: 5-22-2012

County: DuPage
Station: 995+00

Waterway: Devon Avenue Trib.

Drainage Area = 0.24 Square Miles

Existing Overtopping Elevation: 718.00 ft. @ Sta Along SB ramp to I-290
Proposed Overtopping Evaluation: 716.56 ft. @ Sta 401+00 on Ramp G4

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.) Existing	Waterway Opening (sq. ft.) Proposed	Natural H.W.E.	Head (ft.) Existing	Head (ft.) Proposed	Headwater Elev. (ft.) Existing	Headwater Elev. (ft.) Proposed
	10	88	17.9	17.2	711.7	1.4	0.0	713.1	711.7
Design	50	150	19.6	18.0	712.3	1.9	0.4	714.2	712.7
Base	100	180	19.6	18.0	712.5	2.1	0.5	714.6	713.0
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	265	19.6	18.0	713.0	2.4	0.8	715.4	713.8

10-Year Outlet Velocity from Existing Structure = 4.9 fps
10-Year Outlet Velocity from Proposed Structure = 5.1 fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: NA - October 1954

SCOPE OF WORK:

EXISTING STRUCTURE

Bridge or Culvert Type: CMP
Cell Dimensions (W x H): 60"
# of spans \ cells: 1
Length: 135.9
U/S Flowline: 708.81
D/S Flowline: 708.81
Skew: 0
Low EOP: 718.10

PROPOSED STRUCTURE

Culvert Type: RCBC
Cell Dimensions (W x H): 6'X3'
# of cells: 1
Length: 670
U/S Flowline: 708.82
D/S Flowline: 693.00
Skew: 0
Low EOP: 716.26

EXISTING DROPBOX

Dimensions:
Drop:
Weir Elevation:

PROPOSED DROPBOX

Dimensions:
Drop:
Weir Elevation:

NOTE(S): NAVD88 = NGVD29 – 0.28, Discharges are used from Proposed Conditions

Flood Frequency Summary for Peak Discharge: Flows

Sect	Return Period (years): 2.0	5.0	10.0	25.0	50.0	75.0
1	63.7	104.1	132.2	169.7	199.1	217.0
2	32.5	53.9	66.6	83.0	96.2	104.4
3	32.2	54.4	67.0	83.3	96.5	104.7
4	32.1	54.6	67.5	84.5	98.3	106.9
5	29.4	49.5	62.7	82.2	97.9	107.4
6	18.4	40.1	55.8	78.8	98.6	111.2
7	18.6	45.0	63.7	90.3	112.9	127.3
8	20.4	47.6	67.1	94.8	118.3	133.4
9	23.2	53.5	75.1	105.1	130.0	145.8
10	26.3	59.6	83.5	116.1	142.7	159.4
11	28.0	62.9	88.1	122.1	149.9	167.3
12	20.7	44.9	61.1	82.8	100.8	112.3

Sect	Return Period (years): 100.0	200.0	300.0	400.0	500.0
1	229.9	262.5	282.6	297.3	309.1
2	110.5	126.0	135.8	143.1	148.9
3	110.7	126.3	136.1	143.4	149.3
4	113.2	129.4	139.5	147.0	153.0
5	114.4	132.1	143.4	151.8	158.7
6	120.7	145.8	161.9	174.1	183.9
7	138.1	166.4	184.6	198.2	209.3
8	144.7	174.6	193.8	208.3	220.0
9	157.7	188.7	208.5	223.4	235.5
10	171.8	204.2	224.8	240.2	252.7
11	180.2	213.9	235.4	251.6	264.6
12	121.0	143.8	158.7	170.0	179.2

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.62	714.05	714.21	714.54	
XS_194	usf of Access Road (50: 8)	1396	700.27	712.21	712.75	712.96	713.40	
XS_192	dsf of Access Road (48: 1)	1337	699.95	712.21	712.75	712.95	713.40	
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.17	710.46	710.57	710.80	
XS_188	usf of EOH - West (48: 12)	642	696.92	708.35	708.58	708.68	709.58	
XS_186	U46 dsf of EOH -West Culvert (46: 1)	455	696.14	707.43	708.18	708.51	709.58	
XS_184	222 feet ds of EOH - West Culvert (46: 6)	233	693.28	706.66	708.01	708.51	709.58	
XS_182	294 feet d/s of EOH - West Culvert (46: 9)	161	692.11	706.65	708.01	708.51	709.58	
XS_180	D46 usf of Access Road(46: 13)	0	692.72	706.64	708.01	708.51	709.58	
XS_4905c	dsf of Access Road (U47)	1085	692.62	705.09	706.86	707.53	709.03	
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.48	706.48	707.20	708.75	
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.83	702.92	703.76	705.70	
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.36	700.76	701.33	702.62	
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.69	698.72	699.10	699.93	
XS_4902	155 feet us of I-290 - North (47:81)	155	691.22	695.65	696.89	697.39	698.56	
XS_9182 (B20)	37 feet us of I-290- North (47:113)	37	690.98	694.05	695.26	695.81	697.22	
XS_9181 (B19)	20 feet us of I-290- North (47:21)	20	690.95	693.76	694.98	695.54	697.22	
XS_9181 (B19)	usf of I-290- North (D47)	0	690.95	693.46	694.75	695.41	697.22	
F20	F20 Pond downstream of I-290- North (0: F20)		691.52	693.46	694.75	695.41	697.22	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.88	692.44	692.66	693.13	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.86	692.41	692.62	693.08	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.19	690.73	690.96	691.50	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.19	690.72	690.95	691.48	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.17	690.71	690.94	691.48	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	689.04	689.86	690.24	691.16	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	689.04	689.85	690.21	691.08	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	689.01	689.79	690.14	690.99	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	689.01	689.79	690.14	690.99	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	689.01	689.79	690.14	690.99	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	689.01	689.79	690.13	690.99	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	689.01	689.79	690.13	690.99	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	689.01	689.78	690.11	690.99	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.27	688.80	689.45	690.99	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.25	688.77	689.42	690.99	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.18	688.67	689.35	690.99	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.17	688.66	689.34	690.99	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.17	688.66	689.34	690.98	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.17	688.65	689.32	690.93	
F24	Pond us of Rohlwing Road (IL 53) (0: F24)		710.62	713.69	714.21	714.43	714.92	
XS_224	dsf of Rohlwing Road (IL 53) (62: 1)	12608	697.64	713.67	714.18	714.38	714.81	
XS_222	Approx. 11 feet ds of Rohlwing Road (IL 53) (62: 6)	12597	697.64	713.67	714.18	714.38	714.81	
XS_220	Approx. 59 feet ds of Rohlwing Road (IL 53) (62: 11)	12549	697.64	713.67	714.18	714.38	714.81	
XS_218	Approx. 163 feet ds of Rohlwing Road (IL 53) (62: 16)	12445	700.94	713.67	714.18	714.38	714.81	
XS_216	Approx. 341 feet ds of Rohlwing Road (IL 53) (62: 21)	12267	700.22	713.67	714.18	714.38	714.79	
XS_214	Approx. 698 feet ds of Rohlwing Road (IL 53) (62: 26)	11910	701.47	713.61	714.12	714.31	714.71	
XS_212	Approx. 883 feet ds of Rohlwing Road (IL 53) (62: 31)	11725	700.61	713.30	713.71	713.86	714.19	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (IL 53) (62: 36)	11505	700.47	713.02	713.35	713.47	713.72	
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.02	713.35	713.47	713.72	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	712.56	712.88	713.00	713.25	
XS_206	**usf of Unnamed Culv 1 (58: 14)**	**435**	**698.75**	**711.68**	**712.28**	**712.50**	**712.97**	**Natural Elevations**

File: MY D:\Devon\FEQ\070404\Natural\natural7\pvstats_n7d\summary-SCDA-Natural_Nat7d.xlsx
Sheet: summary (Fixed-NAVD88) for WIT

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	711.68	712.28	712.50	712.97
XS_202	usf of EOH - East (56: 4)	0	698.32	710.16	710.53	710.67	710.94
XS6401	dsf of EOH - East (64: 1)	10864	697.72	710.16	710.53	710.66	710.93
XS6401	usf of Westbound Thorndale Ave Ramp (64: 4)	10798	695.72	708.46	709.03	709.24	709.67
F310	usf of I-290 (South)		706.20	706.54	706.64	706.69	706.80
F312	Usf of I-290 Northbound Ramp		703.04	703.79	704.05	704.18	704.51
F314	usf of Western Park Blvd - south		797.66				
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.67	694.08	694.23	694.54
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.67	694.08	694.23	694.54
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.08	694.23	694.54
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.08	694.23	694.54
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.10	692.60	693.10	694.07
XS_332	Approx. 1088 feet us of Eastern Park Blvd - South (310: 1)	2712	681.18	692.10	692.60	693.10	694.07
XS_330	Approx 931 feet us of EasternPark Blvd - South (310: 7)	2555	680.40	692.10	692.60	693.10	694.07
XS_328	Approx 689 feet us of EasternPark Blvd - South (310: 11)	2313	679.82	692.10	692.60	693.10	694.07
XS_326	Approx 468 feet us of Eastern Park Blvd - South (310: 15)	2092	679.44	692.10	692.60	693.10	694.07
XS_324	Approx 283 feet us of Eastern Park Blvd - South (310: 20)	1907	680.66	692.10	692.60	693.10	694.07
XS_322	D310 usf of Eastern Park Blvd - South (310 :25)	1624	679.67	692.08	692.60	693.10	694.07
XS_320	U308 dsf of Eastern Park Blvd - South (308: 1)	1544	680.41	692.02	692.60	693.10	694.07
XS_318	53 feet DS of Eastern Park Blvd south(308: 5)	1465	680.41	692.00	692.60	693.10	694.07
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	691.55	692.60	693.10	694.07
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.53	692.60	693.10	694.07
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.25	692.60	693.10	694.07
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.25	692.60	693.10	694.07
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.13	692.60	693.10	694.07
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.13	692.60	693.10	694.07
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	691.13	692.60	693.10	694.07
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	691.13	692.60	693.10	694.07
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	691.13	692.60	693.10	694.07
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	691.11	692.60	693.10	694.07
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	691.03	692.60	693.10	694.07
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.12	688.44	689.08	690.61
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.10	688.44	689.08	690.61
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.08	688.44	689.08	690.57
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.08	688.44	689.08	690.54
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.08	688.44	689.08	690.54
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.91	688.05	688.62	690.05
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.87	688.01	688.60	690.05
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.87	688.01	688.60	690.05
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.86	688.01	688.60	690.05
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.85	688.01	688.60	690.05

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.16	713.39	713.48	713.66	
XS_194	usf of Access Road (50: 8)	1396	700.27	712.33	712.84	713.05	713.48	
XS_192	dsf of Access Road (48: 1)	1337	699.95	711.73	712.03	712.15	712.40	
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.35	710.94	711.18	711.68	
XS_188	usf of Thorndale Avenue (48: 12)	642	696.92	710.34	710.94	711.18	711.68	
XS_186	U46 dsf of Thorndale Ave Culvert (46: 1)	455	696.14	707.12	707.29	707.43	708.67	
XS_184	222 feet ds of Thorndale Ave Culvert (46: 6)	233	693.28	705.90	707.00	707.43	708.67	
XS_182	294 feet d/s of Thorndale Ave Culvert (46: 9)	161	692.11	705.90	706.99	707.41	708.67	
XS_180	D46 usf of Access Road(46: 13)	0	692.72	705.90	706.97	707.40	708.67	
XS_4905c	dsf of Access Road (U47)	1085	692.62	704.82	706.62	707.27	708.67	
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.18	706.28	707.04	708.66	
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.51	702.36	703.11	704.86	
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.16	700.36	700.84	701.95	
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.59	698.65	699.07	700.38	
XS_4902	155 feet us of I-290 (47:81)	155	691.22	695.89	697.45	698.18	700.38	
XS_9182 (B20)	37 feet us of I-290 (47:113)	37	690.98	695.06	696.91	697.84	700.38	
XS_9181 (B19)	20 feet us of I-290 (47:21)	20	690.95	695.02	696.88	697.82	700.38	
XS_9181 (B19)	usf of I-290 (D47)	0	690.95	694.90	696.85	697.82	700.38	
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.35	694.44	694.97	696.39	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.82	692.33	692.52	692.94	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.80	692.30	692.49	692.90	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.14	690.62	690.83	691.31	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.14	690.62	690.82	691.30	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.14	690.60	690.80	691.26	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.98	689.72	690.05	690.86	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.98	689.70	690.03	690.80	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.95	689.66	689.98	690.75	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.95	689.66	689.98	690.75	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.95	689.65	689.98	690.75	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.95	689.64	689.96	690.72	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.95	689.63	689.94	690.62	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.95	689.63	689.93	690.61	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.16	688.51	689.13	690.55	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.14	688.48	689.10	690.54	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.08	688.38	689.01	690.52	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.37	689.01	690.52	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.37	689.01	690.52	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.37	689.01	690.52	
F24	Pond us of Rohlwing Road (0: F24)		710.62	714.32	715.39	715.85	716.98	
XS_224	**dsf of Rohlwing Road (62: 1)**	**12608**	**697.64**	**713.82**	**714.44**	**714.69**	**715.43**	**Existing Elevations**
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 6)	12597	697.64	713.82	714.44	714.69	715.43	
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 11)	12549	697.64	713.82	714.44	714.69	715.43	
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 16)	12445	700.94	713.82	714.44	714.69	715.43	
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 21)	12267	700.22	713.82	714.44	714.69	715.43	
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 26)	11910	701.47	713.78	714.40	714.65	715.43	
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 31)	11725	700.61	713.52	714.16	714.55	715.43	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 36)	11505	700.47	713.32	714.15	714.55	715.43	
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.32	714.15	714.55	715.43	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	713.14	714.15	714.55	715.43	
XS_206	usf of Unnamed Culv 1 (58: 14)	435	698.75	713.09	714.15	714.55	715.43	
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	712.32	713.20	713.53	714.26	
XS_202	usf of Thorndale Avenue (56: 4)	0	698.32	712.10	713.05	713.41	714.20	
XS64D1	dsf of Thorndate Avenue (64: 1)	10864	697.72	710.38	711.05	711.38	712.15	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS6401	usf of HWY Ramp (64: 4)	10798	695.72	710.08	711.02	711.38	712.15
XS_200	U54 (54: 1)	402	705.22				
XS_200	Approx. 149 feet ds of U54 (54: 4)	253	702.87				
XS_202	usf of Unnamed Culv 2 (D54) (54: 7)	0	698.32				
XS_198	dsf of Unnamed Culv 2 (U52) (52: 1)	447	705.22				
XS_198	Approx 132 feet ds of Unnamed Culv 2 (52: 4)	315	703.32				
XS_188	usf of Thorndale Avenue (D52) (52: 7)	0	696.92				
F310	Depressional area west of I-290		706.20	707.67	708.11	708.30	708.79
F312	Depressional area east of I-290		703.04	704.76	705.32	705.56	706.16
F314	Depressional area east of I-290 ramp		797.66				
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.70	694.16	694.36	694.79
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.70	694.16	694.36	694.79
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.16	694.36	694.79
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.16	694.36	694.79
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.46	693.48	693.92	694.81
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	692.46	693.48	693.92	694.81
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	692.46	693.48	693.92	694.81
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	692.46	693.48	693.92	694.81
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	692.46	693.48	693.92	694.81
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	692.46	693.48	693.92	694.81
XS_322	D310 usf of Park Blvd - South (310 :25)	1624	679.67	692.46	693.48	693.92	694.81
XS_320	U308 dsf of Park Blvd - South (308: 1)	1544	680.41	692.33	693.41	693.85	694.77
XS_318	53 feet DS of Park Blvd south(308: 5)	1465	680.41	692.33	693.38	693.80	694.69
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	692.32	693.35	693.79	694.69
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.55	692.82	693.35	694.48
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.55	692.82	693.35	694.48
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.24	692.73	693.29	694.48
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.06	692.53	693.12	694.39
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.04	692.52	693.12	694.39
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	690.58	691.94	692.44	693.46
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	690.58	691.94	692.44	693.46
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	690.58	691.94	692.44	693.46
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	690.55	691.94	692.44	693.46
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	690.43	691.94	692.44	693.46
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.04	688.32	688.92	690.33
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.03	688.32	688.92	690.33
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.03	688.32	688.92	690.33
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.03	688.32	688.92	690.33
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.03	688.32	688.92	690.32
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.84	687.85	688.44	690.00
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.81	687.85	688.44	690.00
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.81	687.85	688.44	690.00
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.81	687.85	688.44	690.00
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.80	687.85	688.44	690.00

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)	
F556	Structure ustream of E-O west (Dep3, F556)		708.00	710.53	711.13	711.38	711.95	
F552	Structure at northwest corner of IL53 and E-O Expy (Dep1, F552)		707.20	708.76	709.44	709.80	710.80	
F502	Pond 1 (0: F502)		703.00	706.66	708.27	709.09	711.25	
F504	Pond 2 (0: F504)		701.00	705.24	706.58	707.22	708.86	
F554	Structure west of I-290 Ramp G2 (Dep2, F554))		692.00	694.77	697.07	698.46	702.80	
F506	usf of I-290 (Pond 3, F506)		691.14	694.13	695.48	696.14	697.89	
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.07	693.89	694.29	695.37	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.64	692.09	692.27	692.65	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.63	692.07	692.24	692.61	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.01	690.43	690.61	691.06	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.01	690.42	690.60	691.03	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.00	690.41	690.58	691.00	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.78	689.50	689.85	690.81	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.78	689.50	689.85	690.81	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.76	689.46	689.80	690.81	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.76	689.46	689.80	690.81	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.76	689.46	689.80	690.81	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.74	689.42	689.75	690.81	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.74	689.41	689.74	690.81	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.74	689.41	689.74	690.81	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.10	688.42	689.10	690.81	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.08	688.42	689.10	690.81	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.06	688.42	689.10	690.81	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.42	689.10	690.81	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.42	689.10	690.81	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.42	689.10	690.81	
F24	Pond us of Rohlwing Road (0: F24)		710.62	713.84	714.89	715.33	716.41	
XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.43	713.92	714.07	714.52	
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 11)	12597	697.64	713.43	713.92	714.07	714.52	
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 21)	12549	697.64	713.43	713.92	714.07	714.52	
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 31)	12445	700.94	713.43	713.92	714.07	714.52	
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 41)	12267	700.22	713.43	713.92	714.07	714.52	
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 51)	11910	701.47	713.38	713.87	714.05	714.43	
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 61)	11725	700.61	713.13	713.52	713.66	713.96	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 71)	11505	700.47	712.94	713.27	713.39	713.83	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (62: 85)	11286	700.43	712.44	712.90	713.08	713.83	
XS_206	**usf of Unnamed Culv 1 (62: 97)**	**11175**	**698.75**	**711.69**	**712.67**	**713.03**	**713.83**	**Proposed Elevations**
F508	Pond 4 (0: F508)		692.50	694.88	696.36	697.15	699.43	
F310	Depressional area west of I-290		706.20	706.18	706.62	706.81	707.28	
F312	Depressional area east of I-290		703.04					
F314	Depressional area east of I-290 ramp		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 33)	3609	680.08	693.51	694.02	694.18	694.59	
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 57)	3312	679.94	693.51	694.02	694.18	694.51	
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 97)	3090	680.72	693.51	694.02	694.18	694.51	
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.51	694.02	694.18	694.51	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	691.75	692.32	692.67	693.57
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	691.75	692.32	692.67	693.57
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	691.69	692.32	692.67	693.57
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	691.69	692.32	692.67	693.57
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	691.69	692.32	692.67	693.57
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	691.69	692.32	692.67	693.57
XS_9322	D310 usf of E-O Expy/Park Blvd - South (310 :25)	1624	679.67	691.61	692.32	692.67	693.57
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	689.79	690.40	690.84	691.75
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	689.59	690.40	690.84	691.75
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	689.59	690.40	690.84	691.75
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	689.54	690.40	690.84	691.75
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	689.11	690.40	690.84	691.75
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.06	688.42	689.10	690.77
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.06	688.42	689.10	690.77
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.06	688.42	689.10	690.77
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.06	688.29	688.83	690.07
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.06	688.29	688.83	690.07
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.83	687.90	688.45	689.79
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.82	687.90	688.45	689.79
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.82	687.90	688.45	689.79
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.82	687.90	688.45	689.79
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.82	687.90	688.45	689.79

Existing Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
CULVERT
TABID= C56
TYPE=  13
LABEL= Ditch structure - Mainstem/west
Approach-Section Data
APPTAB= 2001
APPELV= 709.09
APPLEN=  10.0
APPLOS= 0.5
APPEXP= 1.0
Culvert Description
NODEID=YES
SFAC= 1.0
 NODE        NODEID  XNUM   STATION ELEVATION   KA   KD
  100           U/S  8454      0.00    709.09  0.0  0.0
                D/S  8454    135.90    709.09  0.0  0.0
   -1
CULCLS= PIPE
Departure Section Data
DEPTAB= 2001
DEPELV= 708.50
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
KWING= 1.00
KPROJ= 1.00
C46= 0.85
TYPE 5 flow parameters
RBVALUE= 0.03
BVANGLE= 0.0
WWANGLE= 0.0
LPOVERD= 0.0
TYPE5SBF= 0.75
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
   -176.96    718.25     50.0     708.5  GRAVEL
   -116.01    718.00
    -57.90    718.23
      0.00    719.61
     54.60    721.88
    104.55    723.12
    152.28    722.08
    219.37    721.66                     END
Head Sequence Definition
NFRAC= 10
POWER= 2.0
0.05
0.1
0.2
0.3
0.5
0.8
1.0
2.0
3.0
4.0
4.1
4.2
4.3
4.4
4.5
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4.6
4.7
4.8
4.9
5.0
5.5
6.0
6.5
7.0
7.5
8.0
8.5
9.0
9.5
10.0
10.5
11.0
11.5
12.0
12.5
13.0
13.5
14.0
14.5
15.0
-1
```

Proposed Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
MULCON
TABID= B6X3 SAVE22 NOOUT
WSLOT= 0.10
HSLOT= 50.0
NPIPES=     1
TYPE:        BOX
SPAN:       6.00
RISE:       3.00
BOTT:        0.0
ROUG:      0.013
MUDL:       0.03
ROUG:      0.030

CULVERT
TABID= CD62
TYPE=  13
LABEL= Culvert between D62 and Pond4
Approach-Section Data
APPTAB=   206
APPELV= 709.03
APPLEN=  10.0
APPLOS= 0.5
APPEXP= 1.0
Culvert Description
NODEID=YES
SFAC= 1.0
 NODE        NODEID  XNUM    STATION ELEVATION   KA   KD
  100           U/S  B6X3    670.00    709.10  0.0  0.0
                D/S  B6X3      0.00    693.28  0.0  0.0
   -1
CULCLS=  BOX
Departure Section Data
DEPTAB=  1002
DEPELV= 693.28
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
KWING= 1.00
KPROJ= 1.00
C46= 0.85
TYPE 5 flow parameters
RBVALUE= 0.03
BVANGLE= 0.0
WWANGLE= 0.0
LPOVERD= 0.0
TYPE5SBF= 0.75
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
    -99.69    917.06     50.0      710.0 PAVED
    -76.81    917.30
    -62.41    917.48
    -39.80    917.08
      0.00    915.91
     44.24    915.81
    111.53    917.11
    154.94    918.49
    210.94    918.31
    271.87    918.79                     END
Head Sequence Definition
NFRAC= 10
POWER= 2.0
```

0.8
1.0
2.0
2.5
3.0
3.1
3.2
3.3
3.4
3.5
3.6
3.7
3.8
3.9
4.0
4.5
4.6
4.7
4.8
4.9
5.0
5.5
6.0
6.5
7.0
8.0
9.0
10.0
12.0
13.0
15.0
20.0
30.0
-1

I290-North (Pond 3, FEQ Node F506)

Illinois Department of Transportation

Culvert Waterway Information Table

Route: EOWB
Section: I-290 North
County: DuPage
Station: 1385+00

S.N. Exist: NA
S.N. Prop: NA
Waterway: Devon Avenue Trib.

Computed by: M. Younus Date: 5-22-2012
Checked by: M. Cothard Date: 5-22-2012

Drainage Area = 0.55 Square Miles

Existing Overtopping Elevation: 699.1 ft. @ Sta 1390+00
Proposed Overtopping Evaluation: 698.9 ft. @ Sta 1391+50

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.) Existing	Waterway Opening (sq. ft.) Proposed	Natural H.W.E.	Head (ft.) Existing	Head (ft.) Proposed	Headwater Elev. (ft.) Existing	Headwater Elev. (ft.) Proposed
	10	149	33.3	28.1	693.5	1.4	0.6	694.9	694.1
Design	50	247	34.6	34.6	694.8	2.1	0.7	696.9	695.5
Base	100	297	34.6	34.6	695.4	2.4	0.7	697.8	696.1
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	439	34.6	34.6	697.2	3.2	0.7	700.4	697.9

10-Year Outlet Velocity from Existing Structure = 4.5 fps
10-Year Outlet Velocity from Proposed Structure = 5.3 fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: NA - October 1954

SCOPE OF WORK:

EXISTING STRUCTURE

Bridge or Culvert Type: RCBC
Cell Dimensions (W x H): 9.5'X3.64'
# of spans \ cells: 1
Length: 320
U/S Flowline: 691.39
D/S Flowline: 690.39
Skew: 10
Low EOP: 698.70

PROPOSED STRUCTURE

Culvert Type: RCBC
Cell Dimensions (W x H): 9.5'X3.64'
# of cells: 1
Length: 275
U/S Flowline: 691.14
D/S Flowline: 690.29
Skew: 0
Low EOP: 698.46

EXISTING DROPBOX

Dimensions:
Drop:
Weir Elevation:

PROPOSED DROPBOX

Dimensions:
Drop:
Weir Elevation:

NOTE(S): NAVD88 = NGVD29 – 0.28, Discharges are used from Proposed Conditions
The existing culvert will be modified by reducing the length from the upstream end, by increasing the length at the downstream end.

Flood Frequency Summary for Peak Discharge: Flows

Sect	Return Period (years): 2.0	5.0	10.0	25.0	50.0	75.0
1	43.0	60.4	71.5	85.1	95.1	100.8
2	5.8	9.5	12.6	17.7	22.6	26.0
3	42.8	61.0	72.8	87.7	98.7	105.2
4	41.8	60.2	71.9	86.8	98.0	104.6
5	14.7	27.9	40.5	60.8	79.3	91.6
6	66.1	112.3	148.6	202.1	247.3	275.9
7	63.6	105.5	137.8	185.5	226.0	251.6
8	63.6	105.5	137.8	185.5	226.0	251.6
9	63.5	105.5	137.8	185.5	226.0	251.6
10	63.5	105.5	137.8	185.5	226.0	251.6
11	63.1	105.1	137.6	186.2	228.0	254.6
12	62.9	104.9	138.0	187.4	229.9	257.1
13	62.9	104.9	138.0	187.4	229.9	257.1
14	62.9	104.9	138.0	187.4	229.9	257.0
15	62.9	104.9	138.0	187.4	229.9	257.0
16	62.9	104.9	137.9	187.3	229.8	256.9
17	62.9	104.9	137.9	187.3	229.8	256.9
18	63.5	104.8	136.7	184.0	224.6	250.3
19	63.7	105.1	136.8	183.9	224.3	249.9
20	64.0	105.7	137.6	184.8	225.3	250.9
21	64.0	105.7	137.6	184.8	225.3	250.9
22	64.0	105.7	137.6	184.8	225.3	250.9
23	64.0	105.7	137.6	184.8	225.3	250.9
24	64.0	105.5	137.4	184.4	224.6	250.1
25	64.0	105.5	137.4	184.4	224.6	250.1
26	62.0	102.6	133.3	179.0	218.2	243.0

Sect	Return Period (years): 100.0	200.0	300.0	400.0	500.0
1	104.9	114.8	120.6	124.8	128.1
2	28.6	35.7	40.5	44.1	47.1
3	109.8	120.9	127.6	132.3	136.1
4	109.3	120.8	127.7	132.7	136.6
5	101.2	127.0	144.4	157.8	168.9
6	297.3	353.3	389.5	416.9	439.4
7	270.7	320.3	352.1	376.1	395.6
8	270.7	320.3	352.1	376.1	395.6
9	270.7	320.3	352.1	376.1	395.6
10	270.7	320.3	352.1	376.1	395.6
11	274.5	326.4	359.7	384.8	405.2
12	277.4	330.6	364.9	390.7	411.7
13	277.4	330.6	364.9	390.7	411.7
14	277.4	330.5	364.7	390.5	411.4
15	277.4	330.5	364.7	390.5	411.4
16	277.2	330.4	364.6	390.4	411.3
17	277.2	330.4	364.6	390.4	411.3
18	269.5	319.3	351.1	374.9	394.2
19	269.0	318.6	350.1	373.8	393.0
20	270.0	319.6	351.2	374.9	394.1
21	270.0	319.6	351.2	374.9	394.1
22	270.0	319.6	351.2	375.0	394.2
23	270.0	319.6	351.2	375.0	394.2
24	269.2	318.5	349.9	373.4	392.5
25	269.2	318.5	349.9	373.4	392.5
26	261.5	309.4	339.9	362.8	381.3

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.62	714.05	714.21	714.54	
XS_194	usf of Access Road (50: 8)	1396	700.27	712.21	712.75	712.96	713.40	
XS_192	dsf of Access Road (48: 1)	1337	699.95	712.21	712.75	712.95	713.40	
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.17	710.46	710.57	710.80	
XS_188	usf of EOH - West (48: 12)	642	696.92	708.35	708.58	708.68	709.58	
XS_186	U46 dsf of EOH -West Culvert (46: 1)	455	696.14	707.43	708.18	708.51	709.58	
XS_184	222 feet ds of EOH - West Culvert (46: 6)	233	693.28	706.66	708.01	708.51	709.58	
XS_182	294 feet d/s of EOH - West Culvert (46: 9)	161	692.11	706.65	708.01	708.51	709.58	
XS_180	D46 usf of Access Road(46: 13)	0	692.72	706.64	708.01	708.51	709.58	
XS_4905c	dsf of Access Road (U47)	1085	692.62	705.09	706.86	707.53	709.03	
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.48	706.48	707.20	708.75	
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.83	702.92	703.76	705.70	
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.36	700.76	701.33	702.62	
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.69	698.72	699.10	699.93	
XS_4902	155 feet us of I-290 - North (47:81)	155	691.22	695.65	696.89	697.39	698.56	
XS_9182 (B20)	37 feet us of I-290- North (47:113)	37	690.98	694.05	695.26	695.81	697.22	
XS_9181 (B19)	20 feet us of I-290- North (47:21)	20	690.95	693.76	694.98	695.54	697.22	
XS_9181 (B19)	**usf of I-290- North (D47)**	**0**	**690.95**	**693.46**	**694.75**	**695.41**	**697.22**	**Natural Elevations**
F20	F20 Pond downstream of I-290- North (0: F20)		691.52	693.46	694.75	695.41	697.22	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.88	692.44	692.66	693.13	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.86	692.41	692.62	693.08	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.19	690.73	690.96	691.50	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.19	690.72	690.95	691.48	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.17	690.71	690.94	691.48	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	689.04	689.86	690.24	691.16	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	689.04	689.85	690.21	691.08	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	689.01	689.79	690.14	690.99	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	689.01	689.79	690.14	690.99	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	689.01	689.79	690.14	690.99	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	689.01	689.79	690.13	690.99	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	689.01	689.79	690.13	690.99	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	689.01	689.78	690.11	690.99	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.27	688.80	689.45	690.99	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.25	688.77	689.42	690.99	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.18	688.67	689.35	690.99	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.17	688.66	689.34	690.99	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.17	688.66	689.34	690.98	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.17	688.65	689.32	690.93	
F24	Pond us of Rohlwing Road (IL 53) (0: F24)		710.62	713.69	714.21	714.43	714.92	
XS_224	dsf of Rohlwing Road (IL 53) (62: 1)	12608	697.64	713.67	714.18	714.38	714.81	
XS_222	Approx. 11 feet ds of Rohlwing Road (IL 53) (62: 6)	12597	697.64	713.67	714.18	714.38	714.81	
XS_220	Approx. 59 feet ds of Rohlwing Road (IL 53) (62: 11)	12549	697.64	713.67	714.18	714.38	714.81	
XS_218	Approx. 163 feet ds of Rohlwing Road (IL 53) (62: 16)	12445	700.94	713.67	714.18	714.38	714.81	
XS_216	Approx. 341 feet ds of Rohlwing Road (IL 53) (62: 21)	12267	700.22	713.67	714.18	714.38	714.79	
XS_214	Approx. 698 feet ds of Rohlwing Road (IL 53) (62: 26)	11910	701.47	713.61	714.12	714.31	714.71	
XS_212	Approx. 883 feet ds of Rohlwing Road (IL 53) (62: 31)	11725	700.61	713.30	713.71	713.86	714.19	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (IL 53) (62: 36)	11505	700.47	713.02	713.35	713.47	713.72	
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.02	713.35	713.47	713.72	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	712.56	712.88	713.00	713.25	
XS_206	usf of Unnamed Culv 1 (58: 14)	435	698.75	711.68	712.28	712.50	712.97	

File: MY D:\Devon\FEQ\070404\Natural\natural7\pvstats_n7d\summary-SCDA-Natural_Nat7d.xlsx
Sheet: summary (Fixed-NAVD88) for WIT

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	711.68	712.28	712.50	712.97
XS_202	usf of EOH - East (56: 4)	0	698.32	710.16	710.53	710.67	710.94
XS6401	dsf of EOH - East (64: 1)	10864	697.72	710.16	710.53	710.66	710.93
XS6401	usf of Westbound Thorndale Ave Ramp (64: 4)	10798	695.72	708.46	709.03	709.24	709.67
F310	usf of I-290 (South)		706.20	706.54	706.64	706.69	706.80
F312	Usf of I-290 Northbound Ramp		703.04	703.79	704.05	704.18	704.51
F314	usf of Western Park Blvd - south		797.66				
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.67	694.08	694.23	694.54
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.67	694.08	694.23	694.54
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.08	694.23	694.54
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.08	694.23	694.54
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.10	692.60	693.10	694.07
XS_332	Approx. 1088 feet us of Eastern Park Blvd - South (310: 1)	2712	681.18	692.10	692.60	693.10	694.07
XS_330	Approx 931 feet us of EasternPark Blvd - South (310: 7)	2555	680.40	692.10	692.60	693.10	694.07
XS_328	Approx 689 feet us of EasternPark Blvd - South (310: 11)	2313	679.82	692.10	692.60	693.10	694.07
XS_326	Approx 468 feet us of Eastern Park Blvd - South (310: 15)	2092	679.44	692.10	692.60	693.10	694.07
XS_324	Approx 283 feet us of Eastern Park Blvd - South (310: 20)	1907	680.66	692.10	692.60	693.10	694.07
XS_322	D310 usf of Eastern Park Blvd - South (310 :25)	1624	679.67	692.08	692.60	693.10	694.07
XS_320	U308 dsf of Eastern Park Blvd - South (308: 1)	1544	680.41	692.02	692.60	693.10	694.07
XS_318	53 feet DS of Eastern Park Blvd south(308: 5)	1465	680.41	692.00	692.60	693.10	694.07
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	691.55	692.60	693.10	694.07
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.53	692.60	693.10	694.07
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.25	692.60	693.10	694.07
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.25	692.60	693.10	694.07
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.13	692.60	693.10	694.07
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.13	692.60	693.10	694.07
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	691.13	692.60	693.10	694.07
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	691.13	692.60	693.10	694.07
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	691.13	692.60	693.10	694.07
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	691.11	692.60	693.10	694.07
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	691.03	692.60	693.10	694.07
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.12	688.44	689.08	690.61
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.10	688.44	689.08	690.61
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.08	688.44	689.08	690.57
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.08	688.44	689.08	690.54
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.08	688.44	689.08	690.54
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.91	688.05	688.62	690.05
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.87	688.01	688.60	690.05
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.87	688.01	688.60	690.05
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.86	688.01	688.60	690.05
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.85	688.01	688.60	690.05

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.16	713.39	713.48	713.66	
XS_194	usf of Access Road (50: 8)	1396	700.27	712.33	712.84	713.05	713.48	
XS_192	dsf of Access Road (48: 1)	1337	699.95	711.73	712.03	712.15	712.40	
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.35	710.94	711.18	711.68	
XS_188	usf of Thorndale Avenue (48: 12)	642	696.92	710.34	710.94	711.18	711.68	
XS_186	U46 dsf of Thorndale Ave Culvert (46: 1)	455	696.14	707.12	707.29	707.43	708.67	
XS_184	222 feet ds of Thorndale Ave Culvert (46: 6)	233	693.28	705.90	707.00	707.43	708.67	
XS_182	294 feet d/s of Thorndale Ave Culvert (46: 9)	161	692.11	705.90	706.99	707.41	708.67	
XS_180	D46 usf of Access Road(46: 13)	0	692.72	705.90	706.97	707.40	708.67	
XS_4905c	dsf of Access Road (U47)	1085	692.62	704.82	706.62	707.27	708.67	
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.18	706.28	707.04	708.66	
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.51	702.36	703.11	704.86	
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.16	700.36	700.84	701.95	
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.59	698.65	699.07	700.38	
XS_4902	155 feet us of I-290 (47:81)	155	691.22	695.89	697.45	698.18	700.38	
XS_9182 (B20)	37 feet us of I-290 (47:113)	37	690.98	695.06	696.91	697.84	700.38	
XS_9181 (B19)	20 feet us of I-290 (47:21)	20	690.95	695.02	696.88	697.82	700.38	
XS_9181 (B19)	**usf of I-290 (D47)**	**0**	**690.95**	**694.90**	**696.85**	**697.82**	**700.38**	**Existing Elevations**
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.35	694.44	694.97	696.39	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.82	692.33	692.52	692.94	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.80	692.30	692.49	692.90	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.14	690.62	690.83	691.31	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.14	690.62	690.82	691.30	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.14	690.60	690.80	691.26	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.98	689.72	690.05	690.86	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.98	689.70	690.03	690.80	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.95	689.66	689.98	690.75	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.95	689.66	689.98	690.75	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.95	689.65	689.98	690.75	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.95	689.64	689.96	690.72	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.95	689.63	689.94	690.62	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.95	689.63	689.93	690.61	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.16	688.51	689.13	690.55	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.14	688.48	689.10	690.54	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.08	688.38	689.01	690.52	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.37	689.01	690.52	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.37	689.01	690.52	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.37	689.01	690.52	
F24	Pond us of Rohlwing Road (0: F24)		710.62	714.32	715.39	715.85	716.98	
XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.82	714.44	714.69	715.43	
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 6)	12597	697.64	713.82	714.44	714.69	715.43	
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 11)	12549	697.64	713.82	714.44	714.69	715.43	
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 16)	12445	700.94	713.82	714.44	714.69	715.43	
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 21)	12267	700.22	713.82	714.44	714.69	715.43	
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 26)	11910	701.47	713.78	714.40	714.65	715.43	
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 31)	11725	700.61	713.52	714.16	714.55	715.43	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 36)	11505	700.47	713.32	714.15	714.55	715.43	
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.32	714.15	714.55	715.43	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	713.14	714.15	714.55	715.43	
XS_206	usf of Unnamed Culv 1 (58: 14)	435	698.75	713.09	714.15	714.55	715.43	
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	712.32	713.20	713.53	714.26	
XS_202	usf of Thorndale Avenue (56: 4)	0	698.32	712.10	713.05	713.41	714.20	
XS6401	dsf of Thorndate Avenue (64: 1)	10864	697.72	710.38	711.05	711.38	712.15	

File: MY D:\Devon\FEQ\070404\Exist\pvstats_ex8f\summary-SCDA-Existing_ex8f.xlsx
Sheet: summary (Fixed-NAVD88) WIT

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS6401	usf of HWY Ramp (64: 4)	10798	695.72	710.08	711.02	711.38	712.15
XS_200	U54 (54: 1)	402	705.22				
XS_200	Approx. 149 feet ds of U54 (54: 4)	253	702.87				
XS_202	usf of Unnamed Culv 2 (D54) (54: 7)	0	698.32				
XS_198	dsf of Unnamed Culv 2 (U52) (52: 1)	447	705.22				
XS_198	Approx 132 feet ds of Unnamed Culv 2 (52: 4)	315	703.32				
XS_188	usf of Thorndale Avenue (D52) (52: 7)	0	696.92				
F310	Depressional area west of I-290		706.20	707.67	708.11	708.30	708.79
F312	Depressional area east of I-290		703.04	704.76	705.32	705.56	706.16
F314	Depressional area east of I-290 ramp		797.66				
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.70	694.16	694.36	694.79
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.70	694.16	694.36	694.79
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.16	694.36	694.79
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.16	694.36	694.79
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.46	693.48	693.92	694.81
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	692.46	693.48	693.92	694.81
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	692.46	693.48	693.92	694.81
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	692.46	693.48	693.92	694.81
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	692.46	693.48	693.92	694.81
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	692.46	693.48	693.92	694.81
XS_322	D310 usf of Park Blvd - South (310 :25)	1624	679.67	692.46	693.48	693.92	694.81
XS_320	U308 dsf of Park Blvd - South (308: 1)	1544	680.41	692.33	693.41	693.85	694.77
XS_318	53 feet DS of Park Blvd south(308: 5)	1465	680.41	692.33	693.38	693.80	694.69
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	692.32	693.35	693.79	694.69
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.55	692.82	693.35	694.48
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.55	692.82	693.35	694.48
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.24	692.73	693.29	694.48
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.06	692.53	693.12	694.39
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.04	692.52	693.12	694.39
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	690.58	691.94	692.44	693.46
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	690.58	691.94	692.44	693.46
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	690.58	691.94	692.44	693.46
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	690.55	691.94	692.44	693.46
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	690.43	691.94	692.44	693.46
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.04	688.32	688.92	690.33
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.03	688.32	688.92	690.33
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.03	688.32	688.92	690.33
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.03	688.32	688.92	690.33
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.03	688.32	688.92	690.32
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.84	687.85	688.44	690.00
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.81	687.85	688.44	690.00
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.81	687.85	688.44	690.00
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.81	687.85	688.44	690.00
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.80	687.85	688.44	690.00

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)	
F556	Structure ustream of E-O west (Dep3, F556)		708.00	710.53	711.13	711.38	711.95	
F552	Structure at northwest corner of IL53 and E-O Expy (Dep1, F552)		707.20	708.76	709.44	709.80	710.80	
F502	Pond 1 (0: F502)		703.00	706.66	708.27	709.09	711.25	
F504	Pond 2 (0: F504)		701.00	705.24	706.58	707.22	708.86	
F554	Structure west of I-290 Ramp G2 (Dep2, F554))		692.00	694.77	697.07	698.46	702.80	
F506	**usf of I-290 (Pond 3, F506)**		**691.14**	**694.13**	**695.48**	**696.14**	**697.89**	**Proposed Elevations**
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.07	693.89	694.29	695.37	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.64	692.09	692.27	692.65	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.63	692.07	692.24	692.61	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.01	690.43	690.61	691.06	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.01	690.42	690.60	691.03	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.00	690.41	690.58	691.00	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.78	689.50	689.85	690.81	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.78	689.50	689.85	690.81	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.76	689.46	689.80	690.81	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.76	689.46	689.80	690.81	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.76	689.46	689.80	690.81	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.74	689.42	689.75	690.81	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.74	689.41	689.74	690.81	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.74	689.41	689.74	690.81	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.10	688.42	689.10	690.81	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.08	688.42	689.10	690.81	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.06	688.42	689.10	690.81	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.42	689.10	690.81	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.42	689.10	690.81	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.42	689.10	690.81	
F24	Pond us of Rohlwing Road (0: F24)		710.62	713.84	714.89	715.33	716.41	
XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.43	713.92	714.07	714.52	
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 11)	12597	697.64	713.43	713.92	714.07	714.52	
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 21)	12549	697.64	713.43	713.92	714.07	714.52	
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 31)	12445	700.94	713.43	713.92	714.07	714.52	
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 41)	12267	700.22	713.43	713.92	714.07	714.52	
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 51)	11910	701.47	713.38	713.87	714.05	714.43	
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 61)	11725	700.61	713.13	713.52	713.66	713.96	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 71)	11505	700.47	712.94	713.27	713.39	713.83	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (62: 85)	11286	700.43	712.44	712.90	713.08	713.83	
XS_206	usf of Unnamed Culv 1 (62: 97)	11175	698.75	711.69	712.67	713.03	713.83	
F508	Pond 4 (0: F508)		692.50	694.88	696.36	697.15	699.43	
F310	Depressional area west of I-290		706.20	706.18	706.62	706.81	707.28	
F312	Depressional area east of I-290		703.04					
F314	Depressional area east of I-290 ramp		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 33)	3609	680.08	693.51	694.02	694.18	694.59	
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 57)	3312	679.94	693.51	694.02	694.18	694.51	
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 97)	3090	680.72	693.51	694.02	694.18	694.51	
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.51	694.02	694.18	694.51	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	691.75	692.32	692.67	693.57
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	691.75	692.32	692.67	693.57
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	691.69	692.32	692.67	693.57
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	691.69	692.32	692.67	693.57
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	691.69	692.32	692.67	693.57
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	691.69	692.32	692.67	693.57
XS_9322	D310 usf of E-O Expy/Park Blvd - South (310 :25)	1624	679.67	691.61	692.32	692.67	693.57
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	689.79	690.40	690.84	691.75
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	689.59	690.40	690.84	691.75
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	689.59	690.40	690.84	691.75
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	689.54	690.40	690.84	691.75
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	689.11	690.40	690.84	691.75
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.06	688.42	689.10	690.77
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.06	688.42	689.10	690.77
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.06	688.42	689.10	690.77
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.06	688.29	688.83	690.07
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.06	688.29	688.83	690.07
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.83	687.90	688.45	689.79
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.82	687.90	688.45	689.79
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.82	687.90	688.45	689.79
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.82	687.90	688.45	689.79
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.82	687.90	688.45	689.79

Existing Conditions Culvert Data
(Based on NGVD 1929 Datum)

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FILE=  \utlheader\type5.mtb
TABID= -1

FEQX
GISID=   001SCDA9181
TABLE#=  9181 SAVE22 NOOUT NEWBETAM EXTEND
STATION=   22.00
NAVM=    0
NSUB     3   0.055   0.045   0.055
XS B19 U/S of I-290
    -235.1    800.00    1
    -235.0    701.28    1
    -208.0    700.28    1
    -188.0    699.28    1
    -148.2    697.85    1
     -70.7    694.94    1
     -42.4    694.86    1
     -25.9    695.10    2
     -13.6    693.94    2
      -9.0    693.72    2
      -7.9    692.69    2
      -5.0    691.23    2
       0.0    691.23    2
       5.0    691.23    2
       5.5    693.37    2
      12.4    695.88    3
      22.1    697.33    3
      72.8    700.39   -1

FEQX
GISID=   001SCDA9180
TABLE#=  9180 SAVE22 NOOUT NEWBETAM EXTEND
STATION= 9999.99
NAVM=    0
NSUB     3   0.035   0.036   0.035
XS B16 D/S of I-290
    -125.1    800.00    1
    -125.0    701.28    1
    -105.0    700.28    1
     -95.0    699.28    1
     -68.0    698.18    1
     -42.9    697.81    1
     -29.9    697.52    1
     -15.7    695.82    2
      -6.9    694.43    2
      -6.4    694.36    2
       0.0    690.44    2
       4.3    690.67    2
       8.2    691.57    2
      16.7    694.16    2
      17.8    694.01    2
      24.8    696.28    3
      49.3    698.59    3
      64.7    698.76    3
      78.1    699.00    3
      99.0    699.78    3
     106.0    700.28    3
     120.0    701.28    3
     158.0    702.28   -1

MULCON
TABID= 3104 SAVE22 NOOUT
WSLOT= 0.10
HSLOT= 30.0
NPIPES=    1
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TYPE:        BOX
SPAN:       9.50
RISE:       3.64
BOTT:        0.0
ROUG:      0.013

CULVERT
TABID= C9104
TYPE=  13
LABEL= HWY 290 (9.5' X 3.64' RCBC)
Approach-Section Data
APPTAB= 9181
APPELV= 691.23
APPLEN=  10.0
APPLOS= 0.1
APPEXP= 0.50
Culvert Description
NODEID=YES
SFAC= 1.0
 NODE        NODEID  XNUM   STATION ELEVATION   KA   KD
  100           U/S  3104    320.00    691.67  0.0  0.0
                D/S  3104      0.00    690.67  0.0  0.0
   -1
CULCLS= BOX
Departure Section Data
DEPTAB= 9180
DEPELV= 690.44
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
KWING= 1.00
KPROJ= 1.00
C46= 0.85
TYPE 5 flow parameters
RBVALUE= 0.03
BVANGLE= 0.0
WWANGLE= 0.0
LPOVERD= 0.0
TYPE5SBF= 0.75
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
       0.0    902.00     200.      690.0 PAVED
    264.97    900.00
    698.86    902.00                     END
Head Sequence Definition
NFRAC= 10
POWER= 2.0
0.1
0.2
0.3
0.5
0.8
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.3
4.5
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4.7
5.0
5.5
6.0
6.5
7.0
7.5
8.0
8.5
8.6
8.7
8.8
8.9
9.0
9.5
10.0
10.5
11.0
11.5
12.0
-1

EMBANKQ
TABID= E9104
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
LABEL=I-290 Overflow
    OFFSET     CREST     WIDTH  APPROACH SURFACE
    8000.0    703.78     200.0    691.70 PAVED
    8050.0    703.38
    8100.0    703.18
    8150.0    702.78
    8200.0    702.48
    8250.0    702.38
    8300.0    702.28
    8350.0    702.28
    8400.0    702.18
    8450.0    702.18
    8500.0    701.88
    8550.0    701.58
    8600.0    700.78
    8650.0    700.78
    8700.0    700.48
    8750.0    700.88
    8800.0    700.38
    8850.0    700.18
    8900.0    700.08
    8950.0    699.78
    9000.0    699.38
    9050.0    699.48
    9100.0    699.58
    9150.0    699.68
    9200.0    700.08
    9250.0    700.18
    9300.0    700.18
    9350.0    700.38
    9400.0    700.78
    9450.0    700.98
    9500.0    701.18
    9550.0    701.28
    9600.0    701.38
    9650.0    701.58
    9700.0    702.08
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UPSTREAM HEADS TO USE IN COMPUTING THE TABLE
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POWER=2.0
LIPREC=0.02
MINPFD=0.01
     0.100
    12.000
    -1.000
FINISH
```

Proposed Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
FTABIN
FILE=  \utlheader\embweir.mtb
FILE=  \utlheader\type5.mtb
TABID= -1

FEQX
GISID=   NONE
TABLE#=  1001  SAVE22 NOOUT EXTEND
STATION=   99.99
NAVM=    0 LEFT= 0.00 RIGHT= 0.00 SCALE= 1.00 SHIFT= 0.00
NSUB     1   0.040
Approach Cross Section
    -50.10    750.00    1
    -50.00    691.42    1
      0.00    691.42    1
     50.00    691.42   -1

FEQX
GISID=   001SCDA9180
TABLE#=  9180 SAVE22 NOOUT NEWBETAM EXTEND
STATION= 9999.99
NAVM=    0
NSUB     3   0.035   0.036   0.035
XS B16 D/S of I-290
    -125.1    800.00    1
    -125.0    701.28    1
    -105.0    700.28    1
     -95.0    699.28    1
     -68.0    698.18    1
     -42.9    697.81    1
     -29.9    697.52    1
     -15.7    695.82    2
      -6.9    694.43    2
      -6.4    694.36    2
       0.0    690.44    2
       4.3    690.67    2
       8.2    691.57    2
      16.7    694.16    2
      17.8    694.01    2
      24.8    696.28    3
      49.3    698.59    3
      64.7    698.76    3
      78.1    699.00    3
      99.0    699.78    3
     106.0    700.28    3
     120.0    701.28    3
     158.0    702.28   -1

MULCON
TABID= 3104 SAVE22 NOOUT
WSLOT= 0.10
HSLOT= 30.0
NPIPES=    1
TYPE:       BOX
SPAN:      9.50
RISE:      3.64
BOTT:       0.0
ROUG:     0.013

CULVERT
TABID= C9104
TYPE=  13
LABEL= HWY 290 (9.5' X 3.64' RCBC)
Approach-Section Data
APPTAB= 1001
APPELV= 691.42
APPLEN=  10.0
```

```
APPLOS= 0.1
APPEXP= 0.50
Culvert Description
NODEID=YES
SFAC= 1.0
 NODE        NODEID  XNUM   STATION ELEVATION   KA   KD
  100           U/S  3104    275.00    691.42  0.0  0.0
                D/S  3104      0.00    690.57  0.0  0.0
   -1
CULCLS= BOX
Departure Section Data
DEPTAB= 9180
DEPELV= 690.44
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
KWING= 1.00
KPROJ= 1.00
C46= 0.85
TYPE 5 flow parameters
RBVALUE= 0.03
BVANGLE= 0.0
WWANGLE= 0.0
LPOVERD= 0.0
TYPE5SBF= 0.75
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
       0.0    902.00     200.      690.0 PAVED
    264.97    900.00
    698.86    902.00                     END
Head Sequence Definition
NFRAC= 10
POWER= 2.0
0.1
0.2
0.3
0.5
0.8
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.3
4.5
4.7
5.0
5.5
6.0
6.5
7.0
7.5
8.0
8.5
8.6
8.7
8.8
8.9
9.0
```

```
9.5
10.0
10.5
11.0
11.5
12.0
15.0
-1

EMBANKQ
TABID= E9104
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
LABEL=I-290 Overflow
    OFFSET     CREST     WIDTH  APPROACH SURFACE
    8000.0    704.58     200.0    691.70 PAVED
    8050.0    704.28
    8100.0    704.18
    8150.0    703.98
    8200.0    703.48
    8250.0    703.28
    8300.0    703.08
    8350.0    702.88
    8400.0    702.48
    8450.0    702.28
    8500.0    702.08
    8550.0    701.78
    8600.0    701.38
    8650.0    701.28
    8700.0    700.98
    8750.0    700.68
    8800.0    700.38
    8850.0    700.18
    8900.0    699.98
    8950.0    699.68
    9000.0    699.38
    9050.0    699.28
    9100.0    699.28
    9150.0    699.18
    9200.0    699.28
    9250.0    699.28
    9300.0    699.48
    9350.0    699.78
    9400.0    700.18
    9450.0    700.38
    9500.0    700.78
    9550.0    701.08
    9600.0    701.28
    9650.0    701.58
    9700.0    701.98
    9750.0    702.28                    END
UPSTREAM HEADS TO USE IN COMPUTING THE TABLE
NFRAC=40
POWER=2.0
LIPREC=0.02
MINPFD=0.01
     0.100
    12.000
    -1.000
FINISH
```

I290-South (FEQ Node F310)

Illinois Department of Transportation

Culvert Waterway Information Table

Route:	EOWB	S.N. Exist:	NA	Computed by:	M. Younus	Date:	5-22-2012
Section:	I-290 South	S.N. Prop:	NA	Checked by:	M. Cothard	Date:	5-22-2012
County:	DuPage	Waterway:	Devon Avenue Trib.				
Station:	1364+00						

Drainage Area = 0.017 Square Miles

Existing Overtopping Elevation: 710.32 ft. @ Sta 422+00 of Ramp G4

Proposed Overtopping Evaluation: 710.84 ft. @ Sta 420+50 of Ramp G4

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.)		Natural H.W.E.	Head (ft.)		Headwater Elev. (ft.)	
			Existing	Proposed		Existing	Proposed	Existing	Proposed
	10	13	3.9	5.6	706.5	1.2		707.7	706.2
Design	50	21	5.3	7.2	706.6	1.5	0.0	708.1	706.6
Base	100	25	6.0	8.0	706.7	1.6	0.1	708.3	706.8
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	35	7.7	10.0	706.8	2.0	0.5	708.8	707.3

10-Year Outlet Velocity from Existing Structure = 3.3 fps

10-Year Outlet Velocity from Proposed Structure = 2.3 fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: NA - October 1954

SCOPE OF WORK:

EXISTING STRUCTURE

Bridge or Culvert Type:	RCP
Cell Dimensions (W x H):	42"
# of spans \ cells:	1
Length:	234
U/S Flowline:	706.2
D/S Flowline:	704.1
Skew:	0
Low EOP:	709.69

PROPOSED STRUCTURE

Culvert Type:	RCBC
Cell Dimensions (W x H):	4'X3'
# of cells:	1
Length:	340
U/S Flowline:	704.80
D/S Flowline:	704.0
Skew:	0
Low EOP:	710.21

EXISTING DROPBOX

Dimensions:
Drop:
Weir Elevation:

PROPOSED DROPBOX

Dimensions:
Drop:
Weir Elevation:

NOTE(S): NAVD88 = NGVD29 – 0.28, Discharges are used from Proposed Conditions

Proposed 10-year WSE lower than Natural WSE due to lower upstream invert

Flood Frequency Summary for Peak Discharge: Flows

Sect	Return Period (years): 2.0	5.0	10.0	25.0	50.0	75.0
1	5.8	10.0	13.1	17.3	20.9	23.1
3	---	---	---	---	---	---
4	1.3	1.6	1.8	2.4	4.2	5.9
5	2.1	2.6	2.8	3.8	5.3	6.6
8	---	---	---	---	---	---
9	3.7	4.9	5.7	7.4	11.3	14.7
10	7.1	10.9	14.1	19.6	25.6	30.1
11	12.1	19.6	26.4	36.9	46.2	52.2
12	17.4	28.2	37.7	52.2	64.6	72.3
13	21.3	34.5	45.5	61.4	74.4	82.3
14	28.3	44.2	56.8	74.3	88.0	96.3
15	31.3	49.7	64.6	85.4	101.9	111.9
16	31.4	50.2	65.4	86.9	104.3	114.9
17	12.1	23.3	31.3	40.5	46.7	50.3
18	11.8	22.5	30.6	41.4	49.8	54.9
19	11.6	20.8	27.0	34.7	40.3	43.5
20	67.4	113.6	148.0	197.6	238.7	264.2
21	64.4	108.1	140.9	188.6	228.4	253.3
22	63.0	105.9	138.4	185.9	225.7	250.6
23	74.2	124.9	164.7	224.5	276.3	309.2
24	74.2	124.8	164.5	224.2	275.8	308.6
25	74.2	124.9	164.6	224.3	276.0	308.9
26	74.1	124.6	164.2	223.9	275.5	308.4
27	74.1	124.6	164.2	223.9	275.5	308.4
28	73.6	122.9	161.8	221.3	273.6	307.2
29	71.9	119.5	157.7	217.6	271.5	306.7

Sect	Return Period (years): 100.0	200.0	300.0	400.0	500.0
1	24.7	28.8	31.5	33.4	35.0
3	---	---	---	---	---
4	7.5	12.5	16.2	19.2	21.9
5	7.6	11.2	14.1	16.7	19.0
8	---	---	---	---	---
9	17.5	25.2	30.4	34.3	37.6
10	33.8	43.8	50.4	55.4	59.5
11	56.7	68.5	75.9	81.5	86.1
12	78.1	92.8	101.9	108.7	114.2
13	88.1	102.7	111.6	118.1	123.3
14	102.2	116.9	125.7	132.1	137.2
15	119.1	137.2	148.2	156.3	162.7
16	122.7	142.2	154.3	163.1	170.1
17	52.7	58.5	61.8	64.2	66.1
18	58.6	67.9	73.6	77.8	81.2
19	45.8	51.3	54.6	56.9	58.7
20	283.0	330.8	360.6	382.6	400.2
21	271.8	318.9	348.5	370.5	388.2
22	269.0	316.1	345.6	367.6	385.3
23	333.7	397.3	437.5	467.6	491.8
24	333.1	396.5	436.6	466.6	490.8
25	333.5	397.1	437.4	467.5	491.8
26	332.9	396.5	436.8	466.9	491.2
27	332.9	396.5	436.8	466.9	491.2
28	332.4	398.3	440.4	472.1	497.7
29	333.3	403.8	449.5	484.3	512.7

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.62	714.05	714.21	714.54
XS_194	usf of Access Road (50: 8)	1396	700.27	712.21	712.75	712.96	713.40
XS_192	dsf of Access Road (48: 1)	1337	699.95	712.21	712.75	712.95	713.40
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.17	710.46	710.57	710.80
XS_188	usf of EOH - West (48: 12)	642	696.92	708.35	708.58	708.68	709.58
XS_186	U46 dsf of EOH -West Culvert (46: 1)	455	696.14	707.43	708.18	708.51	709.58
XS_184	222 feet ds of EOH - West Culvert (46: 6)	233	693.28	706.66	708.01	708.51	709.58
XS_182	294 feet d/s of EOH - West Culvert (46: 9)	161	692.11	706.65	708.01	708.51	709.58
XS_180	D46 usf of Access Road(46: 13)	0	692.72	706.64	708.01	708.51	709.58
XS_4905c	dsf of Access Road (U47)	1085	692.62	705.09	706.86	707.53	709.03
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.48	706.48	707.20	708.75
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.83	702.92	703.76	705.70
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.36	700.76	701.33	702.62
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.69	698.72	699.10	699.93
XS_4902	155 feet us of I-290 - North (47:81)	155	691.22	695.65	696.89	697.39	698.56
XS_9182 (B20)	37 feet us of I-290- North (47:113)	37	690.98	694.05	695.26	695.81	697.22
XS_9181 (B19)	20 feet us of I-290- North (47:21)	20	690.95	693.76	694.98	695.54	697.22
XS_9181 (B19)	usf of I-290- North (D47)	0	690.95	693.46	694.75	695.41	697.22
F20	F20 Pond downstream of I-290- North (0: F20)		691.52	693.46	694.75	695.41	697.22
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.88	692.44	692.66	693.13
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.86	692.41	692.62	693.08
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.19	690.73	690.96	691.50
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.19	690.72	690.95	691.48
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.17	690.71	690.94	691.48
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	689.04	689.86	690.24	691.16
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	689.04	689.85	690.21	691.08
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	689.01	689.79	690.14	690.99
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	689.01	689.79	690.14	690.99
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	689.01	689.79	690.14	690.99
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	689.01	689.79	690.13	690.99
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	689.01	689.79	690.13	690.99
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	689.01	689.78	690.11	690.99
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.27	688.80	689.45	690.99
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.25	688.77	689.42	690.99
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.18	688.67	689.35	690.99
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.17	688.66	689.34	690.99
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.17	688.66	689.34	690.98
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.17	688.65	689.32	690.93
F24	Pond us of Rohlwing Road (IL 53) (0: F24)		710.62	713.69	714.21	714.43	714.92
XS_224	dsf of Rohlwing Road (IL 53) (62: 1)	12608	697.64	713.67	714.18	714.38	714.81
XS_222	Approx. 11 feet ds of Rohlwing Road (IL 53) (62: 6)	12597	697.64	713.67	714.18	714.38	714.81
XS_220	Approx. 59 feet ds of Rohlwing Road (IL 53) (62: 11)	12549	697.64	713.67	714.18	714.38	714.81
XS_218	Approx. 163 feet ds of Rohlwing Road (IL 53) (62: 16)	12445	700.94	713.67	714.18	714.38	714.81
XS_216	Approx. 341 feet ds of Rohlwing Road (IL 53) (62: 21)	12267	700.22	713.67	714.18	714.38	714.79
XS_214	Approx. 698 feet ds of Rohlwing Road (IL 53) (62: 26)	11910	701.47	713.61	714.12	714.31	714.71
XS_212	Approx. 883 feet ds of Rohlwing Road (IL 53) (62: 31)	11725	700.61	713.30	713.71	713.86	714.19
XS_210	Approx. 1,103 feet ds of Rohlwing Road (IL 53) (62: 36)	11505	700.47	713.02	713.35	713.47	713.72
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.02	713.35	713.47	713.72
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	712.56	712.88	713.00	713.25
XS_206	usf of Unnamed Culv 1 (58: 14)	435	698.75	711.68	712.28	712.50	712.97

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	711.68	712.28	712.50	712.97	
XS_202	usf of EOH - East (56: 4)	0	698.32	710.16	710.53	710.67	710.94	
XS6401	dsf of EOH - East (64: 1)	10864	697.72	710.16	710.53	710.66	710.93	
XS6401	usf of Westbound Thorndale Ave Ramp (64: 4)	10798	695.72	708.46	709.03	709.24	709.67	
F310	**usf of I-290 (South)**		**706.20**	**706.54**	**706.64**	**706.69**	**706.80**	**Natural Elevations**
F312	Usf of I-290 Northbound Ramp		703.04	703.79	704.05	704.18	704.51	
F314	usf of Western Park Blvd - south		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.67	694.08	694.23	694.54	
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.67	694.08	694.23	694.54	
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.08	694.23	694.54	
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.08	694.23	694.54	
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.10	692.60	693.10	694.07	
XS_332	Approx. 1088 feet us of Eastern Park Blvd - South (310: 1)	2712	681.18	692.10	692.60	693.10	694.07	
XS_330	Approx 931 feet us of EasternPark Blvd - South (310: 7)	2555	680.40	692.10	692.60	693.10	694.07	
XS_328	Approx 689 feet us of EasternPark Blvd - South (310: 11)	2313	679.82	692.10	692.60	693.10	694.07	
XS_326	Approx 468 feet us of Eastern Park Blvd - South (310: 15)	2092	679.44	692.10	692.60	693.10	694.07	
XS_324	Approx 283 feet us of Eastern Park Blvd - South (310: 20)	1907	680.66	692.10	692.60	693.10	694.07	
XS_322	D310 usf of Eastern Park Blvd - South (310 :25)	1624	679.67	692.08	692.60	693.10	694.07	
XS_320	U308 dsf of Eastern Park Blvd - South (308: 1)	1544	680.41	692.02	692.60	693.10	694.07	
XS_318	53 feet DS of Eastern Park Blvd south(308: 5)	1465	680.41	692.00	692.60	693.10	694.07	
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	691.55	692.60	693.10	694.07	
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.53	692.60	693.10	694.07	
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.25	692.60	693.10	694.07	
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.25	692.60	693.10	694.07	
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.13	692.60	693.10	694.07	
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.13	692.60	693.10	694.07	
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	691.13	692.60	693.10	694.07	
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	691.13	692.60	693.10	694.07	
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	691.13	692.60	693.10	694.07	
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	691.11	692.60	693.10	694.07	
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	691.03	692.60	693.10	694.07	
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.12	688.44	689.08	690.61	
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.10	688.44	689.08	690.61	
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.08	688.44	689.08	690.57	
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.08	688.44	689.08	690.54	
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.08	688.44	689.08	690.54	
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.91	688.05	688.62	690.05	
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.87	688.01	688.60	690.05	
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.87	688.01	688.60	690.05	
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.86	688.01	688.60	690.05	
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.85	688.01	688.60	690.05	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.16	713.39	713.48	713.66
XS_194	usf of Access Road (50: 8)	1396	700.27	712.33	712.84	713.05	713.48
XS_192	dsf of Access Road (48: 1)	1337	699.95	711.73	712.03	712.15	712.40
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.35	710.94	711.18	711.68
XS_188	usf of Thorndale Avenue (48: 12)	642	696.92	710.34	710.94	711.18	711.68
XS_186	U46 dsf of Thorndale Ave Culvert (46: 1)	455	696.14	707.12	707.29	707.43	708.67
XS_184	222 feet ds of Thorndale Ave Culvert (46: 6)	233	693.28	705.90	707.00	707.43	708.67
XS_182	294 feet d/s of Thorndale Ave Culvert (46: 9)	161	692.11	705.90	706.99	707.41	708.67
XS_180	D46 usf of Access Road(46: 13)	0	692.72	705.90	706.97	707.40	708.67
XS_4905c	dsf of Access Road (U47)	1085	692.62	704.82	706.62	707.27	708.67
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.18	706.28	707.04	708.66
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.51	702.36	703.11	704.86
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.16	700.36	700.84	701.95
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.59	698.65	699.07	700.38
XS_4902	155 feet us of I-290 (47:81)	155	691.22	695.89	697.45	698.18	700.38
XS_9182 (B20)	37 feet us of I-290 (47:113)	37	690.98	695.06	696.91	697.84	700.38
XS_9181 (B19)	20 feet us of I-290 (47:21)	20	690.95	695.02	696.88	697.82	700.38
XS_9181 (B19)	usf of I-290 (D47)	0	690.95	694.90	696.85	697.82	700.38
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.35	694.44	694.97	696.39
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.82	692.33	692.52	692.94
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.80	692.30	692.49	692.90
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.14	690.62	690.83	691.31
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.14	690.62	690.82	691.30
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.14	690.60	690.80	691.26
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.98	689.72	690.05	690.86
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.98	689.70	690.03	690.80
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.95	689.66	689.98	690.75
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.95	689.66	689.98	690.75
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.95	689.65	689.98	690.75
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.95	689.64	689.96	690.72
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.95	689.63	689.94	690.62
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.95	689.63	689.93	690.61
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.16	688.51	689.13	690.55
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.14	688.48	689.10	690.54
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.08	688.38	689.01	690.52
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.37	689.01	690.52
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.37	689.01	690.52
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.37	689.01	690.52
F24	Pond us of Rohlwing Road (0: F24)		710.62	714.32	715.39	715.85	716.98
XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.82	714.44	714.69	715.43
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 6)	12597	697.64	713.82	714.44	714.69	715.43
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 11)	12549	697.64	713.82	714.44	714.69	715.43
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 16)	12445	700.94	713.82	714.44	714.69	715.43
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 21)	12267	700.22	713.82	714.44	714.69	715.43
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 26)	11910	701.47	713.78	714.40	714.65	715.43
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 31)	11725	700.61	713.52	714.16	714.55	715.43
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 36)	11505	700.47	713.32	714.15	714.55	715.43
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.32	714.15	714.55	715.43
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	713.14	714.15	714.55	715.43
XS_206	usf of Unnamed Culv 1 (58: 14)	435	698.75	713.09	714.15	714.55	715.43
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	712.32	713.20	713.53	714.26
XS_202	usf of Thorndale Avenue (56: 4)	0	698.32	712.10	713.05	713.41	714.20
XS6401	dsf of Thorndate Avenue (64: 1)	10864	697.72	710.38	711.05	711.38	712.15

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS6401	usf of HWY Ramp (64: 4)	10798	695.72	710.08	711.02	711.38	712.15	
XS_200	U54 (54: 1)	402	705.22					
XS_200	Approx. 149 feet ds of U54 (54: 4)	253	702.87					
XS_202	usf of Unnamed Culv 2 (D54) (54: 7)	0	698.32					
XS_198	dsf of Unnamed Culv 2 (U52) (52: 1)	447	705.22					
XS_198	Approx 132 feet ds of Unnamed Culv 2 (52: 4)	315	703.32					
XS_188	usf of Thorndale Avenue (D52) (52: 7)	0	696.92					
F310	**Depressional area west of I-290**		**706.20**	**707.67**	**708.11**	**708.30**	**708.79**	**Existing Elevations**
F312	Depressional area east of I-290		703.04	704.76	705.32	705.56	706.16	
F314	Depressional area east of I-290 ramp		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.70	694.16	694.36	694.79	
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.70	694.16	694.36	694.79	
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.16	694.36	694.79	
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.16	694.36	694.79	
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.46	693.48	693.92	694.81	
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	692.46	693.48	693.92	694.81	
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	692.46	693.48	693.92	694.81	
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	692.46	693.48	693.92	694.81	
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	692.46	693.48	693.92	694.81	
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	692.46	693.48	693.92	694.81	
XS_322	D310 usf of Park Blvd - South (310 :25)	1624	679.67	692.46	693.48	693.92	694.81	
XS_320	U308 dsf of Park Blvd - South (308: 1)	1544	680.41	692.33	693.41	693.85	694.77	
XS_318	53 feet DS of Park Blvd south(308: 5)	1465	680.41	692.33	693.38	693.80	694.69	
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	692.32	693.35	693.79	694.69	
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.55	692.82	693.35	694.48	
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.55	692.82	693.35	694.48	
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.24	692.73	693.29	694.48	
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.06	692.53	693.12	694.39	
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.04	692.52	693.12	694.39	
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	690.58	691.94	692.44	693.46	
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	690.58	691.94	692.44	693.46	
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	690.58	691.94	692.44	693.46	
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	690.55	691.94	692.44	693.46	
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	690.43	691.94	692.44	693.46	
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.04	688.32	688.92	690.33	
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.03	688.32	688.92	690.33	
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.03	688.32	688.92	690.33	
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.03	688.32	688.92	690.33	
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.03	688.32	688.92	690.32	
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.84	687.85	688.44	690.00	
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.81	687.85	688.44	690.00	
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.81	687.85	688.44	690.00	
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.81	687.85	688.44	690.00	
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.80	687.85	688.44	690.00	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)	
F556	Structure ustream of E-O west (Dep3, F556)		708.00	710.53	711.13	711.38	711.95	
F552	Structure at northwest corner of IL53 and E-O Expy (Dep1, F552)		707.20	708.76	709.44	709.80	710.80	
F502	Pond 1 (0: F502)		703.00	706.66	708.27	709.09	711.25	
F504	Pond 2 (0: F504)		701.00	705.24	706.58	707.22	708.86	
F554	Structure west of I-290 Ramp G2 (Dep2, F554))		692.00	694.77	697.07	698.46	702.80	
F506	usf of I-290 (Pond 3, F506)		691.14	694.13	695.48	696.14	697.89	
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.07	693.89	694.29	695.37	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.64	692.09	692.27	692.65	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.63	692.07	692.24	692.61	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.01	690.43	690.61	691.06	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.01	690.42	690.60	691.03	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.00	690.41	690.58	691.00	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.78	689.50	689.85	690.81	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.78	689.50	689.85	690.81	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.76	689.46	689.80	690.81	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.76	689.46	689.80	690.81	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.76	689.46	689.80	690.81	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.74	689.42	689.75	690.81	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.74	689.41	689.74	690.81	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.74	689.41	689.74	690.81	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.10	688.42	689.10	690.81	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.08	688.42	689.10	690.81	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.06	688.42	689.10	690.81	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.42	689.10	690.81	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.42	689.10	690.81	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.42	689.10	690.81	
F24	Pond us of Rohlwing Road (0: F24)		710.62	713.84	714.89	715.33	716.41	
XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.43	713.92	714.07	714.52	
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 11)	12597	697.64	713.43	713.92	714.07	714.52	
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 21)	12549	697.64	713.43	713.92	714.07	714.52	
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 31)	12445	700.94	713.43	713.92	714.07	714.52	
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 41)	12267	700.22	713.43	713.92	714.07	714.52	
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 51)	11910	701.47	713.38	713.87	714.05	714.43	
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 61)	11725	700.61	713.13	713.52	713.66	713.96	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 71)	11505	700.47	712.94	713.27	713.39	713.83	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (62: 85)	11286	700.43	712.44	712.90	713.08	713.83	
XS_206	usf of Unnamed Culv 1 (62: 97)	11175	698.75	711.69	712.67	713.03	713.83	
F508	Pond 4 (0: F508)		692.50	694.88	696.36	697.15	699.43	
F310	**Depressional area west of I-290**		**704.80**	**706.18**	**706.62**	**706.81**	**707.28**	**Proposed Elevations**
F312	Depressional area east of I-290		703.04					
F314	Depressional area east of I-290 ramp		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 33)	3609	680.08	693.51	694.02	694.18	694.59	
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 57)	3312	679.94	693.51	694.02	694.18	694.51	
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 97)	3090	680.72	693.51	694.02	694.18	694.51	
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.51	694.02	694.18	694.51	

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Sheet: summary (Fixed-NAVD) WIT

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	691.75	692.32	692.67	693.57
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	691.75	692.32	692.67	693.57
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	691.69	692.32	692.67	693.57
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	691.69	692.32	692.67	693.57
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	691.69	692.32	692.67	693.57
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	691.69	692.32	692.67	693.57
XS_9322	D310 usf of E-O Expy/Park Blvd - South (310 :25)	1624	679.67	691.61	692.32	692.67	693.57
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	689.79	690.40	690.84	691.75
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	689.59	690.40	690.84	691.75
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	689.59	690.40	690.84	691.75
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	689.54	690.40	690.84	691.75
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	689.11	690.40	690.84	691.75
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.06	688.42	689.10	690.77
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.06	688.42	689.10	690.77
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.06	688.42	689.10	690.77
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.06	688.29	688.83	690.07
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.06	688.29	688.83	690.07
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.83	687.90	688.45	689.79
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.82	687.90	688.45	689.79
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.82	687.90	688.45	689.79
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.82	687.90	688.45	689.79
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.82	687.90	688.45	689.79

Existing Conditions Culvert Data
(Based on NGVD 1929 Datum)

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MULCON
TABID=  M310 SAVE22 OLDBETA NOOUT
WSLOT=0.01
HSLOT=100
NPIPES= 1
TYPE=      CIRC
SPAN=      3.50
RISE=      3.50
BOTT=      0.00
ROUG=     0.013


CULVERT
TABID= CC310
TYPE=   13
LABEL=  42-inch RCP under I-290 located south of Thorndale Ave
APPROACH SECTION DATA
APPTAB= 1000
APPELV= 706.48
APPLEN=  30.0
APPLOS= 0.0
APPEXP= 0.5
CULVERT DESCRIPTION
NODEID=YES
SFAC= 1.0
 NODE NODENAME  XTAB   STATION ELEVATION
    1 UPSTREAM  M310    234.00    706.48


      DNSTREAM  M310      0.00    704.38
-1
CULCLS=BOX
DEPARTURE SECTION DESCRIPTION
DEPTAB= 1001
DEPELV=    704.38
LOSOPT=MOMENTUM
DISCHARGE COEFFICIENT DATA
KRB= 0.00
KWING= 0.00
KPROJ= 0.00
C46= 0.00
TYPE 5 flow parameters
RBVALUE=      0.03
BVANGLE=      0.00
WWANGLE=      40.0
LPOVERD=       0.0
TYPE5SBF=     0.75
ROADWAY DESCRIPTION
PLCWTB=9994
GLCWTB=9995
PHCWTB=9996
GHCWTB=9997
PSUBTB=9998
GSUBTB=9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
    -56.39    989.66     74.00    688.50 PAVED
    -53.64    989.68              688.27
    -27.36    989.90              686.11
    -22.29    989.94              684.40
    -11.69    990.03              682.35
      0.00    990.13              682.38
      6.03    990.16              682.40
     17.33    990.23              684.50
     20.44    990.25              686.29
     46.60    990.40              689.50 END
UPSTREAM HEADS TO USE IN COMPUTING THE TABLE
NFRAC=11
```

```
POWER=2.0
      .250
      .500
      .750
     1.000
     1.500
     2.000
     2.500
     3.000
     3.500
     4.000
     4.500
     5.000
     5.500
     6.000
     6.500
     7.000
     8.000
     9.000
    10.000
    12.000
    14.000
    16.000
    18.000
    -1.000

EMBANKQ
TABID= E310 CSHIFT= 0.00
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
LABEL=EMBANKQ FLOW FOR CULVERT C310
    OFFSET     CREST     WIDTH  APPROACH SURFACE
   -250.00    715.28     200.0    709.00 PAVED
   -140.00    714.28
    -50.00    713.28
      0.00    712.78
     60.00    713.28
    235.00    714.28
    460.00    715.28                     END
UPSTREAM HEADS TO USE IN COMPUTING THE TABLE
NFRAC=40
POWER=2.0
LIPREC=0.02
MINPFD=0.01
     0.100
    12.000
    -1.000
```

Proposed Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
MULCON
TABID= B4X3 SAVE22 NOOUT
WSLOT= 0.10
HSLOT= 30.0
NPIPES=    1
TYPE:       BOX
SPAN:      4.00
RISE:      3.00
BOTT:       0.0
ROUG:     0.013
MUDL:      0.03
ROUG:     0.030

CULVERT
TABID= CC310
TYPE=   13
LABEL=  4 x 3 Box under I-290 located south of Thorndale Ave
APPROACH SECTION DATA
APPTAB= 1000
APPELV= 705.08
APPLEN=  30.0
APPLOS= 0.0
APPEXP= 0.5
CULVERT DESCRIPTION
NODEID=YES
SFAC= 1.0
 NODE NODENAME  XTAB   STATION ELEVATION
    1 UPSTREAM  B4X3    340.00    705.08


      DNSTREAM  B4X3      0.00    704.28
-1
CULCLS=BOX
DEPARTURE SECTION DESCRIPTION
DEPTAB= 1002
DEPELV=    704.28
LOSOPT=MOMENTUM
DISCHARGE COEFFICIENT DATA
KRB= 0.00
KWING= 0.00
KPROJ= 0.00
C46= 0.00
TYPE 5 flow parameters
RBVALUE=      0.03
BVANGLE=      0.00
WWANGLE=      40.0
LPOVERD=       0.0
TYPE5SBF=     0.75
ROADWAY DESCRIPTION
PLCWTB=9994
GLCWTB=9995
PHCWTB=9996
GHCWTB=9997
PSUBTB=9998
GSUBTB=9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
    -56.39    989.66     74.00    688.50 PAVED
    -53.64    989.68              688.27
    -27.36    989.90              686.11
    -22.29    989.94              684.40
    -11.69    990.03              682.35
      0.00    990.13              682.38
      6.03    990.16              682.40
     17.33    990.23              684.50
     20.44    990.25              686.29
     46.60    990.40              689.50 END
UPSTREAM HEADS TO USE IN COMPUTING THE TABLE
```

```
NFRAC=11
POWER=2.0
      .250
      .500
      .750
     1.000
     1.500
     2.000
     2.500
     3.000
     3.500
     4.000
     4.500
     5.000
     5.500
     6.000
     6.500
     7.000
     8.000
     9.000
    10.000
    12.000
    14.000
    16.000
    18.000
    20.000
    25.000
    -1.000

EMBANKQ
TABID= E310 CSHIFT= 0.00
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
LABEL=EMBANKQ FLOW FOR CULVERT C310
    OFFSET     CREST     WIDTH  APPROACH SURFACE
   -250.00    715.28     200.0    709.00 PAVED
   -140.00    714.28
    -50.00    713.28
      0.00    712.78
     60.00    713.28
    235.00    714.28
    460.00    715.28                     END
UPSTREAM HEADS TO USE IN COMPUTING THE TABLE
NFRAC=40
POWER=2.0
LIPREC=0.02
MINPFD=0.01
     0.100
    12.000
    -1.000
```

Eastern Park Blvd South (FEQ Node D310)

Illinois Department of Transportation

Culvert Waterway Information Table

Route:	EOWB	S.N. Exist:	NA	Computed by:	M. Younus	Date:	5-22-2012
Section:	Eastern Park Blvd South	S.N. Prop:	NA	Checked by:	M. Cothard	Date:	5-22-2012
County:	DuPage	Waterway:	Devon Avenue Trib.				
Station:	1025+00 on EOH						

Drainage Area = 0.25 Square Miles

Existing Overtopping Elevation: 693.98 ft. @ Sta NW corner of detention pond
Proposed Overtopping Evaluation: 693.98 ft. @ Sta NW corner of detention pond

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.) Existing	Waterway Opening (sq. ft.) Proposed	Natural H.W.E.	Head (ft.) Existing	Head (ft.) Proposed	Headwater Elev. (ft.) Existing	Headwater Elev. (ft.) Proposed
	10	57	12.4	18.3	692.1	0.4	0.0	692.5	691.6
Design	50	88	12.4	24.6	692.6	0.9	0.0	693.5	692.3
Base	100	102	12.4	27	693.1	0.8	0.0	693.9	692.7
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	137	12.4	27	694.1	0.7	0.0	694.8	693.6

10-Year Outlet Velocity from Existing Structure = 4.6 fps
10-Year Outlet Velocity from Proposed Structure = 3.1 fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: NA - October 1954

SCOPE OF WORK:

EXISTING STRUCTURE

Bridge or Culvert Type:	RECP
Cell Dimensions (W x H):	60"X38"
# of spans \ cells:	1
Length:	80
U/S Flowline:	689.57
D/S Flowline:	688.73
Skew:	0
Low EOP:	693.9

PROPOSED STRUCTURE

Culvert Type:	RCBC
Cell Dimensions (W x H):	9'X3'
# of cells:	1
Length:	805
U/S Flowline:	689.57
D/S Flowline:	687.48
Skew:	0
Low EOP:	693.9

EXISTING DROPBOX

Dimensions:
Drop:
Weir Elevation:

PROPOSED DROPBOX

Dimensions:
Drop:
Weir Elevation:

NOTE(S): NAVD88 = NGVD29 – 0.28, Discharges are taken from proposed conditions

Flood Frequency Summary for Peak Discharge: Flows

Sect	Return Period (years): 2.0	5.0	10.0	25.0	50.0	75.0
1	5.8	10.0	13.1	17.3	20.9	23.1
3	---	---	---	---	---	---
4	1.3	1.6	1.8	2.4	4.2	5.9
5	2.1	2.6	2.8	3.8	5.3	6.6
8	---	---	---	---	---	---
9	3.7	4.9	5.7	7.4	11.3	14.7
10	7.1	10.9	14.1	19.6	25.6	30.1
11	12.1	19.6	26.4	36.9	46.2	52.2
12	17.4	28.2	37.7	52.2	64.6	72.3
13	21.3	34.5	45.5	61.4	74.4	82.3
14	28.3	44.2	56.8	74.3	88.0	96.3
15	31.3	49.7	64.6	85.4	101.9	111.9
16	31.4	50.2	65.4	86.9	104.3	114.9
17	12.1	23.3	31.3	40.5	46.7	50.3
18	11.8	22.5	30.6	41.4	49.8	54.9
19	11.6	20.8	27.0	34.7	40.3	43.5
20	67.4	113.6	148.0	197.6	238.7	264.2
21	64.4	108.1	140.9	188.6	228.4	253.3
22	63.0	105.9	138.4	185.9	225.7	250.6
23	74.2	124.9	164.7	224.5	276.3	309.2
24	74.2	124.8	164.5	224.2	275.8	308.6
25	74.2	124.9	164.6	224.3	276.0	308.9
26	74.1	124.6	164.2	223.9	275.5	308.4
27	74.1	124.6	164.2	223.9	275.5	308.4
28	73.6	122.9	161.8	221.3	273.6	307.2
29	71.9	119.5	157.7	217.6	271.5	306.7

Sect	Return Period (years): 100.0	200.0	300.0	400.0	500.0
1	24.7	28.8	31.5	33.4	35.0
3	---	---	---	---	---
4	7.5	12.5	16.2	19.2	21.9
5	7.6	11.2	14.1	16.7	19.0
8	---	---	---	---	---
9	17.5	25.2	30.4	34.3	37.6
10	33.8	43.8	50.4	55.4	59.5
11	56.7	68.5	75.9	81.5	86.1
12	78.1	92.8	101.9	108.7	114.2
13	88.1	102.7	111.6	118.1	123.3
14	102.2	116.9	125.7	132.1	137.2
15	119.1	137.2	148.2	156.3	162.7
16	122.7	142.2	154.3	163.1	170.1
17	52.7	58.5	61.8	64.2	66.1
18	58.6	67.9	73.6	77.8	81.2
19	45.8	51.3	54.6	56.9	58.7
20	283.0	330.8	360.6	382.6	400.2
21	271.8	318.9	348.5	370.5	388.2
22	269.0	316.1	345.6	367.6	385.3
23	333.7	397.3	437.5	467.6	491.8
24	333.1	396.5	436.6	466.6	490.8
25	333.5	397.1	437.4	467.5	491.8
26	332.9	396.5	436.8	466.9	491.2
27	332.9	396.5	436.8	466.9	491.2
28	332.4	398.3	440.4	472.1	497.7
29	333.3	403.8	449.5	484.3	512.7

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.62	714.05	714.21	714.54
XS_194	usf of Access Road (50: 8)	1396	700.27	712.21	712.75	712.96	713.40
XS_192	dsf of Access Road (48: 1)	1337	699.95	712.21	712.75	712.95	713.40
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.17	710.46	710.57	710.80
XS_188	usf of EOH - West (48: 12)	642	696.92	708.35	708.58	708.68	709.58
XS_186	U46 dsf of EOH -West Culvert (46: 1)	455	696.14	707.43	708.18	708.51	709.58
XS_184	222 feet ds of EOH - West Culvert (46: 6)	233	693.28	706.66	708.01	708.51	709.58
XS_182	294 feet d/s of EOH - West Culvert (46: 9)	161	692.11	706.65	708.01	708.51	709.58
XS_180	D46 usf of Access Road(46: 13)	0	692.72	706.64	708.01	708.51	709.58
XS_4905c	dsf of Access Road (U47)	1085	692.62	705.09	706.86	707.53	709.03
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.48	706.48	707.20	708.75
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.83	702.92	703.76	705.70
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.36	700.76	701.33	702.62
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.69	698.72	699.10	699.93
XS_4902	155 feet us of I-290 - North (47:81)	155	691.22	695.65	696.89	697.39	698.56
XS_9182 (B20)	37 feet us of I-290- North (47:113)	37	690.98	694.05	695.26	695.81	697.22
XS_9181 (B19)	20 feet us of I-290- North (47:21)	20	690.95	693.76	694.98	695.54	697.22
XS_9181 (B19)	usf of I-290- North (D47)	0	690.95	693.46	694.75	695.41	697.22
F20	F20 Pond downstream of I-290- North (0: F20)		691.52	693.46	694.75	695.41	697.22
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.88	692.44	692.66	693.13
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.86	692.41	692.62	693.08
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.19	690.73	690.96	691.50
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.19	690.72	690.95	691.48
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.17	690.71	690.94	691.48
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	689.04	689.86	690.24	691.16
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	689.04	689.85	690.21	691.08
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	689.01	689.79	690.14	690.99
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	689.01	689.79	690.14	690.99
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	689.01	689.79	690.14	690.99
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	689.01	689.79	690.13	690.99
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	689.01	689.79	690.13	690.99
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	689.01	689.78	690.11	690.99
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.27	688.80	689.45	690.99
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.25	688.77	689.42	690.99
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.18	688.67	689.35	690.99
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.17	688.66	689.34	690.99
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.17	688.66	689.34	690.98
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.17	688.65	689.32	690.93
F24	Pond us of Rohlwing Road (IL 53) (0: F24)		710.62	713.69	714.21	714.43	714.92
XS_224	dsf of Rohlwing Road (IL 53) (62: 1)	12608	697.64	713.67	714.18	714.38	714.81
XS_222	Approx. 11 feet ds of Rohlwing Road (IL 53) (62: 6)	12597	697.64	713.67	714.18	714.38	714.81
XS_220	Approx. 59 feet ds of Rohlwing Road (IL 53) (62: 11)	12549	697.64	713.67	714.18	714.38	714.81
XS_218	Approx. 163 feet ds of Rohlwing Road (IL 53) (62: 16)	12445	700.94	713.67	714.18	714.38	714.81
XS_216	Approx. 341 feet ds of Rohlwing Road (IL 53) (62: 21)	12267	700.22	713.67	714.18	714.38	714.79
XS_214	Approx. 698 feet ds of Rohlwing Road (IL 53) (62: 26)	11910	701.47	713.61	714.12	714.31	714.71
XS_212	Approx. 883 feet ds of Rohlwing Road (IL 53) (62: 31)	11725	700.61	713.30	713.71	713.86	714.19
XS_210	Approx. 1,103 feet ds of Rohlwing Road (IL 53) (62: 36)	11505	700.47	713.02	713.35	713.47	713.72
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.02	713.35	713.47	713.72
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	712.56	712.88	713.00	713.25
XS_206	usf of Unnamed Culv 1 (58: 14)	435	698.75	711.68	712.28	712.50	712.97

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	711.68	712.28	712.50	712.97	
XS_202	usf of EOH - East (56: 4)	0	698.32	710.16	710.53	710.67	710.94	
XS6401	dsf of EOH - East (64: 1)	10864	697.72	710.16	710.53	710.66	710.93	
XS6401	usf of Westbound Thorndale Ave Ramp (64: 4)	10798	695.72	708.46	709.03	709.24	709.67	
F310	usf of I-290 (South)		706.20	706.54	706.64	706.69	706.80	
F312	Usf of I-290 Northbound Ramp		703.04	703.79	704.05	704.18	704.51	
F314	usf of Western Park Blvd - south		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.67	694.08	694.23	694.54	
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.67	694.08	694.23	694.54	
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.08	694.23	694.54	
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.08	694.23	694.54	
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.10	692.60	693.10	694.07	
XS_332	Approx. 1088 feet us of Eastern Park Blvd - South (310: 1)	2712	681.18	692.10	692.60	693.10	694.07	
XS_330	Approx 931 feet us of EasternPark Blvd - South (310: 7)	2555	680.40	692.10	692.60	693.10	694.07	
XS_328	Approx 689 feet us of EasternPark Blvd - South (310: 11)	2313	679.82	692.10	692.60	693.10	694.07	
XS_326	Approx 468 feet us of Eastern Park Blvd - South (310: 15)	2092	679.44	692.10	692.60	693.10	694.07	
XS_324	Approx 283 feet us of Eastern Park Blvd - South (310: 20)	1907	680.66	692.10	692.60	693.10	694.07	
XS_322	**D310 usf of Eastern Park Blvd - South (310 :25)**	**1624**	**679.67**	**692.08**	**692.60**	**693.10**	**694.07**	**Natural Elevations**
XS_320	U308 dsf of Eastern Park Blvd - South (308: 1)	1544	680.41	692.02	692.60	693.10	694.07	
XS_318	53 feet DS of Eastern Park Blvd south(308: 5)	1465	680.41	692.00	692.60	693.10	694.07	
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	691.55	692.60	693.10	694.07	
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.53	692.60	693.10	694.07	
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.25	692.60	693.10	694.07	
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.25	692.60	693.10	694.07	
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.13	692.60	693.10	694.07	
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.13	692.60	693.10	694.07	
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	691.13	692.60	693.10	694.07	
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	691.13	692.60	693.10	694.07	
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	691.13	692.60	693.10	694.07	
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	691.11	692.60	693.10	694.07	
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	691.03	692.60	693.10	694.07	
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.12	688.44	689.08	690.61	
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.10	688.44	689.08	690.61	
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.08	688.44	689.08	690.57	
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.08	688.44	689.08	690.54	
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.08	688.44	689.08	690.54	
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.91	688.05	688.62	690.05	
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.87	688.01	688.60	690.05	
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.87	688.01	688.60	690.05	
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.86	688.01	688.60	690.05	
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.85	688.01	688.60	690.05	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.16	713.39	713.48	713.66
XS_194	usf of Access Road (50: 8)	1396	700.27	712.33	712.84	713.05	713.48
XS_192	dsf of Access Road (48: 1)	1337	699.95	711.73	712.03	712.15	712.40
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.35	710.94	711.18	711.68
XS_188	usf of Thorndale Avenue (48: 12)	642	696.92	710.34	710.94	711.18	711.68
XS_186	U46 dsf of Thorndale Ave Culvert (46: 1)	455	696.14	707.12	707.29	707.43	708.67
XS_184	222 feet ds of Thorndale Ave Culvert (46: 6)	233	693.28	705.90	707.00	707.43	708.67
XS_182	294 feet d/s of Thorndale Ave Culvert (46: 9)	161	692.11	705.90	706.99	707.41	708.67
XS_180	D46 usf of Access Road(46: 13)	0	692.72	705.90	706.97	707.40	708.67
XS_4905c	dsf of Access Road (U47)	1085	692.62	704.82	706.62	707.27	708.67
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.18	706.28	707.04	708.66
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.51	702.36	703.11	704.86
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.16	700.36	700.84	701.95
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.59	698.65	699.07	700.38
XS_4902	155 feet us of I-290 (47:81)	155	691.22	695.89	697.45	698.18	700.38
XS_9182 (B20)	37 feet us of I-290 (47:113)	37	690.98	695.06	696.91	697.84	700.38
XS_9181 (B19)	20 feet us of I-290 (47:21)	20	690.95	695.02	696.88	697.82	700.38
XS_9181 (B19)	usf of I-290 (D47)	0	690.95	694.90	696.85	697.82	700.38
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.35	694.44	694.97	696.39
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.82	692.33	692.52	692.94
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.80	692.30	692.49	692.90
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.14	690.62	690.83	691.31
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.14	690.62	690.82	691.30
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.14	690.60	690.80	691.26
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.98	689.72	690.05	690.86
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.98	689.70	690.03	690.80
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.95	689.66	689.98	690.75
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.95	689.66	689.98	690.75
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.95	689.65	689.98	690.75
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.95	689.64	689.96	690.72
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.95	689.63	689.94	690.62
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.95	689.63	689.93	690.61
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.16	688.51	689.13	690.55
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.14	688.48	689.10	690.54
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.08	688.38	689.01	690.52
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.37	689.01	690.52
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.37	689.01	690.52
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.37	689.01	690.52
F24	Pond us of Rohlwing Road (0: F24)		710.62	714.32	715.39	715.85	716.98
XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.82	714.44	714.69	715.43
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 6)	12597	697.64	713.82	714.44	714.69	715.43
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 11)	12549	697.64	713.82	714.44	714.69	715.43
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 16)	12445	700.94	713.82	714.44	714.69	715.43
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 21)	12267	700.22	713.82	714.44	714.69	715.43
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 26)	11910	701.47	713.78	714.40	714.65	715.43
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 31)	11725	700.61	713.52	714.16	714.55	715.43
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 36)	11505	700.47	713.32	714.15	714.55	715.43
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.32	714.15	714.55	715.43
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	713.14	714.15	714.55	715.43
XS_206	usf of Unnamed Culv 1 (58: 14)	435	698.75	713.09	714.15	714.55	715.43
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	712.32	713.20	713.53	714.26
XS_202	usf of Thorndale Avenue (56: 4)	0	698.32	712.10	713.05	713.41	714.20
XS6401	dsf of Thorndate Avenue (64: 1)	10864	697.72	710.38	711.05	711.38	712.15

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS6401	usf of HWY Ramp (64: 4)	10798	695.72	710.08	711.02	711.38	712.15	
XS_200	U54 (54: 1)	402	705.22					
XS_200	Approx. 149 feet ds of U54 (54: 4)	253	702.87					
XS_202	usf of Unnamed Culv 2 (D54) (54: 7)	0	698.32					
XS_198	dsf of Unnamed Culv 2 (U52) (52: 1)	447	705.22					
XS_198	Approx 132 feet ds of Unnamed Culv 2 (52: 4)	315	703.32					
XS_188	usf of Thorndale Avenue (D52) (52: 7)	0	696.92					
F310	Depressional area west of I-290		706.20	707.67	708.11	708.30	708.79	
F312	Depressional area east of I-290		703.04	704.76	705.32	705.56	706.16	
F314	Depressional area east of I-290 ramp		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.70	694.16	694.36	694.79	
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.70	694.16	694.36	694.79	
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.16	694.36	694.79	
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.16	694.36	694.79	
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.46	693.48	693.92	694.81	
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	692.46	693.48	693.92	694.81	
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	692.46	693.48	693.92	694.81	
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	692.46	693.48	693.92	694.81	
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	692.46	693.48	693.92	694.81	
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	692.46	693.48	693.92	694.81	
XS_322	**D310 usf of Park Blvd - South (310 :25)**	**1624**	**679.67**	**692.46**	**693.48**	**693.92**	**694.81**	**Existing Elevations**
XS_320	U308 dsf of Park Blvd - South (308: 1)	1544	680.41	692.33	693.41	693.85	694.77	
XS_318	53 feet DS of Park Blvd south(308: 5)	1465	680.41	692.33	693.38	693.80	694.69	
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	692.32	693.35	693.79	694.69	
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.55	692.82	693.35	694.48	
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.55	692.82	693.35	694.48	
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.24	692.73	693.29	694.48	
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.06	692.53	693.12	694.39	
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.04	692.52	693.12	694.39	
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	690.58	691.94	692.44	693.46	
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	690.58	691.94	692.44	693.46	
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	690.58	691.94	692.44	693.46	
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	690.55	691.94	692.44	693.46	
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	690.43	691.94	692.44	693.46	
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.04	688.32	688.92	690.33	
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.03	688.32	688.92	690.33	
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.03	688.32	688.92	690.33	
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.03	688.32	688.92	690.33	
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.03	688.32	688.92	690.32	
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.84	687.85	688.44	690.00	
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.81	687.85	688.44	690.00	
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.81	687.85	688.44	690.00	
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.81	687.85	688.44	690.00	
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.80	687.85	688.44	690.00	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)
F556	Structure ustream of E-O west (Dep3, F556)		708.00	710.53	711.13	711.38	711.95
F552	Structure at northwest corner of IL53 and E-O Expy (Dep1, F552)		707.20	708.76	709.44	709.80	710.80
F502	Pond 1 (0: F502)		703.00	706.66	708.27	709.09	711.25
F504	Pond 2 (0: F504)		701.00	705.24	706.58	707.22	708.86
F554	Structure west of I-290 Ramp G2 (Dep2, F554))		692.00	694.77	697.07	698.46	702.80
F506	usf of I-290 (Pond 3, F506)		691.14	694.13	695.48	696.14	697.89
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.07	693.89	694.29	695.37
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.64	692.09	692.27	692.65
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.63	692.07	692.24	692.61
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.01	690.43	690.61	691.06
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.01	690.42	690.60	691.03
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.00	690.41	690.58	691.00
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.78	689.50	689.85	690.81
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.78	689.50	689.85	690.81
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.76	689.46	689.80	690.81
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.76	689.46	689.80	690.81
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.76	689.46	689.80	690.81
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.74	689.42	689.75	690.81
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.74	689.41	689.74	690.81
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.74	689.41	689.74	690.81
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.10	688.42	689.10	690.81
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.08	688.42	689.10	690.81
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.06	688.42	689.10	690.81
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.42	689.10	690.81
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.42	689.10	690.81
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.42	689.10	690.81
F24	Pond us of Rohlwing Road (0: F24)		710.62	713.84	714.89	715.33	716.41
XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.43	713.92	714.07	714.52
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 11)	12597	697.64	713.43	713.92	714.07	714.52
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 21)	12549	697.64	713.43	713.92	714.07	714.52
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 31)	12445	700.94	713.43	713.92	714.07	714.52
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 41)	12267	700.22	713.43	713.92	714.07	714.52
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 51)	11910	701.47	713.38	713.87	714.05	714.43
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 61)	11725	700.61	713.13	713.52	713.66	713.96
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 71)	11505	700.47	712.94	713.27	713.39	713.83
XS_208	Approx. 165 feet us of Unnamed Culv 1 (62: 85)	11286	700.43	712.44	712.90	713.08	713.83
XS_206	usf of Unnamed Culv 1 (62: 97)	11175	698.75	711.69	712.67	713.03	713.83
F508	Pond 4 (0: F508)		692.50	694.88	696.36	697.15	699.43
F310	Depressional area west of I-290		704.80	706.18	706.62	706.81	707.28
F312	Depressional area east of I-290		703.04				
F314	Depressional area east of I-290 ramp		797.66				
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 33)	3609	680.08	693.51	694.02	694.18	694.59
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 57)	3312	679.94	693.51	694.02	694.18	694.51
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 97)	3090	680.72	693.51	694.02	694.18	694.51
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.51	694.02	694.18	694.51

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)	
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	691.75	692.32	692.67	693.57	
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	691.75	692.32	692.67	693.57	
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	691.69	692.32	692.67	693.57	
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	691.69	692.32	692.67	693.57	
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	691.69	692.32	692.67	693.57	
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	691.69	692.32	692.67	693.57	
XS_9322	**D310 usf of E-O Expy/Park Blvd - South (310 :25)**	**1624**	**679.67**	**691.61**	**692.32**	**692.67**	**693.57**	**Proposed Elevations**
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	689.79	690.40	690.84	691.75	
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	689.59	690.40	690.84	691.75	
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	689.59	690.40	690.84	691.75	
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	689.54	690.40	690.84	691.75	
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	689.11	690.40	690.84	691.75	
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.06	688.42	689.10	690.77	
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.06	688.42	689.10	690.77	
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.06	688.42	689.10	690.77	
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.06	688.29	688.83	690.07	
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.06	688.29	688.83	690.07	
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.83	687.90	688.45	689.79	
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.82	687.90	688.45	689.79	
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.82	687.90	688.45	689.79	
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.82	687.90	688.45	689.79	
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.82	687.90	688.45	689.79	

Existing Conditions Culvert Data
(Based on NGVD 1929 Datum)

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MULCON
TABID= 6042 SAVE22 NOOUT
WSLOT= 0.10
HSLOT= 30.0
NPIPES=    1
TYPE:       NHE
SPAN:      5.00
RISE:      3.17
BOTT:       0.0
ROUG:     0.013

CULVERT
TABID= C9310
TYPE=  13
LABEL= Park Blvd South Culvert - South Branch
Approach-Section Data
APPTAB=  322
APPELV= 689.85
APPLEN=  10.0
APPLOS= 0.5
APPEXP= 1.0
Culvert Description
NODEID=YES
SFAC= 1.0
 NODE       NODEID  XNUM   STATION ELEVATION   KA   KD
  100          U/S  6042     80.00    689.85  0.0  0.0
               D/S  6042      0.00    689.01  0.0  0.0
   -1
CULCLS= PIPE
Departure Section Data
DEPTAB=  320
DEPELV= 689.01
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
KWING= 1.00
KPROJ= 1.00
C46= 0.85
TYPE 5 flow parameters
RBVALUE= 0.03
BVANGLE= 0.0
WWANGLE= 0.0
LPOVERD= 0.0
TYPE5SBF= 0.75
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
   -184.90    995.31     50.0      690.0 PAVED
   -128.41    995.00
    -71.74    994.75
      0.00    994.53
     79.07    994.65
    153.51    994.92
    212.82    995.31                     END
Head Sequence Definition
NFRAC= 10
POWER= 2.0
0.05
0.1
0.2
0.25
0.3
```

```
0.5
0.8
1.0
2.0
2.5
3.0
3.1
3.2
3.3
3.4
3.5
3.6
3.7
3.8
3.9
4.0
4.5
4.6
4.7
4.8
4.9
5.0
5.5
6.0
6.5
7.0
-1

EMBANKQ
TABLE#= E9310
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
LABEL=Park Blvd South Roadway overflow
    OFFSET     CREST     WIDTH  APPROACH SURFACE
   -184.90    695.31     50.0      690.0 PAVED
   -128.41    695.00
    -71.74    694.75
      0.00    694.53
     79.07    694.65
    153.51    694.92
    212.82    695.31                    END
UPSTREAM HEADS TO USE IN COMPUTING THE TABLE
NFRAC=40
POWER=2.0
LIPREC=0.02
MINPFD=0.01
     0.100
    13.000
    -1.000
```

Proposed Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
FEQX
GISID=   NONE
TABLE#=  9322  SAVE22 NOOUT EXTEND
STATION= 1624.36
NAVM=    0 LEFT= 0.00 RIGHT= 0.00 SCALE= 1.00 SHIFT= 0.00
NSUB     3   0.045   0.050   0.045
xs 9322
    -60.41    750.      1 1936633.50  1070621.300001 ALPT GR
    -60.31    694.83    1 1936633.50  1070621.300001 ALPT GR
    -35.87    694.59    1 1936617.47  1070639.740002 GR
    -35.28    695.02    1 1936617.06  1070640.160003 GR FACE CURB
    -21.70    694.60    2
     -7.50    689.85    2
      0.00    689.85    2
      7.50    689.85    3
     21.90    694.67    3
     23.67    694.96    3 1936576.31  1070680.410013 GR
     43.69    695.51   -1 1936559.49  1070691.260014 GR

MULCON
TABID= 6038 SAVE22 OUT22
WSLOT= 0.10
HSLOT= 30.0
NPIPES=    1
TYPE:       BOX
SPAN:      9.00
RISE:      3.00
BOTT:       0.0
ROUG:     0.013
MUDL:      0.03
ROUG:     0.030

QCLIMIT
TABLE#= 6038
FACTOR=1.25

EXPCON
CROSS SECTION TABLES
 LOC TAB# DIST     DATUM
  UP 9322  0.0    689.85
  DN 6038  2.0    689.85
COEFFICIENTS AND OUTPUT TABLES
 DIR TAB#____  KA_  KD_ LABEL____________________
  UD XUU306    0.1  0.9 From Channel to Culvert
  DU XDU306    0.1  0.9 From Culvert to Channel
SMOOTH=0.1
GMEAN= 0.5
DOWNSTREAM HEAD SEQUENCE FOR THE TABLE
NFRAC= 11
POWER= 2.5
0.25
0.50
0.75
1.0
1.25
1.5
1.75
2.0
2.25
2.5
2.75
3.0
3.25
3.5
3.75
4.0
4.25
```

```
4.5
4.75
5.0
5.25
5.5
5.75
6.0
6.25
6.5
6.75
7.0
7.25
7.5
7.75
8.0
8.25
8.5
8.75
9.0
9.25
9.5
9.75
10.0
15.0
20.0
25.0
30.0
-1.0

FEQX
GISID=   003SCDA9304
TABLE#=  9304  SAVE22 NOOUT EXTEND
STATION= 999.99
NAVM=    0
NSUB     3   0.045   0.050   0.045
XS  D/S of Park Blvd (North)
    -260.1    750.      1
    -260.0    696.28    1
    -210.0    695.28    1
    -170.0    694.28    1
    -136.9    693.20    1
     -83.7    692.06    1
     -42.2    690.13    1
     -12.7    689.51    1
      -7.5    687.76    2
       0.0    687.76    2
       7.5    687.76    3
      23.2    693.00    3
      23.2    693.00    3
      65.6    695.92    3
     112.1    696.27   -1

EXPCON
CROSS SECTION TABLES
 LOC TAB# DIST     DATUM
  UP 6038  0.0    687.76
  DN 9304  2.0    687.76
COEFFICIENTS AND OUTPUT TABLES
 DIR TAB#____  KA_  KD_ LABEL_________________
  UD XUD306    0.1  0.9 From Culvert to Channel
  DU XDD306    0.1  0.9 From Channel to Culvert
SMOOTH=0.1
GMEAN= 0.5
DOWNSTREAM HEAD SEQUENCE FOR THE TABLE
NFRAC= 11
POWER= 2.5
0.25
```

0.50
0.75
1.0
1.25
1.5
1.75
2.0
2.25
2.5
2.75
3.0
3.25
3.5
3.75
4.0
4.25
4.5
4.75
5.0
5.25
5.5
5.75
6.0
6.25
6.5
6.75
7.0
7.25
7.5
7.75
8.0
8.25
8.5
8.75
9.0
9.25
9.5
9.75
10.0
15.0
20.0
25.0
30.0
-1.0

Three (3) Waterway Information Tables
where data is reported for existing and natural conditions

EOH-West (Existing, FEQ Node D48)

Illinois Department of Transportation

Culvert Waterway Information Table

Route:	EOWB	S.N. Exist:	NA	Computed by:	M. Younus	Date:	5-22-2012
Section:	EOH West (EX)	S.N. Prop:	NA	Checked by:	M. Cothard	Date:	5-22-2012
County:	DuPage	Waterway:	Devon Avenue Trib.				
Station:	982+50						

Drainage Area = 0.27 Square Miles

Existing Overtopping Elevation: 714.71 ft. @ Sta 982+50

Proposed Overtopping Evaluation: ft. @ Sta

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.) Existing	Waterway Opening (sq. ft.) Proposed	Natural H.W.E.	Head (ft.) Existing	Head (ft.) Proposed	Headwater Elev. (ft.) Existing	Headwater Elev. (ft.) Proposed
	10	34	9.5		708.4	1.9		710.3	
Design	50	49	11.4		708.6	2.3		710.9	
Base	100	57	12.2		708.7	2.5		711.2	
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	75	12.6		709.6	2.1		711.7	

10-Year Outlet Velocity from Existing Structure = 3.5 fps

10-Year Outlet Velocity from Proposed Structure = fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: NA - October 1954

SCOPE OF WORK:

EXISTING STRUCTURE		PROPOSED STRUCTURE	
Bridge or Culvert Type:	RCP	Culvert Type:	
Cell Dimensions (W x H):	48"	Cell Dimensions (W x H):	
# of spans \ cells:	1	# of cells:	
Length:	185.6	Length:	
U/S Flowline:	707.48	U/S Flowline:	
D/S Flowline:	707.48	D/S Flowline:	
Skew:	25	Skew:	
Low EOP:		Low EOP:	

EXISTING DROPBOX		PROPOSED DROPBOX	
Dimensions:		Dimensions:	
Drop:		Drop:	
Weir Elevation:		Weir Elevation:	

NOTE(S): NAVD88 = NGVD29 – 0.28

Flood Frequency Summary for Peak Discharge: Flows

Sect	Return Period (years): 2.0	5.0	10.0	25.0	50.0	75.0
1	11.9	18.4	22.2	26.7	29.9	31.8
2	16.2	26.4	32.9	41.3	47.8	51.7
3	16.2	26.4	32.9	41.3	47.8	51.7
4	16.6	28.5	35.9	45.5	53.1	57.6
5	16.7	27.8	34.8	44.0	51.3	55.8
6	16.3	27.0	33.7	42.5	49.3	53.5
7	18.0	28.9	36.8	47.5	56.0	61.1
8	16.8	27.5	35.4	46.5	55.6	61.3
9	17.5	29.1	37.7	50.0	60.4	67.0
10	64.8	110.2	143.9	190.9	228.8	252.2
11	65.7	112.2	147.0	196.2	236.4	261.3
12	71.9	122.4	161.4	218.0	265.4	295.2
13	75.8	128.6	170.8	231.7	282.4	314.2
14	79.4	135.9	183.1	251.8	309.1	345.0
15	82.5	139.9	188.1	259.2	319.2	357.1
16	83.6	143.9	194.4	268.2	330.1	369.0
17	84.5	144.7	195.2	269.1	331.1	370.0
18	84.6	145.3	196.0	270.4	332.7	371.8
19	70.1	122.3	164.9	228.4	282.5	316.7
20	70.1	122.3	164.9	228.4	282.5	316.7
21	70.1	122.3	164.9	228.4	282.5	316.7
22	70.1	122.3	164.9	228.4	282.5	316.7
23	67.4	119.0	162.0	226.6	281.9	317.1
24	69.0	120.9	163.1	226.8	282.1	317.6
25	69.0	120.9	163.1	226.8	282.1	317.6
26	69.0	120.9	163.1	226.7	282.0	317.4
27	69.0	120.9	163.1	226.7	282.0	317.4
28	67.7	119.3	162.2	227.7	284.0	319.8
29	67.7	119.3	162.2	227.7	284.0	319.8
30	69.0	121.1	162.6	224.9	278.8	313.2
31	68.7	121.1	162.4	224.5	278.1	312.4
32	68.8	121.3	162.6	224.6	278.2	312.4
33	68.8	121.3	162.6	224.6	278.2	312.4
34	68.8	121.3	162.6	224.6	278.2	312.3
35	68.8	121.3	162.6	224.6	278.2	312.3
36	68.7	121.0	162.2	224.0	277.4	311.4
37	68.7	121.0	162.2	224.0	277.4	311.4
38	63.5	112.8	152.2	211.7	263.2	296.1

Sect	Return Period (years): 100.0	200.0	300.0	400.0	500.0
1	33.1	36.4	38.4	39.8	40.9
2	54.6	61.8	66.3	69.6	72.2
3	54.6	61.8	66.3	69.6	72.2
4	61.0	69.5	74.8	78.8	81.9
5	59.1	67.3	72.3	76.1	79.1
6	56.5	64.1	68.8	72.2	74.9
7	64.9	74.4	80.3	84.5	88.0
8	65.5	76.1	82.8	87.8	91.8
9	72.0	85.1	93.4	99.7	104.8
10	269.4	313.4	341.0	361.5	378.1
11	279.7	326.9	356.7	379.0	397.0
12	317.4	374.9	411.6	439.1	461.5
13	337.9	399.3	438.4	467.7	491.5
14	371.7	440.8	484.7	517.6	544.3
15	385.5	459.4	506.7	542.4	571.3
16	397.9	472.8	520.5	556.2	585.2
17	399.0	473.9	521.6	557.4	586.3
18	400.9	476.2	524.0	559.9	588.9

19	342.3	409.0	451.8	484.0	510.1
20	342.3	409.0	451.8	484.0	510.1
21	342.4	409.1	451.9	484.1	510.2
22	342.4	409.1	451.9	484.1	510.2
23	343.3	411.9	455.9	489.2	516.3
24	344.3	414.6	460.1	494.6	522.7
25	344.3	414.6	460.1	494.6	522.7
26	344.2	414.4	459.9	494.3	522.4
27	344.2	414.4	459.9	494.3	522.4
28	346.5	416.3	461.1	494.9	522.5
29	346.5	416.3	461.1	494.9	522.5
30	339.1	406.7	450.2	483.0	509.6
31	338.1	405.2	448.3	480.7	507.0
32	338.0	404.8	447.7	479.9	506.0
33	338.0	404.8	447.7	479.9	506.0
34	338.0	404.8	447.6	479.8	506.0
35	338.0	404.8	447.6	479.8	506.0
36	336.9	403.4	446.0	478.0	504.0
37	336.9	403.4	446.0	478.0	504.0
38	320.7	384.9	426.0	456.9	481.9

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.62	714.05	714.21	714.54	
XS_194	usf of Access Road (50: 8)	1396	700.27	712.21	712.75	712.96	713.40	
XS_192	dsf of Access Road (48: 1)	1337	699.95	712.21	712.75	712.95	713.40	
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.17	710.46	710.57	710.80	
XS_188	**usf of EOH - West (48: 12)**	**642**	**696.92**	**708.35**	**708.58**	**708.68**	**709.58**	**Natural Elevations**
XS_186	U46 dsf of EOH -West Culvert (46: 1)	455	696.14	707.43	708.18	708.51	709.58	
XS_184	222 feet ds of EOH - West Culvert (46: 6)	233	693.28	706.66	708.01	708.51	709.58	
XS_182	294 feet d/s of EOH - West Culvert (46: 9)	161	692.11	706.65	708.01	708.51	709.58	
XS_180	D46 usf of Access Road(46: 13)	0	692.72	706.64	708.01	708.51	709.58	
XS_4905c	dsf of Access Road (U47)	1085	692.62	705.09	706.86	707.53	709.03	
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.48	706.48	707.20	708.75	
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.83	702.92	703.76	705.70	
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.36	700.76	701.33	702.62	
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.69	698.72	699.10	699.93	
XS_4902	155 feet us of I-290 - North (47:81)	155	691.22	695.65	696.89	697.39	698.56	
XS_9182 (B20)	37 feet us of I-290- North (47:113)	37	690.98	694.05	695.26	695.81	697.22	
XS_9181 (B19)	20 feet us of I-290- North (47:21)	20	690.95	693.76	694.98	695.54	697.22	
XS_9181 (B19)	usf of I-290- North (D47)	0	690.95	693.46	694.75	695.41	697.22	
F20	F20 Pond downstream of I-290- North (0: F20)		691.52	693.46	694.75	695.41	697.22	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.88	692.44	692.66	693.13	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.86	692.41	692.62	693.08	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.19	690.73	690.96	691.50	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.19	690.72	690.95	691.48	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.17	690.71	690.94	691.48	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	689.04	689.86	690.24	691.16	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	689.04	689.85	690.21	691.08	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	689.01	689.79	690.14	690.99	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	689.01	689.79	690.14	690.99	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	689.01	689.79	690.14	690.99	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	689.01	689.79	690.13	690.99	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	689.01	689.79	690.13	690.99	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	689.01	689.78	690.11	690.99	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.27	688.80	689.45	690.99	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.25	688.77	689.42	690.99	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.18	688.67	689.35	690.99	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.17	688.66	689.34	690.99	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.17	688.66	689.34	690.98	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.17	688.65	689.32	690.93	
F24	Pond us of Rohlwing Road (IL 53) (0: F24)		710.62	713.69	714.21	714.43	714.92	
XS_224	dsf of Rohlwing Road (IL 53) (62: 1)	12608	697.64	713.67	714.18	714.38	714.81	
XS_222	Approx. 11 feet ds of Rohlwing Road (IL 53) (62: 6)	12597	697.64	713.67	714.18	714.38	714.81	
XS_220	Approx. 59 feet ds of Rohlwing Road (IL 53) (62: 11)	12549	697.64	713.67	714.18	714.38	714.81	
XS_218	Approx. 163 feet ds of Rohlwing Road (IL 53) (62: 16)	12445	700.94	713.67	714.18	714.38	714.81	
XS_216	Approx. 341 feet ds of Rohlwing Road (IL 53) (62: 21)	12267	700.22	713.67	714.18	714.38	714.79	
XS_214	Approx. 698 feet ds of Rohlwing Road (IL 53) (62: 26)	11910	701.47	713.61	714.12	714.31	714.71	
XS_212	Approx. 883 feet ds of Rohlwing Road (IL 53) (62: 31)	11725	700.61	713.30	713.71	713.86	714.19	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (IL 53) (62: 36)	11505	700.47	713.02	713.35	713.47	713.72	
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.02	713.35	713.47	713.72	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	712.56	712.88	713.00	713.25	
XS_206	usf of Unnamed Culv 1 (58: 14)	435	698.75	711.68	712.28	712.50	712.97	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	711.68	712.28	712.50	712.97
XS_202	usf of EOH - East (56: 4)	0	698.32	710.16	710.53	710.67	710.94
XS6401	dsf of EOH - East (64: 1)	10864	697.72	710.16	710.53	710.66	710.93
XS6401	usf of Westbound Thorndale Ave Ramp (64: 4)	10798	695.72	708.46	709.03	709.24	709.67
F310	usf of I-290 (South)		706.20	706.54	706.64	706.69	706.80
F312	Usf of I-290 Northbound Ramp		703.04	703.79	704.05	704.18	704.51
F314	usf of Western Park Blvd - south		797.66				
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.67	694.08	694.23	694.54
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.67	694.08	694.23	694.54
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.08	694.23	694.54
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.08	694.23	694.54
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.10	692.60	693.10	694.07
XS_332	Approx. 1088 feet us of Eastern Park Blvd - South (310: 1)	2712	681.18	692.10	692.60	693.10	694.07
XS_330	Approx 931 feet us of EasternPark Blvd - South (310: 7)	2555	680.40	692.10	692.60	693.10	694.07
XS_328	Approx 689 feet us of EasternPark Blvd - South (310: 11)	2313	679.82	692.10	692.60	693.10	694.07
XS_326	Approx 468 feet us of Eastern Park Blvd - South (310: 15)	2092	679.44	692.10	692.60	693.10	694.07
XS_324	Approx 283 feet us of Eastern Park Blvd - South (310: 20)	1907	680.66	692.10	692.60	693.10	694.07
XS_322	D310 usf of Eastern Park Blvd - South (310 :25)	1624	679.67	692.08	692.60	693.10	694.07
XS_320	U308 dsf of Eastern Park Blvd - South (308: 1)	1544	680.41	692.02	692.60	693.10	694.07
XS_318	53 feet DS of Eastern Park Blvd south(308: 5)	1465	680.41	692.00	692.60	693.10	694.07
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	691.55	692.60	693.10	694.07
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.53	692.60	693.10	694.07
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.25	692.60	693.10	694.07
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.25	692.60	693.10	694.07
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.13	692.60	693.10	694.07
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.13	692.60	693.10	694.07
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	691.13	692.60	693.10	694.07
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	691.13	692.60	693.10	694.07
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	691.13	692.60	693.10	694.07
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	691.11	692.60	693.10	694.07
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	691.03	692.60	693.10	694.07
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.12	688.44	689.08	690.61
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.10	688.44	689.08	690.61
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.08	688.44	689.08	690.57
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.08	688.44	689.08	690.54
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.08	688.44	689.08	690.54
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.91	688.05	688.62	690.05
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.87	688.01	688.60	690.05
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.87	688.01	688.60	690.05
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.86	688.01	688.60	690.05
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.85	688.01	688.60	690.05

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.16	713.39	713.48	713.66	
XS_194	usf of Access Road (50: 8)	1396	700.27	712.33	712.84	713.05	713.48	
XS_192	dsf of Access Road (48: 1)	1337	699.95	711.73	712.03	712.15	712.40	
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.35	710.94	711.18	711.68	
XS_188	**usf of Thorndale Avenue (48: 12)**	**642**	**696.92**	**710.34**	**710.94**	**711.18**	**711.68**	**Existing Elevations**
XS_186	U46 dsf of Thorndale Ave Culvert (46: 1)	455	696.14	707.12	707.29	707.43	708.67	
XS_184	222 feet ds of Thorndale Ave Culvert (46: 6)	233	693.28	705.90	707.00	707.43	708.67	
XS_182	294 feet d/s of Thorndale Ave Culvert (46: 9)	161	692.11	705.90	706.99	707.41	708.67	
XS_180	D46 usf of Access Road(46: 13)	0	692.72	705.90	706.97	707.40	708.67	
XS_4905c	dsf of Access Road (U47)	1085	692.62	704.82	706.62	707.27	708.67	
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.18	706.28	707.04	708.66	
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.51	702.36	703.11	704.86	
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.16	700.36	700.84	701.95	
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.59	698.65	699.07	700.38	
XS_4902	155 feet us of I-290 (47:81)	155	691.22	695.89	697.45	698.18	700.38	
XS_9182 (B20)	37 feet us of I-290 (47:113)	37	690.98	695.06	696.91	697.84	700.38	
XS_9181 (B19)	20 feet us of I-290 (47:21)	20	690.95	695.02	696.88	697.82	700.38	
XS_9181 (B19)	usf of I-290 (D47)	0	690.95	694.90	696.85	697.82	700.38	
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.35	694.44	694.97	696.39	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.82	692.33	692.52	692.94	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.80	692.30	692.49	692.90	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.14	690.62	690.83	691.31	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.14	690.62	690.82	691.30	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.14	690.60	690.80	691.26	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.98	689.72	690.05	690.86	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.98	689.70	690.03	690.80	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.95	689.66	689.98	690.75	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.95	689.66	689.98	690.75	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.95	689.65	689.98	690.75	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.95	689.64	689.96	690.72	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.95	689.63	689.94	690.62	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.95	689.63	689.93	690.61	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.16	688.51	689.13	690.55	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.14	688.48	689.10	690.54	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.08	688.38	689.01	690.52	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.37	689.01	690.52	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.37	689.01	690.52	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.37	689.01	690.52	
F24	Pond us of Rohlwing Road (0: F24)		710.62	714.32	715.39	715.85	716.98	
XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.82	714.44	714.69	715.43	
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 6)	12597	697.64	713.82	714.44	714.69	715.43	
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 11)	12549	697.64	713.82	714.44	714.69	715.43	
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 16)	12445	700.94	713.82	714.44	714.69	715.43	
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 21)	12267	700.22	713.82	714.44	714.69	715.43	
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 26)	11910	701.47	713.78	714.40	714.65	715.43	
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 31)	11725	700.61	713.52	714.16	714.55	715.43	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 36)	11505	700.47	713.32	714.15	714.55	715.43	
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.32	714.15	714.55	715.43	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	713.14	714.15	714.55	715.43	
XS_206	usf of Unnamed Culv 1 (58: 14)	435	698.75	713.09	714.15	714.55	715.43	
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	712.32	713.20	713.53	714.26	
XS_202	usf of Thorndale Avenue (56: 4)	0	698.32	712.10	713.05	713.41	714.20	
XS6401	dsf of Thorndate Avenue (64: 1)	10864	697.72	710.38	711.05	711.38	712.15	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS6401	usf of HWY Ramp (64: 4)	10798	695.72	710.08	711.02	711.38	712.15
XS_200	U54 (54: 1)	402	705.22				
XS_200	Approx. 149 feet ds of U54 (54: 4)	253	702.87				
XS_202	usf of Unnamed Culv 2 (D54) (54: 7)	0	698.32				
XS_198	dsf of Unnamed Culv 2 (U52) (52: 1)	447	705.22				
XS_198	Approx 132 feet ds of Unnamed Culv 2 (52: 4)	315	703.32				
XS_188	usf of Thorndale Avenue (D52) (52: 7)	0	696.92				
F310	Depressional area west of I-290		706.20	707.67	708.11	708.30	708.79
F312	Depressional area east of I-290		703.04	704.76	705.32	705.56	706.16
F314	Depressional area east of I-290 ramp		797.66				
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.70	694.16	694.36	694.79
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.70	694.16	694.36	694.79
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.16	694.36	694.79
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.16	694.36	694.79
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.46	693.48	693.92	694.81
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	692.46	693.48	693.92	694.81
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	692.46	693.48	693.92	694.81
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	692.46	693.48	693.92	694.81
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	692.46	693.48	693.92	694.81
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	692.46	693.48	693.92	694.81
XS_322	D310 usf of Park Blvd - South (310 :25)	1624	679.67	692.46	693.48	693.92	694.81
XS_320	U308 dsf of Park Blvd - South (308: 1)	1544	680.41	692.33	693.41	693.85	694.77
XS_318	53 feet DS of Park Blvd south(308: 5)	1465	680.41	692.33	693.38	693.80	694.69
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	692.32	693.35	693.79	694.69
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.55	692.82	693.35	694.48
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.55	692.82	693.35	694.48
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.24	692.73	693.29	694.48
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.06	692.53	693.12	694.39
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.04	692.52	693.12	694.39
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	690.58	691.94	692.44	693.46
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	690.58	691.94	692.44	693.46
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	690.58	691.94	692.44	693.46
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	690.55	691.94	692.44	693.46
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	690.43	691.94	692.44	693.46
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.04	688.32	688.92	690.33
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.03	688.32	688.92	690.33
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.03	688.32	688.92	690.33
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.03	688.32	688.92	690.33
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.03	688.32	688.92	690.32
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.84	687.85	688.44	690.00
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.81	687.85	688.44	690.00
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.81	687.85	688.44	690.00
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.81	687.85	688.44	690.00
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.80	687.85	688.44	690.00

Existing Conditions Culvert Data
(Based on NGVD 1929 Datum)

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CULVERT
TABID= C46
TYPE=  13
LABEL=   Thorndale Avenue - Mainstem/West
Approach-Section Data
APPTAB= 2001
APPELV= 707.76
APPLEN=  10.0
APPLOS= 0.5
APPEXP= 1.0
Culvert Description
NODEID=YES
SFAC= 1.0
 NODE        NODEID  XNUM   STATION ELEVATION   KA   KD
  100          U/S  3048      0.00    707.76  0.0  0.0
               D/S  3048    185.60    707.76  0.0  0.0
   -1
CULCLS= PIPE
Departure Section Data
DEPTAB= 2001
DEPELV= 687.90
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
KWING= 1.00
KPROJ= 1.00
C46= 0.85
TYPE 5 flow parameters
RBVALUE= 0.03
BVANGLE= 0.0
WWANGLE= 0.0
LPOVERD= 0.0
TYPE5SBF= 0.75
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
   -176.33    715.82     50.0      707.8 PAVED
   -123.19    715.28
    -67.83    715.02
    -57.70    718.07
      0.00    717.95
     52.88    717.89
    105.28    718.07
    155.61    718.44
    207.24    718.95                     END
Head Sequence Definition
NFRAC= 10
POWER= 2.0
0.05
0.1
0.2
0.25
0.3
0.5
0.8
1.0
2.0
3.0
3.5
3.6
3.7
3.8
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3.9
4.0
4.1
4.2
4.3
4.4
4.5
5.0
5.5
6.0
6.5
7.0
7.5
8.0
8.5
9.0
9.5
10.0
15.0
20.0
-1
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EOH-East (Existing, FEQ Node D60)

Illinois Department of Transportation

Culvert Waterway Information Table

Route:	EOWB	S.N. Exist:	NA	Computed by:	M. Younus	Date:	5-22-2012
Section:	EOH-East (EX)	S.N. Prop:	NA	Checked by:	M. Cothard	Date:	5-22-2012
County:	DuPage	Waterway:	Devon Avenue Trib.				
Station:	990+00						

Drainage Area = 0.25 Square Miles

Existing Overtopping Elevation: 714.00 ft. @ Sta Overflow west toward EOH
Proposed Overtopping Evaluation: ft. @ Sta West crossing

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.) Existing	Waterway Opening (sq. ft.) Proposed	Natural H.W.E.	Head (ft.) Existing	Head (ft.) Proposed	Headwater Elev. (ft.) Existing	Headwater Elev. (ft.) Proposed
	10	112	27.5		710.2	1.9		712.1	
Design	50	179	31.8		710.5	2.6		713.1	
Base	100	210	31.8		710.7	2.7		713.4	
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	293	31.8		710.9	3.3		714.2	

10-Year Outlet Velocity from Existing Structure = 4.1 fps
10-Year Outlet Velocity from Proposed Structure = fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: NA - October 1954

SCOPE OF WORK:

EXISTING STRUCTURE		PROPOSED STRUCTURE	
Bridge or Culvert Type:	RCP	Culvert Type:	
Cell Dimensions (W x H):	54"	Cell Dimensions (W x H):	
# of spans \ cells:	2	# of cells:	
Length:	235.5	Length:	
U/S Flowline:	708.47	U/S Flowline:	
D/S Flowline:	708.47	D/S Flowline:	
Skew:	0	Skew:	
Low EOP:	714.71 at EOH West	Low EOP:	

EXISTING DROPBOX		PROPOSED DROPBOX	
Dimensions:		Dimensions:	
Drop:		Drop:	
Weir Elevation:		Weir Elevation:	

NOTE(S): NAVD88 = NGVD29 – 0.28

Overflow west toward the EOH West crossing, overtop elevation at EOH West crossing is 714.71

Flood Frequency Summary for Peak Discharge: Flows

Sect	Return Period (years): 2.0	5.0	10.0	25.0	50.0	75.0
1	57.1	93.8	119.7	154.2	181.2	197.6
2	47.3	79.4	102.5	134.1	159.6	175.2
3	47.1	79.1	102.0	133.3	158.6	174.1
4	46.5	78.2	100.9	132.0	157.0	172.4
5	44.2	74.1	95.8	125.7	149.8	164.7
6	37.5	67.4	90.0	121.4	146.7	162.3
7	39.9	72.5	96.0	128.3	154.4	170.5
8	40.1	71.7	95.3	128.0	154.3	170.5
9	42.2	75.2	99.9	134.3	161.9	178.9
10	42.2	75.2	99.9	134.3	161.9	178.9
11	46.3	82.2	108.4	144.4	173.1	190.7
12	48.6	85.9	113.3	151.0	181.1	199.6
13	48.6	85.9	113.3	151.0	181.1	199.6
14	48.8	85.5	113.0	151.1	181.4	200.0
15	48.5	84.8	111.9	149.2	178.9	197.0
16	49.5	86.4	114.1	152.1	182.4	200.9
17	---	---	---	---	---	---
18	---	---	---	---	---	---
19	---	---	---	---	---	---
20	---	---	---	---	---	---
21	---	---	---	---	---	---
22	---	---	---	---	---	---

Sect	Return Period (years): 100.0	200.0	300.0	400.0	500.0
1	209.6	239.5	257.9	271.5	282.3
2	186.7	215.8	233.9	247.3	258.0
3	185.5	214.4	232.4	245.7	256.3
4	183.6	212.2	230.0	243.1	253.7
5	175.7	203.6	221.0	233.9	244.2
6	173.7	202.8	221.0	234.5	245.3
7	182.3	212.4	231.2	245.2	256.5
8	182.4	212.8	231.8	245.9	257.2
9	191.4	223.3	243.2	258.0	269.9
10	191.4	223.3	243.2	258.0	269.9
11	203.6	236.2	256.5	271.5	283.6
12	213.1	247.4	268.7	284.5	297.2
13	213.1	247.4	268.7	284.5	297.2
14	213.6	248.1	269.6	285.5	298.3
15	210.3	243.8	264.7	280.2	292.6
16	214.5	248.7	270.0	285.8	298.5
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PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.62	714.05	714.21	714.54
XS_194	usf of Access Road (50: 8)	1396	700.27	712.21	712.75	712.96	713.40
XS_192	dsf of Access Road (48: 1)	1337	699.95	712.21	712.75	712.95	713.40
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.17	710.46	710.57	710.80
XS_188	usf of EOH - West (48: 12)	642	696.92	708.35	708.58	708.68	709.58
XS_186	U46 dsf of EOH -West Culvert (46: 1)	455	696.14	707.43	708.18	708.51	709.58
XS_184	222 feet ds of EOH - West Culvert (46: 6)	233	693.28	706.66	708.01	708.51	709.58
XS_182	294 feet d/s of EOH - West Culvert (46: 9)	161	692.11	706.65	708.01	708.51	709.58
XS_180	D46 usf of Access Road(46: 13)	0	692.72	706.64	708.01	708.51	709.58
XS_4905c	dsf of Access Road (U47)	1085	692.62	705.09	706.86	707.53	709.03
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.48	706.48	707.20	708.75
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.83	702.92	703.76	705.70
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.36	700.76	701.33	702.62
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.69	698.72	699.10	699.93
XS_4902	155 feet us of I-290 - North (47:81)	155	691.22	695.65	696.89	697.39	698.56
XS_9182 (B20)	37 feet us of I-290- North (47:113)	37	690.98	694.05	695.26	695.81	697.22
XS_9181 (B19)	20 feet us of I-290- North (47:21)	20	690.95	693.76	694.98	695.54	697.22
XS_9181 (B19)	usf of I-290- North (D47)	0	690.95	693.46	694.75	695.41	697.22
F20	F20 Pond downstream of I-290- North (0: F20)		691.52	693.46	694.75	695.41	697.22
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.88	692.44	692.66	693.13
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.86	692.41	692.62	693.08
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.19	690.73	690.96	691.50
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.19	690.72	690.95	691.48
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.17	690.71	690.94	691.48
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	689.04	689.86	690.24	691.16
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	689.04	689.85	690.21	691.08
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	689.01	689.79	690.14	690.99
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	689.01	689.79	690.14	690.99
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	689.01	689.79	690.14	690.99
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	689.01	689.79	690.13	690.99
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	689.01	689.79	690.13	690.99
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	689.01	689.78	690.11	690.99
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.27	688.80	689.45	690.99
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.25	688.77	689.42	690.99
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.18	688.67	689.35	690.99
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.17	688.66	689.34	690.99
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.17	688.66	689.34	690.98
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.17	688.65	689.32	690.93
F24	Pond us of Rohlwing Road (IL 53) (0: F24)		710.62	713.69	714.21	714.43	714.92
XS_224	dsf of Rohlwing Road (IL 53) (62: 1)	12608	697.64	713.67	714.18	714.38	714.81
XS_222	Approx. 11 feet ds of Rohlwing Road (IL 53) (62: 6)	12597	697.64	713.67	714.18	714.38	714.81
XS_220	Approx. 59 feet ds of Rohlwing Road (IL 53) (62: 11)	12549	697.64	713.67	714.18	714.38	714.81
XS_218	Approx. 163 feet ds of Rohlwing Road (IL 53) (62: 16)	12445	700.94	713.67	714.18	714.38	714.81
XS_216	Approx. 341 feet ds of Rohlwing Road (IL 53) (62: 21)	12267	700.22	713.67	714.18	714.38	714.79
XS_214	Approx. 698 feet ds of Rohlwing Road (IL 53) (62: 26)	11910	701.47	713.61	714.12	714.31	714.71
XS_212	Approx. 883 feet ds of Rohlwing Road (IL 53) (62: 31)	11725	700.61	713.30	713.71	713.86	714.19
XS_210	Approx. 1,103 feet ds of Rohlwing Road (IL 53) (62: 36)	11505	700.47	713.02	713.35	713.47	713.72
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.02	713.35	713.47	713.72
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	712.56	712.88	713.00	713.25
XS_206	usf of Unnamed Culv 1 (58: 14)	435	698.75	711.68	712.28	712.50	712.97

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	711.68	712.28	712.50	712.97	
XS_202	**usf of EOH - East (56: 4)**	**0**	**698.32**	**710.16**	**710.53**	**710.67**	**710.94**	**Natural Elevations**
XS6401	dsf of EOH - East (64: 1)	10864	697.72	710.16	710.53	710.66	710.93	
XS6401	usf of Westbound Thorndale Ave Ramp (64: 4)	10798	695.72	708.46	709.03	709.24	709.67	
F310	usf of I-290 (South)		706.20	706.54	706.64	706.69	706.80	
F312	Usf of I-290 Northbound Ramp		703.04	703.79	704.05	704.18	704.51	
F314	usf of Western Park Blvd - south		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.67	694.08	694.23	694.54	
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.67	694.08	694.23	694.54	
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.08	694.23	694.54	
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.08	694.23	694.54	
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.10	692.60	693.10	694.07	
XS_332	Approx. 1088 feet us of Eastern Park Blvd - South (310: 1)	2712	681.18	692.10	692.60	693.10	694.07	
XS_330	Approx 931 feet us of EasternPark Blvd - South (310: 7)	2555	680.40	692.10	692.60	693.10	694.07	
XS_328	Approx 689 feet us of EasternPark Blvd - South (310: 11)	2313	679.82	692.10	692.60	693.10	694.07	
XS_326	Approx 468 feet us of Eastern Park Blvd - South (310: 15)	2092	679.44	692.10	692.60	693.10	694.07	
XS_324	Approx 283 feet us of Eastern Park Blvd - South (310: 20)	1907	680.66	692.10	692.60	693.10	694.07	
XS_322	D310 usf of Eastern Park Blvd - South (310 :25)	1624	679.67	692.08	692.60	693.10	694.07	
XS_320	U308 dsf of Eastern Park Blvd - South (308: 1)	1544	680.41	692.02	692.60	693.10	694.07	
XS_318	53 feet DS of Eastern Park Blvd south(308: 5)	1465	680.41	692.00	692.60	693.10	694.07	
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	691.55	692.60	693.10	694.07	
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.53	692.60	693.10	694.07	
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.25	692.60	693.10	694.07	
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.25	692.60	693.10	694.07	
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.13	692.60	693.10	694.07	
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.13	692.60	693.10	694.07	
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	691.13	692.60	693.10	694.07	
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	691.13	692.60	693.10	694.07	
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	691.13	692.60	693.10	694.07	
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	691.11	692.60	693.10	694.07	
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	691.03	692.60	693.10	694.07	
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.12	688.44	689.08	690.61	
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.10	688.44	689.08	690.61	
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.08	688.44	689.08	690.57	
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.08	688.44	689.08	690.54	
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.08	688.44	689.08	690.54	
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.91	688.05	688.62	690.05	
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.87	688.01	688.60	690.05	
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.87	688.01	688.60	690.05	
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.86	688.01	688.60	690.05	
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.85	688.01	688.60	690.05	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.16	713.39	713.48	713.66	
XS_194	usf of Access Road (50: 8)	1396	700.27	712.33	712.84	713.05	713.48	
XS_192	dsf of Access Road (48: 1)	1337	699.95	711.73	712.03	712.15	712.40	
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.35	710.94	711.18	711.68	
XS_188	usf of Thorndale Avenue (48: 12)	642	696.92	710.34	710.94	711.18	711.68	
XS_186	U46 dsf of Thorndale Ave Culvert (46: 1)	455	696.14	707.12	707.29	707.43	708.67	
XS_184	222 feet ds of Thorndale Ave Culvert (46: 6)	233	693.28	705.90	707.00	707.43	708.67	
XS_182	294 feet d/s of Thorndale Ave Culvert (46: 9)	161	692.11	705.90	706.99	707.41	708.67	
XS_180	D46 usf of Access Road(46: 13)	0	692.72	705.90	706.97	707.40	708.67	
XS_4905c	dsf of Access Road (U47)	1085	692.62	704.82	706.62	707.27	708.67	
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.18	706.28	707.04	708.66	
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.51	702.36	703.11	704.86	
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.16	700.36	700.84	701.95	
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.59	698.65	699.07	700.38	
XS_4902	155 feet us of I-290 (47:81)	155	691.22	695.89	697.45	698.18	700.38	
XS_9182 (B20)	37 feet us of I-290 (47:113)	37	690.98	695.06	696.91	697.84	700.38	
XS_9181 (B19)	20 feet us of I-290 (47:21)	20	690.95	695.02	696.88	697.82	700.38	
XS_9181 (B19)	usf of I-290 (D47)	0	690.95	694.90	696.85	697.82	700.38	
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.35	694.44	694.97	696.39	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.82	692.33	692.52	692.94	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.80	692.30	692.49	692.90	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.14	690.62	690.83	691.31	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.14	690.62	690.82	691.30	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.14	690.60	690.80	691.26	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.98	689.72	690.05	690.86	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.98	689.70	690.03	690.80	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.95	689.66	689.98	690.75	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.95	689.66	689.98	690.75	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.95	689.65	689.98	690.75	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.95	689.64	689.96	690.72	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.95	689.63	689.94	690.62	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.95	689.63	689.93	690.61	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.16	688.51	689.13	690.55	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.14	688.48	689.10	690.54	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.08	688.38	689.01	690.52	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.37	689.01	690.52	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.37	689.01	690.52	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.37	689.01	690.52	
F24	Pond us of Rohlwing Road (0: F24)		710.62	714.32	715.39	715.85	716.98	
XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.82	714.44	714.69	715.43	
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 6)	12597	697.64	713.82	714.44	714.69	715.43	
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 11)	12549	697.64	713.82	714.44	714.69	715.43	
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 16)	12445	700.94	713.82	714.44	714.69	715.43	
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 21)	12267	700.22	713.82	714.44	714.69	715.43	
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 26)	11910	701.47	713.78	714.40	714.65	715.43	
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 31)	11725	700.61	713.52	714.16	714.55	715.43	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 36)	11505	700.47	713.32	714.15	714.55	715.43	
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.32	714.15	714.55	715.43	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	713.14	714.15	714.55	715.43	
XS_206	usf of Unnamed Culv 1 (58: 14)	435	698.75	713.09	714.15	714.55	715.43	
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	712.32	713.20	713.53	714.26	
XS_202	**usf of Thorndale Avenue (56: 4)**	**0**	**698.32**	**712.10**	**713.05**	**713.41**	**714.20**	**Existing Elevations**
XS6401	dsf of Thorndate Avenue (64: 1)	10864	697.72	710.38	711.05	711.38	712.15	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS6401	usf of HWY Ramp (64: 4)	10798	695.72	710.08	711.02	711.38	712.15
XS_200	U54 (54: 1)	402	705.22				
XS_200	Approx. 149 feet ds of U54 (54: 4)	253	702.87				
XS_202	usf of Unnamed Culv 2 (D54) (54: 7)	0	698.32				
XS_198	dsf of Unnamed Culv 2 (U52) (52: 1)	447	705.22				
XS_198	Approx 132 feet ds of Unnamed Culv 2 (52: 4)	315	703.32				
XS_188	usf of Thorndale Avenue (D52) (52: 7)	0	696.92				
F310	Depressional area west of I-290		706.20	707.67	708.11	708.30	708.79
F312	Depressional area east of I-290		703.04	704.76	705.32	705.56	706.16
F314	Depressional area east of I-290 ramp		797.66				
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.70	694.16	694.36	694.79
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.70	694.16	694.36	694.79
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.16	694.36	694.79
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.16	694.36	694.79
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.46	693.48	693.92	694.81
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	692.46	693.48	693.92	694.81
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	692.46	693.48	693.92	694.81
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	692.46	693.48	693.92	694.81
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	692.46	693.48	693.92	694.81
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	692.46	693.48	693.92	694.81
XS_322	D310 usf of Park Blvd - South (310 :25)	1624	679.67	692.46	693.48	693.92	694.81
XS_320	U308 dsf of Park Blvd - South (308: 1)	1544	680.41	692.33	693.41	693.85	694.77
XS_318	53 feet DS of Park Blvd south(308: 5)	1465	680.41	692.33	693.38	693.80	694.69
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	692.32	693.35	693.79	694.69
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.55	692.82	693.35	694.48
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.55	692.82	693.35	694.48
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.24	692.73	693.29	694.48
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.06	692.53	693.12	694.39
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.04	692.52	693.12	694.39
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	690.58	691.94	692.44	693.46
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	690.58	691.94	692.44	693.46
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	690.58	691.94	692.44	693.46
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	690.55	691.94	692.44	693.46
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	690.43	691.94	692.44	693.46
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.04	688.32	688.92	690.33
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.03	688.32	688.92	690.33
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.03	688.32	688.92	690.33
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.03	688.32	688.92	690.33
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.03	688.32	688.92	690.32
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.84	687.85	688.44	690.00
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.81	687.85	688.44	690.00
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.81	687.85	688.44	690.00
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.81	687.85	688.44	690.00
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.80	687.85	688.44	690.00

Existing Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
CULVERT
TABID= C60
TYPE=  13
LABEL= Thorndale Avenue - Mainstem/west
Approach-Section Data
APPTAB= 2001
APPELV= 708.75
APPLEN=  10.0
APPLOS= 0.5
APPEXP= 1.0
Culvert Description
NODEID=YES
SFAC= 1.0
 NODE       NODEID  XNUM   STATION ELEVATION   KA   KD
  100          U/S  3454      0.00    708.75  0.0  0.0
               D/S  3454    235.50    708.75  0.0  0.0
   -1
CULCLS= PIPE
Departure Section Data
DEPTAB= 2001
DEPELV= 708.5
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
KWING= 1.00
KPROJ= 1.00
C46= 0.85
TYPE 5 flow parameters
RBVALUE= 0.03
BVANGLE= 0.0
WWANGLE= 0.0
LPOVERD= 0.0
TYPE5SBF= 0.75
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
         0    721.00     50.0      708.7 PAVED
   104.801    720.00
   240.170    722.00
   388.381    724.00                     END
Head Sequence Definition
NFRAC= 10
POWER= 2.0
0.05
0.1
0.2
0.25
0.3
0.5
0.8
1.0
2.0
3.0
3.5
4.0
4.1
4.2
4.3
4.4
4.5
4.6
4.7
```

```
4.8
4.9
5.0
5.5
6.0
6.5
7.0
7.5
8.0
8.5
9.0
10.0
10.5
11.0
11.5
12.0
12.5
13.0
13.5
14.0
14.5
15.0
-1
```

```
MULCON
TABID= 3454 SAVE22 NOOUT
WSLOT= 0.10
HSLOT= 30.0
NPIPES=    2
TYPE:      CIRC      CIRC
SPAN:      4.50      4.50
RISE:      4.50      4.50
BOTT:       0.0      0.00
ROUG:     0.015     0.015
```

Existing Conditions Culvert Data
(Based on NGVD 1929 Datum)

Elgin O'Hare Expressway East Ramp (Existing, FEQ Node D64)

Illinois Department of Transportation

Culvert Waterway Information Table

Route:	EOWB	S.N. Exist:	NA	Computed by:	M. Younus	Date:	5-22-2012
Section:	Elgin O'Hare Expressway East Ramp	S.N. Prop:	NA	Checked by:	M. Cothard	Date:	5-22-2012
County:	DuPage	Waterway:	Devon Ave Trib.				
Station:	213+00 of Elgin O'Hare						

Drainage Area = 0.25 Square Miles

Existing Overtopping Elevation: 717.72 ft. @ Sta
Proposed Overtopping Evaluation: ft. @ Sta

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.) Existing	Waterway Opening (sq. ft.) Proposed	Natural H.W.E.	Head (ft.) Existing	Head (ft.) Proposed	Headwater Elev. (ft.) Existing	Headwater Elev. (ft.) Proposed
	10	114	27.6		708.5	1.6		710.1	
Design	50	182	31.8		709.0	2.0		711.0	
Base	100	215	31.8		709.2	2.2		711.4	
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	299	31.8		709.7	2.5		712.2	

10-Year Outlet Velocity from Existing Structure = 4.1 fps
10-Year Outlet Velocity from Proposed Structure = fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: NA - October 1954

SCOPE OF WORK:

EXISTING STRUCTURE		PROPOSED STRUCTURE	
Bridge or Culvert Type:	RCP	Culvert Type:	
Cell Dimensions (W x H):	54"	Cell Dimensions (W x H):	
# of spans \ cells:	2	# of cells:	
Length:	205	Length:	
U/S Flowline:	706.46	U/S Flowline:	
D/S Flowline:	706.46	D/S Flowline:	
Skew:	0	Skew:	
Low EOP:	717.24	Low EOP:	

EXISTING DROPBOX		PROPOSED DROPBOX	
Dimensions:		Dimensions:	
Drop:		Drop:	
Weir Elevation:		Weir Elevation:	

NOTE(S): NAVD88 = NGVD29 – 0.28
Low EOP assumed 0.48 feet below overtop elevation

Flood Frequency Summary for Peak Discharge: Flows

Sect	Return Period (years): 2.0	5.0	10.0	25.0	50.0	75.0
1	57.1	93.8	119.7	154.2	181.2	197.6
2	47.3	79.4	102.5	134.1	159.6	175.2
3	47.1	79.1	102.0	133.3	158.6	174.1
4	46.5	78.2	100.9	132.0	157.0	172.4
5	44.2	74.1	95.8	125.7	149.8	164.7
6	37.5	67.4	90.0	121.4	146.7	162.3
7	39.9	72.5	96.0	128.3	154.4	170.5
8	40.1	71.7	95.3	128.0	154.3	170.5
9	42.2	75.2	99.9	134.3	161.9	178.9
10	42.2	75.2	99.9	134.3	161.9	178.9
11	46.3	82.2	108.4	144.4	173.1	190.7
12	48.6	85.9	113.3	151.0	181.1	199.6
13	48.6	85.9	113.3	151.0	181.1	199.6
14	48.8	85.5	113.0	151.1	181.4	200.0
15	48.5	84.8	111.9	149.2	178.9	197.0
16	49.5	86.4	114.1	152.1	182.4	200.9
17	---	---	---	---	---	---
18	---	---	---	---	---	---
19	---	---	---	---	---	---
20	---	---	---	---	---	---
21	---	---	---	---	---	---
22	---	---	---	---	---	---

Sect	Return Period (years): 100.0	200.0	300.0	400.0	500.0
1	209.6	239.5	257.9	271.5	282.3
2	186.7	215.8	233.9	247.3	258.0
3	185.5	214.4	232.4	245.7	256.3
4	183.6	212.2	230.0	243.1	253.7
5	175.7	203.6	221.0	233.9	244.2
6	173.7	202.8	221.0	234.5	245.3
7	182.3	212.4	231.2	245.2	256.5
8	182.4	212.8	231.8	245.9	257.2
9	191.4	223.3	243.2	258.0	269.9
10	191.4	223.3	243.2	258.0	269.9
11	203.6	236.2	256.5	271.5	283.6
12	213.1	247.4	268.7	284.5	297.2
13	213.1	247.4	268.7	284.5	297.2
14	213.6	248.1	269.6	285.5	298.3
15	210.3	243.8	264.7	280.2	292.6
16	214.5	248.7	270.0	285.8	298.5
17	---	---	---	---	---
18	---	---	---	---	---
19	---	---	---	---	---
20	---	---	---	---	---
21	---	---	---	---	---
22	---	---	---	---	---

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.62	714.05	714.21	714.54
XS_194	usf of Access Road (50: 8)	1396	700.27	712.21	712.75	712.96	713.40
XS_192	dsf of Access Road (48: 1)	1337	699.95	712.21	712.75	712.95	713.40
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.17	710.46	710.57	710.80
XS_188	usf of EOH - West (48: 12)	642	696.92	708.35	708.58	708.68	709.58
XS_186	U46 dsf of EOH -West Culvert (46: 1)	455	696.14	707.43	708.18	708.51	709.58
XS_184	222 feet ds of EOH - West Culvert (46: 6)	233	693.28	706.66	708.01	708.51	709.58
XS_182	294 feet d/s of EOH - West Culvert (46: 9)	161	692.11	706.65	708.01	708.51	709.58
XS_180	D46 usf of Access Road(46: 13)	0	692.72	706.64	708.01	708.51	709.58
XS_4905c	dsf of Access Road (U47)	1085	692.62	705.09	706.86	707.53	709.03
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.48	706.48	707.20	708.75
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.83	702.92	703.76	705.70
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.36	700.76	701.33	702.62
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.69	698.72	699.10	699.93
XS_4902	155 feet us of I-290 - North (47:81)	155	691.22	695.65	696.89	697.39	698.56
XS_9182 (B20)	37 feet us of I-290- North (47:113)	37	690.98	694.05	695.26	695.81	697.22
XS_9181 (B19)	20 feet us of I-290- North (47:21)	20	690.95	693.76	694.98	695.54	697.22
XS_9181 (B19)	usf of I-290- North (D47)	0	690.95	693.46	694.75	695.41	697.22
F20	F20 Pond downstream of I-290- North (0: F20)		691.52	693.46	694.75	695.41	697.22
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.88	692.44	692.66	693.13
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.86	692.41	692.62	693.08
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.19	690.73	690.96	691.50
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.19	690.72	690.95	691.48
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.17	690.71	690.94	691.48
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	689.04	689.86	690.24	691.16
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	689.04	689.85	690.21	691.08
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	689.01	689.79	690.14	690.99
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	689.01	689.79	690.14	690.99
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	689.01	689.79	690.14	690.99
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	689.01	689.79	690.13	690.99
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	689.01	689.79	690.13	690.99
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	689.01	689.78	690.11	690.99
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.27	688.80	689.45	690.99
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.25	688.77	689.42	690.99
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.18	688.67	689.35	690.99
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.17	688.66	689.34	690.99
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.17	688.66	689.34	690.98
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.17	688.65	689.32	690.93
F24	Pond us of Rohlwing Road (IL 53) (0: F24)		710.62	713.69	714.21	714.43	714.92
XS_224	dsf of Rohlwing Road (IL 53) (62: 1)	12608	697.64	713.67	714.18	714.38	714.81
XS_222	Approx. 11 feet ds of Rohlwing Road (IL 53) (62: 6)	12597	697.64	713.67	714.18	714.38	714.81
XS_220	Approx. 59 feet ds of Rohlwing Road (IL 53) (62: 11)	12549	697.64	713.67	714.18	714.38	714.81
XS_218	Approx. 163 feet ds of Rohlwing Road (IL 53) (62: 16)	12445	700.94	713.67	714.18	714.38	714.81
XS_216	Approx. 341 feet ds of Rohlwing Road (IL 53) (62: 21)	12267	700.22	713.67	714.18	714.38	714.79
XS_214	Approx. 698 feet ds of Rohlwing Road (IL 53) (62: 26)	11910	701.47	713.61	714.12	714.31	714.71
XS_212	Approx. 883 feet ds of Rohlwing Road (IL 53) (62: 31)	11725	700.61	713.30	713.71	713.86	714.19
XS_210	Approx. 1,103 feet ds of Rohlwing Road (IL 53) (62: 36)	11505	700.47	713.02	713.35	713.47	713.72
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.02	713.35	713.47	713.72
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	712.56	712.88	713.00	713.25
XS_206	usf of Unnamed Culv 1 (58: 14)	435	698.75	711.68	712.28	712.50	712.97

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Natural (FEQ Models Used: DALn7d.FEQ, DABn7d.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	711.68	712.28	712.50	712.97	
XS_202	usf of EOH - East (56: 4)	0	698.32	710.16	710.53	710.67	710.94	
XS6401	dsf of EOH - East (64: 1)	10864	697.72	710.16	710.53	710.66	710.93	
XS6401	**usf of Westbound Thorndale Ave Ramp (64: 4)**	**10798**	**695.72**	**708.46**	**709.03**	**709.24**	**709.67**	**Natural Elevations**
F310	usf of I-290 (South)		706.20	706.54	706.64	706.69	706.80	
F312	Usf of I-290 Northbound Ramp		703.04	703.79	704.05	704.18	704.51	
F314	usf of Western Park Blvd - south		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.67	694.08	694.23	694.54	
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.67	694.08	694.23	694.54	
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.08	694.23	694.54	
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.08	694.23	694.54	
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.10	692.60	693.10	694.07	
XS_332	Approx. 1088 feet us of Eastern Park Blvd - South (310: 1)	2712	681.18	692.10	692.60	693.10	694.07	
XS_330	Approx 931 feet us of EasternPark Blvd - South (310: 7)	2555	680.40	692.10	692.60	693.10	694.07	
XS_328	Approx 689 feet us of EasternPark Blvd - South (310: 11)	2313	679.82	692.10	692.60	693.10	694.07	
XS_326	Approx 468 feet us of Eastern Park Blvd - South (310: 15)	2092	679.44	692.10	692.60	693.10	694.07	
XS_324	Approx 283 feet us of Eastern Park Blvd - South (310: 20)	1907	680.66	692.10	692.60	693.10	694.07	
XS_322	D310 usf of Eastern Park Blvd - South (310 :25)	1624	679.67	692.08	692.60	693.10	694.07	
XS_320	U308 dsf of Eastern Park Blvd - South (308: 1)	1544	680.41	692.02	692.60	693.10	694.07	
XS_318	53 feet DS of Eastern Park Blvd south(308: 5)	1465	680.41	692.00	692.60	693.10	694.07	
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	691.55	692.60	693.10	694.07	
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.53	692.60	693.10	694.07	
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.25	692.60	693.10	694.07	
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.25	692.60	693.10	694.07	
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.13	692.60	693.10	694.07	
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.13	692.60	693.10	694.07	
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	691.13	692.60	693.10	694.07	
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	691.13	692.60	693.10	694.07	
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	691.13	692.60	693.10	694.07	
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	691.11	692.60	693.10	694.07	
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	691.03	692.60	693.10	694.07	
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.12	688.44	689.08	690.61	
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.10	688.44	689.08	690.61	
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.08	688.44	689.08	690.57	
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.08	688.44	689.08	690.54	
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.08	688.44	689.08	690.54	
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.91	688.05	688.62	690.05	
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.87	688.01	688.60	690.05	
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.87	688.01	688.60	690.05	
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.86	688.01	688.60	690.05	
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.85	688.01	688.60	690.05	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)
XS_196	dsf of Norwood Avenue (50: 1)	1668	701.79	713.16	713.39	713.48	713.66
XS_194	usf of Access Road (50: 8)	1396	700.27	712.33	712.84	713.05	713.48
XS_192	dsf of Access Road (48: 1)	1337	699.95	711.73	712.03	712.15	712.40
XS_190	Approx 597 feet ds of Access Road (48: 5)	740	699.02	710.35	710.94	711.18	711.68
XS_188	usf of Thorndale Avenue (48: 12)	642	696.92	710.34	710.94	711.18	711.68
XS_186	U46 dsf of Thorndale Ave Culvert (46: 1)	455	696.14	707.12	707.29	707.43	708.67
XS_184	222 feet ds of Thorndale Ave Culvert (46: 6)	233	693.28	705.90	707.00	707.43	708.67
XS_182	294 feet d/s of Thorndale Ave Culvert (46: 9)	161	692.11	705.90	706.99	707.41	708.67
XS_180	D46 usf of Access Road(46: 13)	0	692.72	705.90	706.97	707.40	708.67
XS_4905c	dsf of Access Road (U47)	1085	692.62	704.82	706.62	707.27	708.67
XS_4905	70 feet ds of Access Road (47:17)	1015	692.62	704.18	706.28	707.04	708.66
XS_4904	375 feet ds of Access Roadn (47:33)	710	692.12	700.51	702.36	703.11	704.86
XS_4903	570 feet ds of Access Road (47:49)	515	691.82	699.16	700.36	700.84	701.95
XS_9183 (B21)	823 feet ds of Access Road (47:65)	262	691.41	697.59	698.65	699.07	700.38
XS_4902	155 feet us of I-290 (47:81)	155	691.22	695.89	697.45	698.18	700.38
XS_9182 (B20)	37 feet us of I-290 (47:113)	37	690.98	695.06	696.91	697.84	700.38
XS_9181 (B19)	20 feet us of I-290 (47:21)	20	690.95	695.02	696.88	697.82	700.38
XS_9181 (B19)	usf of I-290 (D47)	0	690.95	694.90	696.85	697.82	700.38
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.35	694.44	694.97	696.39
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.82	692.33	692.52	692.94
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.80	692.30	692.49	692.90
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.14	690.62	690.83	691.31
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.14	690.62	690.82	691.30
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.14	690.60	690.80	691.26
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.98	689.72	690.05	690.86
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.98	689.70	690.03	690.80
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.95	689.66	689.98	690.75
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.95	689.66	689.98	690.75
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.95	689.65	689.98	690.75
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.95	689.64	689.96	690.72
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.95	689.63	689.94	690.62
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.95	689.63	689.93	690.61
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.16	688.51	689.13	690.55
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.14	688.48	689.10	690.54
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.08	688.38	689.01	690.52
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.37	689.01	690.52
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.37	689.01	690.52
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.37	689.01	690.52
F24	Pond us of Rohlwing Road (0: F24)		710.62	714.32	715.39	715.85	716.98
XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.82	714.44	714.69	715.43
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 6)	12597	697.64	713.82	714.44	714.69	715.43
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 11)	12549	697.64	713.82	714.44	714.69	715.43
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 16)	12445	700.94	713.82	714.44	714.69	715.43
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 21)	12267	700.22	713.82	714.44	714.69	715.43
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 26)	11910	701.47	713.78	714.40	714.65	715.43
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 31)	11725	700.61	713.52	714.16	714.55	715.43
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 36)	11505	700.47	713.32	714.15	714.55	715.43
XS_210	Approx. 385 feet us of Unnamed Culv 1 (58: 1)	820	700.47	713.32	714.15	714.55	715.43
XS_208	Approx. 165 feet us of Unnamed Culv 1 (58: 8)	600	700.43	713.14	714.15	714.55	715.43
XS_206	usf of Unnamed Culv 1 (58: 14)	435	698.75	713.09	714.15	714.55	715.43
XS_204	dsf of Unnamed Culv 1 (56: 1)	317	699.05	712.32	713.20	713.53	714.26
XS_202	usf of Thorndale Avenue (56: 4)	0	698.32	712.10	713.05	713.41	714.20
XS6401	dsf of Thorndate Avenue (64: 1)	10864	697.72	710.38	711.05	711.38	712.15

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Existing (FEQ Models Used: DALex8f.FEQ, DABex8f.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD88)	PVS3O 10-Year (ft-NAVD88)	PVS3O 50-Year (ft-NAVD88)	PVS3O 100-Year (ft-NAVD88)	PVS3O 500-Year (ft-NAVD88)	
XS6401	**usf of HWY Ramp (64: 4)**	**10798**	**695.72**	**710.08**	**711.02**	**711.38**	**712.15**	**Existing Elevations**
XS_200	U54 (54: 1)	402	705.22					
XS_200	Approx. 149 feet ds of U54 (54: 4)	253	702.87					
XS_202	usf of Unnamed Culv 2 (D54) (54: 7)	0	698.32					
XS_198	dsf of Unnamed Culv 2 (U52) (52: 1)	447	705.22					
XS_198	Approx 132 feet ds of Unnamed Culv 2 (52: 4)	315	703.32					
XS_188	usf of Thorndale Avenue (D52) (52: 7)	0	696.92					
F310	Depressional area west of I-290		706.20	707.67	708.11	708.30	708.79	
F312	Depressional area east of I-290		703.04	704.76	705.32	705.56	706.16	
F314	Depressional area east of I-290 ramp		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 5)	3609	680.08	693.70	694.16	694.36	694.79	
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 8)	3312	679.94	693.70	694.16	694.36	694.79	
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 13)	3090	680.72	693.67	694.16	694.36	694.79	
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.67	694.16	694.36	694.79	
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	692.46	693.48	693.92	694.81	
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	692.46	693.48	693.92	694.81	
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	692.46	693.48	693.92	694.81	
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	692.46	693.48	693.92	694.81	
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	692.46	693.48	693.92	694.81	
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	692.46	693.48	693.92	694.81	
XS_322	D310 usf of Park Blvd - South (310 :25)	1624	679.67	692.46	693.48	693.92	694.81	
XS_320	U308 dsf of Park Blvd - South (308: 1)	1544	680.41	692.33	693.41	693.85	694.77	
XS_318	53 feet DS of Park Blvd south(308: 5)	1465	680.41	692.33	693.38	693.80	694.69	
XS_9316 (J4)	D308 usf of Thorndale Ave (308: 9)	1384	680.41	692.32	693.35	693.79	694.69	
XS_9314 (J3)	U306 dsf of Thorndale Ave (306: 1)	1232	678.84	691.55	692.82	693.35	694.48	
XS_312	D306 usf of a culvert located 7 feet DS of Thorndale Ave. (306: 5)	1188	678.87	691.55	692.82	693.35	694.48	
XS_310	U304 dsf of a culvert located 7 feet DS of Thorndale Ave.(304: 1)	1131	678.57	691.24	692.73	693.29	694.48	
XS_308	66 feet ds of a culvert located 7 feet DS of Thorndale Ave(304: 4)	1034	678.48	691.06	692.53	693.12	694.39	
XS_9306 (J2)	D304 usf of Park Blvd. (304: 7)	959	678.57	691.04	692.52	693.12	694.39	
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	690.58	691.94	692.44	693.46	
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	690.58	691.94	692.44	693.46	
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	690.58	691.94	692.44	693.46	
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	690.55	691.94	692.44	693.46	
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	690.43	691.94	692.44	693.46	
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.04	688.32	688.92	690.33	
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.03	688.32	688.92	690.33	
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.03	688.32	688.92	690.33	
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.03	688.32	688.92	690.33	
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.03	688.32	688.92	690.32	
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.84	687.85	688.44	690.00	
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.81	687.85	688.44	690.00	
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.81	687.85	688.44	690.00	
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.81	687.85	688.44	690.00	
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.80	687.85	688.44	690.00	

Existing Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
CULVERT
TABID= C100
TYPE=  13
LABEL= Thorndale Avenue highway ramp - Mainstem/west
Approach-Section Data
APPTAB= 2001
APPELV= 706.74
APPLEN=  10.0
APPLOS= 0.5
APPEXP= 1.0
Culvert Description
NODEID=YES
SFAC= 1.0
 NODE        NODEID  XNUM   STATION ELEVATION   KA   KD
  100           U/S  3454      0.00    706.74  0.0  0.0
                D/S  3454    205.00    706.74  0.0  0.0
   -1
CULCLS= PIPE
Departure Section Data
DEPTAB= 2001
DEPELV= 703.30
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
KWING= 1.00
KPROJ= 1.00
C46= 0.85
TYPE 5 flow parameters
RBVALUE= 0.03
BVANGLE= 0.0
WWANGLE= 0.0
LPOVERD= 0.0
TYPE5SBF= 0.75
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET      CREST      WIDTH  APPROACH SURFACE
         0      721.0      150.0     703.3 PAVED
  248.316       720.0
  345.418       718.0                      END
Head Sequence Definition
NFRAC= 10
POWER= 2.0
0.1
0.2
0.25
0.3
0.5
0.8
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.1
4.2
4.3
4.4
4.5
4.6
4.7
```

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4.8
4.9
5.0
5.5
6.0
6.5
7.0
7.5
8.0
8.5
9.0
9.5
10.0
10.5
11.0
11.2
11.3
11.4
11.5
12.0
12.5
13.0
13.5
14.0
14.5
15.0
-1
```

Existing Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
MULCON
TABID= 3454 SAVE22 NOOUT
WSLOT= 0.10
HSLOT= 30.0
NPIPES=    2
TYPE:      CIRC      CIRC
SPAN:      4.50      4.50
RISE:      4.50      4.50
BOTT:       0.0      0.00
ROUG:     0.015     0.015
```

Eight (8) Waterway Information Tables
where data is reported for proposed conditions only

IL53-North (Dep1, FEQ Node F552)

Illinois Department of Transportation

Culvert Waterway Information Table

Route:	EOWB	S.N. Exist:	NA	Computed by:	M. Younus	Date:	5-22-2012
Section:	IL Route 53 North	S.N. Prop:	NA	Checked by:	M. Cothard	Date:	5-22-2012
County:	DuPage	Waterway:	Devon Avenue Trib.				
Station:	256+00						

Drainage Area = 0.098 Square Miles

Existing Overtopping Elevation: ft. @ Sta
Proposed Overtopping Evaluation: 714.77 ft. @ Sta 556+00 of Ramp G5

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.) Existing	Waterway Opening (sq. ft.) Proposed	Natural H.W.E.	Head (ft.) Existing	Head (ft.) Proposed	Headwater Elev. (ft.) Existing	Headwater Elev. (ft.) Proposed
	10	13		6.4					708.8
Design	50	23		8.8					709.4
Base	100	29		10.4					709.8
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	47		16.0					710.8

10-Year Outlet Velocity from Existing Structure = fps
10-Year Outlet Velocity from Proposed Structure = 2.0 fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: NA - October 1954

SCOPE OF WORK:

EXISTING STRUCTURE		PROPOSED STRUCTURE	
Bridge or Culvert Type:		Culvert Type:	RCBC
Cell Dimensions (W x H):		Cell Dimensions (W x H):	4'X4'
# of spans \ cells:		# of cells:	1
Length:		Length:	650
U/S Flowline:		U/S Flowline:	707.2
D/S Flowline:		D/S Flowline:	706.5
Skew:		Skew:	0
Low EOP:		Low EOP:	714.29

EXISTING DROPBOX		PROPOSED DROPBOX	
Dimensions:		Dimensions:	
Drop:		Drop:	
Weir Elevation:		Weir Elevation:	

NOTE(S): NAVD88 = NGVD29 – 0.28

Flood Frequency Summary for Peak Discharge: Flows

Sect	Return Period (years): 2.0	5.0	10.0	25.0	50.0	75.0
1	43.0	60.4	71.5	85.1	95.1	100.8
2	5.8	9.5	12.6	17.7	22.6	26.0
3	42.8	61.0	72.8	87.7	98.7	105.2
4	41.8	60.2	71.9	86.8	98.0	104.6
5	14.7	27.9	40.5	60.8	79.3	91.6
6	66.1	112.3	148.6	202.1	247.3	275.9
7	63.6	105.5	137.8	185.5	226.0	251.6
8	63.6	105.5	137.8	185.5	226.0	251.6
9	63.5	105.5	137.8	185.5	226.0	251.6
10	63.5	105.5	137.8	185.5	226.0	251.6
11	63.1	105.1	137.6	186.2	228.0	254.6
12	62.9	104.9	138.0	187.4	229.9	257.1
13	62.9	104.9	138.0	187.4	229.9	257.1
14	62.9	104.9	138.0	187.4	229.9	257.0
15	62.9	104.9	138.0	187.4	229.9	257.0
16	62.9	104.9	137.9	187.3	229.8	256.9
17	62.9	104.9	137.9	187.3	229.8	256.9
18	63.5	104.8	136.7	184.0	224.6	250.3
19	63.7	105.1	136.8	183.9	224.3	249.9
20	64.0	105.7	137.6	184.8	225.3	250.9
21	64.0	105.7	137.6	184.8	225.3	250.9
22	64.0	105.7	137.6	184.8	225.3	250.9
23	64.0	105.7	137.6	184.8	225.3	250.9
24	64.0	105.5	137.4	184.4	224.6	250.1
25	64.0	105.5	137.4	184.4	224.6	250.1
26	62.0	102.6	133.3	179.0	218.2	243.0

Sect	Return Period (years): 100.0	200.0	300.0	400.0	500.0
1	104.9	114.8	120.6	124.8	128.1
2	28.6	35.7	40.5	44.1	47.1
3	109.8	120.9	127.6	132.3	136.1
4	109.3	120.8	127.7	132.7	136.6
5	101.2	127.0	144.4	157.8	168.9
6	297.3	353.3	389.5	416.9	439.4
7	270.7	320.3	352.1	376.1	395.6
8	270.7	320.3	352.1	376.1	395.6
9	270.7	320.3	352.1	376.1	395.6
10	270.7	320.3	352.1	376.1	395.6
11	274.5	326.4	359.7	384.8	405.2
12	277.4	330.6	364.9	390.7	411.7
13	277.4	330.6	364.9	390.7	411.7
14	277.4	330.5	364.7	390.5	411.4
15	277.4	330.5	364.7	390.5	411.4
16	277.2	330.4	364.6	390.4	411.3
17	277.2	330.4	364.6	390.4	411.3
18	269.5	319.3	351.1	374.9	394.2
19	269.0	318.6	350.1	373.8	393.0
20	270.0	319.6	351.2	374.9	394.1
21	270.0	319.6	351.2	374.9	394.1
22	270.0	319.6	351.2	375.0	394.2
23	270.0	319.6	351.2	375.0	394.2
24	269.2	318.5	349.9	373.4	392.5
25	269.2	318.5	349.9	373.4	392.5
26	261.5	309.4	339.9	362.8	381.3

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)	
F556	Structure ustream of E-O west (Dep3, F556)		708.00	710.53	711.13	711.38	711.95	
F552	**Structure at northwest corner of IL53 and E-O Expy (Dep1, F552)**		**707.20**	**708.76**	**709.44**	**709.80**	**710.80**	**Proposed Elevations**
F502	Pond 1 (0: F502)		703.00	706.66	708.27	709.09	711.25	
F504	Pond 2 (0: F504)		701.00	705.24	706.58	707.22	708.86	
F554	Structure west of I-290 Ramp G2 (Dep2, F554))		692.00	694.77	697.07	698.46	702.80	
F506	usf of I-290 (Pond 3, F506)		691.14	694.13	695.48	696.14	697.89	
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.07	693.89	694.29	695.37	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.64	692.09	692.27	692.65	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.63	692.07	692.24	692.61	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.01	690.43	690.61	691.06	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.01	690.42	690.60	691.03	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.00	690.41	690.58	691.00	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.78	689.50	689.85	690.81	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.78	689.50	689.85	690.81	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.76	689.46	689.80	690.81	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.76	689.46	689.80	690.81	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.76	689.46	689.80	690.81	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.74	689.42	689.75	690.81	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.74	689.41	689.74	690.81	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.74	689.41	689.74	690.81	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.10	688.42	689.10	690.81	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.08	688.42	689.10	690.81	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.06	688.42	689.10	690.81	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.42	689.10	690.81	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.42	689.10	690.81	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.42	689.10	690.81	
F24	Pond us of Rohlwing Road (0: F24)		710.62	713.84	714.89	715.33	716.41	
XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.43	713.92	714.07	714.52	
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 11)	12597	697.64	713.43	713.92	714.07	714.52	
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 21)	12549	697.64	713.43	713.92	714.07	714.52	
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 31)	12445	700.94	713.43	713.92	714.07	714.52	
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 41)	12267	700.22	713.43	713.92	714.07	714.52	
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 51)	11910	701.47	713.38	713.87	714.05	714.43	
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 61)	11725	700.61	713.13	713.52	713.66	713.96	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 71)	11505	700.47	712.94	713.27	713.39	713.83	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (62: 85)	11286	700.43	712.44	712.90	713.08	713.83	
XS_206	usf of Unnamed Culv 1 (62: 97)	11175	698.75	711.69	712.67	713.03	713.83	
F508	Pond 4 (0: F508)		692.50	694.88	696.36	697.15	699.43	
F310	Depressional area west of I-290		704.80	706.18	706.62	706.81	707.28	
F312	Depressional area east of I-290		703.04					
F314	Depressional area east of I-290 ramp		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 33)	3609	680.08	693.51	694.02	694.18	694.59	
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 57)	3312	679.94	693.51	694.02	694.18	694.51	
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 97)	3090	680.72	693.51	694.02	694.18	694.51	
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.51	694.02	694.18	694.51	
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	691.75	692.32	692.67	693.57	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	691.75	692.32	692.67	693.57
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	691.69	692.32	692.67	693.57
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	691.69	692.32	692.67	693.57
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	691.69	692.32	692.67	693.57
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	691.69	692.32	692.67	693.57
XS_9322	D310 usf of E-O Expy/Park Blvd - South (310 :25)	1624	679.67	691.61	692.32	692.67	693.57
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	689.79	690.40	690.84	691.75
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	689.59	690.40	690.84	691.75
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	689.59	690.40	690.84	691.75
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	689.54	690.40	690.84	691.75
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	689.11	690.40	690.84	691.75
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.06	688.42	689.10	690.77
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.06	688.42	689.10	690.77
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.06	688.42	689.10	690.77
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.06	688.29	688.83	690.07
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.06	688.29	688.83	690.07
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.83	687.90	688.45	689.79
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.82	687.90	688.45	689.79
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.82	687.90	688.45	689.79
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.82	687.90	688.45	689.79
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.82	687.90	688.45	689.79

Proposed Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
MULCON
TABID= B4X4 SAVE22 NOOUT
WSLOT= 0.10
HSLOT= 30.0
NPIPES=    1
TYPE:       BOX
SPAN:      4.00
RISE:      4.00
BOTT:       0.0
ROUG:     0.013
MUDL:      0.03
ROUG:     0.030

CULVERT
TABID= CDEP1
TYPE=  13
LABEL= Culvert between Dep1 and Pond1     h
Approach-Section Data
APPTAB=  1001
APPELV= 707.48
APPLEN=  10.0
APPLOS= 0.5
APPEXP= 1.0
Culvert Description
NODEID=YES
SFAC= 1.0
 NODE       NODEID  XNUM   STATION ELEVATION   KA   KD
  100          U/S  B4X4    650.00    707.48  0.0  0.0
               D/S  B4X4      0.00    706.78  0.0  0.0
   -1
CULCLS= BOX
Departure Section Data
DEPTAB=  1002
DEPELV= 706.78
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
KWING= 1.00
KPROJ= 1.00
C46= 0.85
TYPE 5 flow parameters
RBVALUE= 0.03
BVANGLE= 0.0
WWANGLE= 0.0
LPOVERD= 0.0
TYPE5SBF= 0.75
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
   -184.90    995.31     50.0      690.0 PAVED
   -128.41    995.00
    -71.74    994.75
      0.00    994.53
     79.07    994.65
    153.51    994.92
    212.82    995.31                     END
Head Sequence Definition
NFRAC= 10
POWER= 2.0
0.05
0.1
0.2
```

0.25
0.3
0.5
0.8
1.0
2.0
2.5
3.0
3.1
3.2
3.3
3.4
3.5
3.6
3.7
3.8
3.9
4.0
4.5
4.6
4.7
4.8
4.9
5.0
5.5
6.0
6.5
7.0
8.0
9.0
10.0
12.0
13.0
15.0
20.0
30.0
-1

EOH-West (Proposed, Dep3-FEQ Node F556)

Illinois Department of Transportation

Culvert Waterway Information Table

Route:	EOWB	S.N. Exist:	NA	Computed by:	M. Younus	Date:	5-22-2012
Section:	EOH West (PR)	S.N. Prop:	NA	Checked by:	M. Cothard	Date:	5-22-2012
County:	DuPage	Waterway:	Devon Avenue Trib.				
Station:	982+00						

Drainage Area = 0.25 Square Miles

Existing Overtopping Elevation: ft. @ Sta
Proposed Overtopping Evaluation: 718.42 ft. @ Sta 980+50

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.) Existing	Waterway Opening (sq. ft.) Proposed	Natural H.W.E.	Head (ft.) Existing	Head (ft.) Proposed	Headwater Elev. (ft.) Existing	Headwater Elev. (ft.) Proposed
	10	72		12.0					710.5
Design	50	95		18.0					711.1
Base	100	105		18.0					711.4
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	128		18.0					712.0

10-Year Outlet Velocity from Existing Structure = fps
10-Year Outlet Velocity from Proposed Structure = 6.0 fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: NA - October 1954

SCOPE OF WORK:

EXISTING STRUCTURE		PROPOSED STRUCTURE	
Bridge or Culvert Type:		Culvert Type:	RCBC
Cell Dimensions (W x H):		Cell Dimensions (W x H):	6'X3'
# of spans \ cells:		# of cells:	1
Length:		Length:	525
U/S Flowline:		U/S Flowline:	708.0
D/S Flowline:		D/S Flowline:	704.0
Skew:		Skew:	0
Low EOP:		Low EOP:	718.24

EXISTING DROPBOX		PROPOSED DROPBOX	
Dimensions:		Dimensions:	
Drop:		Drop:	
Weir Elevation:		Weir Elevation:	

NOTE(S): NAVD88 = NGVD29 – 0.28

Flood Frequency Summary for Peak Discharge: Flows

Sect	Return Period (years): 2.0	5.0	10.0	25.0	50.0	75.0
1	43.0	60.4	71.5	85.1	95.1	100.8
2	5.8	9.5	12.6	17.7	22.6	26.0
3	42.8	61.0	72.8	87.7	98.7	105.2
4	41.8	60.2	71.9	86.8	98.0	104.6
5	14.7	27.9	40.5	60.8	79.3	91.6
6	66.1	112.3	148.6	202.1	247.3	275.9
7	63.6	105.5	137.8	185.5	226.0	251.6
8	63.6	105.5	137.8	185.5	226.0	251.6
9	63.5	105.5	137.8	185.5	226.0	251.6
10	63.5	105.5	137.8	185.5	226.0	251.6
11	63.1	105.1	137.6	186.2	228.0	254.6
12	62.9	104.9	138.0	187.4	229.9	257.1
13	62.9	104.9	138.0	187.4	229.9	257.1
14	62.9	104.9	138.0	187.4	229.9	257.0
15	62.9	104.9	138.0	187.4	229.9	257.0
16	62.9	104.9	137.9	187.3	229.8	256.9
17	62.9	104.9	137.9	187.3	229.8	256.9
18	63.5	104.8	136.7	184.0	224.6	250.3
19	63.7	105.1	136.8	183.9	224.3	249.9
20	64.0	105.7	137.6	184.8	225.3	250.9
21	64.0	105.7	137.6	184.8	225.3	250.9
22	64.0	105.7	137.6	184.8	225.3	250.9
23	64.0	105.7	137.6	184.8	225.3	250.9
24	64.0	105.5	137.4	184.4	224.6	250.1
25	64.0	105.5	137.4	184.4	224.6	250.1
26	62.0	102.6	133.3	179.0	218.2	243.0

Sect	Return Period (years): 100.0	200.0	300.0	400.0	500.0
1	104.9	114.8	120.6	124.8	128.1
2	28.6	35.7	40.5	44.1	47.1
3	109.8	120.9	127.6	132.3	136.1
4	109.3	120.8	127.7	132.7	136.6
5	101.2	127.0	144.4	157.8	168.9
6	297.3	353.3	389.5	416.9	439.4
7	270.7	320.3	352.1	376.1	395.6
8	270.7	320.3	352.1	376.1	395.6
9	270.7	320.3	352.1	376.1	395.6
10	270.7	320.3	352.1	376.1	395.6
11	274.5	326.4	359.7	384.8	405.2
12	277.4	330.6	364.9	390.7	411.7
13	277.4	330.6	364.9	390.7	411.7
14	277.4	330.5	364.7	390.5	411.4
15	277.4	330.5	364.7	390.5	411.4
16	277.2	330.4	364.6	390.4	411.3
17	277.2	330.4	364.6	390.4	411.3
18	269.5	319.3	351.1	374.9	394.2
19	269.0	318.6	350.1	373.8	393.0
20	270.0	319.6	351.2	374.9	394.1
21	270.0	319.6	351.2	374.9	394.1
22	270.0	319.6	351.2	375.0	394.2
23	270.0	319.6	351.2	375.0	394.2
24	269.2	318.5	349.9	373.4	392.5
25	269.2	318.5	349.9	373.4	392.5
26	261.5	309.4	339.9	362.8	381.3

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)	
F556	**Structure ustream of E-O west (Dep3, F556)**		**708.00**	**710.53**	**711.13**	**711.38**	**711.95**	**Proposed Elevations**
F552	Structure at northwest corner of IL53 and E-O Expy (Dep1, F552)		707.20	708.76	709.44	709.80	710.80	
F502	Pond 1 (0: F502)		703.00	706.66	708.27	709.09	711.25	
F504	Pond 2 (0: F504)		701.00	705.24	706.58	707.22	708.86	
F554	Structure west of I-290 Ramp G2 (Dep2, F554))		692.00	694.77	697.07	698.46	702.80	
F506	usf of I-290 (Pond 3, F506)		691.14	694.13	695.48	696.14	697.89	
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.07	693.89	694.29	695.37	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.64	692.09	692.27	692.65	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.63	692.07	692.24	692.61	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.01	690.43	690.61	691.06	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.01	690.42	690.60	691.03	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.00	690.41	690.58	691.00	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.78	689.50	689.85	690.81	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.78	689.50	689.85	690.81	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.76	689.46	689.80	690.81	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.76	689.46	689.80	690.81	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.76	689.46	689.80	690.81	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.74	689.42	689.75	690.81	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.74	689.41	689.74	690.81	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.74	689.41	689.74	690.81	
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XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.42	689.10	690.81	
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XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.43	713.92	714.07	714.52	
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 11)	12597	697.64	713.43	713.92	714.07	714.52	
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 21)	12549	697.64	713.43	713.92	714.07	714.52	
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XS_216	Approx. 341 feet ds of Rohlwing Road (62: 41)	12267	700.22	713.43	713.92	714.07	714.52	
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 51)	11910	701.47	713.38	713.87	714.05	714.43	
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XS_208	Approx. 165 feet us of Unnamed Culv 1 (62: 85)	11286	700.43	712.44	712.90	713.08	713.83	
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F508	Pond 4 (0: F508)		692.50	694.88	696.36	697.15	699.43	
F310	Depressional area west of I-290		704.80	706.18	706.62	706.81	707.28	
F312	Depressional area east of I-290		703.04					
F314	Depressional area east of I-290 ramp		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 33)	3609	680.08	693.51	694.02	694.18	694.59	
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XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.51	694.02	694.18	694.51	
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	691.75	692.32	692.67	693.57	

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Devon Avenue Tributary
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XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	691.69	692.32	692.67	693.57
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	691.69	692.32	692.67	693.57
XS_9322	D310 usf of E-O Expy/Park Blvd - South (310 :25)	1624	679.67	691.61	692.32	692.67	693.57
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XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	689.59	690.40	690.84	691.75
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	689.59	690.40	690.84	691.75
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	689.54	690.40	690.84	691.75
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	689.11	690.40	690.84	691.75
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.06	688.42	689.10	690.77
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.06	688.42	689.10	690.77
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.06	688.42	689.10	690.77
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.06	688.29	688.83	690.07
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.06	688.29	688.83	690.07
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.83	687.90	688.45	689.79
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.82	687.90	688.45	689.79
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.82	687.90	688.45	689.79
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.82	687.90	688.45	689.79
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.82	687.90	688.45	689.79

Proposed Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
MULCON
TABID= B6X3 SAVE22 NOOUT
WSLOT= 0.10
HSLOT= 30.0
NPIPES=    1
TYPE:       BOX
SPAN:      6.00
RISE:      3.00
BOTT:       0.0
ROUG:     0.013
MUDL:      0.03
ROUG:     0.030

CULVERT
TABID= CDEP3
TYPE=  13
LABEL= Culvert between Dep 2 and Pond 3
Approach-Section Data
APPTAB=  1001
APPELV= 708.28
APPLEN=  10.0
APPLOS= 0.5
APPEXP= 1.0
Culvert Description
NODEID=YES
SFAC= 1.0
 NODE       NODEID  XNUM   STATION ELEVATION   KA   KD
  100          U/S  B6X3    525.00    708.28  0.0  0.0
               D/S  B6X3      0.00    704.28  0.0  0.0
   -1
CULCLS= BOX
Departure Section Data
DEPTAB=  1002
DEPELV= 704.28
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
KWING= 1.00
KPROJ= 1.00
C46= 0.85
TYPE 5 flow parameters
RBVALUE= 0.03
BVANGLE= 0.0
WWANGLE= 0.0
LPOVERD= 0.0
TYPE5SBF= 0.75
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
   -184.90    995.31     50.0      690.0 PAVED
   -128.41    995.00
    -71.74    994.75
      0.00    994.53
     79.07    994.65
    153.51    994.92
    212.82    995.31                     END
Head Sequence Definition
NFRAC= 10
POWER= 2.0
0.05
0.1
0.2
```

0.25
0.3
0.5
0.8
1.0
2.0
2.5
3.0
3.1
3.2
3.3
3.4
3.5
3.6
3.7
3.8
3.9
4.0
4.5
4.6
4.7
4.8
4.9
5.0
5.5
6.0
6.5
7.0
8.0
9.0
10.0
11.0
12.0
13.0
14.0
15.0
-1

Ramp G5 (Pond1- FEQ Node F502, D6-W)

Illinois Department of Transportation

Culvert Waterway Information Table

Route:	EOWB	S.N. Exist:	NA	Computed by:	M. Younus	Date:	5-22-2012
Section:	Ramp G5 (Pond 1)	S.N. Prop:	NA	Checked by:	M. Cothard	Date:	5-22-2012
County:	DuPage	Waterway:	Devon Avenue Trib.				
Station:	549+00						

Drainage Area = 0.376 Square Miles

Existing Overtopping Elevation: ft. @ Sta
Proposed Overtopping Evaluation: 715.02 ft. @ Sta 557+00

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.) Existing	Waterway Opening (sq. ft.) Proposed	Natural H.W.E.	Head (ft.) Existing	Head (ft.) Proposed	Headwater Elev. (ft.) Existing	Headwater Elev. (ft.) Proposed
	10	73		15.0					706.7
Design	50	99		15.0					708.3
Base	100	110		15.0					709.1
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	136		15.0					711.3

10-Year Outlet Velocity from Existing Structure = fps
10-Year Outlet Velocity from Proposed Structure = 4.9 fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: NA - October 1954

SCOPE OF WORK:

EXISTING STRUCTURE		PROPOSED STRUCTURE	
Bridge or Culvert Type:		Culvert Type:	RCBC
Cell Dimensions (W x H):		Cell Dimensions (W x H):	5'X3'
# of spans \ cells:		# of cells:	1
Length:		Length:	230
U/S Flowline:		U/S Flowline:	703.0
D/S Flowline:		D/S Flowline:	702.0
Skew:		Skew:	0
Low EOP:		Low EOP:	714.77

EXISTING DROPBOX		PROPOSED DROPBOX	
Dimensions:		Dimensions:	
Drop:		Drop:	
Weir Elevation:		Weir Elevation:	

NOTE(S): NAVD88 = NGVD29 – 0.28

Flood Frequency Summary for Peak Discharge: Flows

Sect	Return Period (years): 2.0	5.0	10.0	25.0	50.0	75.0
1	43.0	60.4	71.5	85.1	95.1	100.8
2	5.8	9.5	12.6	17.7	22.6	26.0
3	42.8	61.0	72.8	87.7	98.7	105.2
4	41.8	60.2	71.9	86.8	98.0	104.6
5	14.7	27.9	40.5	60.8	79.3	91.6
6	66.1	112.3	148.6	202.1	247.3	275.9
7	63.6	105.5	137.8	185.5	226.0	251.6
8	63.6	105.5	137.8	185.5	226.0	251.6
9	63.5	105.5	137.8	185.5	226.0	251.6
10	63.5	105.5	137.8	185.5	226.0	251.6
11	63.1	105.1	137.6	186.2	228.0	254.6
12	62.9	104.9	138.0	187.4	229.9	257.1
13	62.9	104.9	138.0	187.4	229.9	257.1
14	62.9	104.9	138.0	187.4	229.9	257.0
15	62.9	104.9	138.0	187.4	229.9	257.0
16	62.9	104.9	137.9	187.3	229.8	256.9
17	62.9	104.9	137.9	187.3	229.8	256.9
18	63.5	104.8	136.7	184.0	224.6	250.3
19	63.7	105.1	136.8	183.9	224.3	249.9
20	64.0	105.7	137.6	184.8	225.3	250.9
21	64.0	105.7	137.6	184.8	225.3	250.9
22	64.0	105.7	137.6	184.8	225.3	250.9
23	64.0	105.7	137.6	184.8	225.3	250.9
24	64.0	105.5	137.4	184.4	224.6	250.1
25	64.0	105.5	137.4	184.4	224.6	250.1
26	62.0	102.6	133.3	179.0	218.2	243.0

Sect	Return Period (years): 100.0	200.0	300.0	400.0	500.0
1	104.9	114.8	120.6	124.8	128.1
2	28.6	35.7	40.5	44.1	47.1
3	109.8	120.9	127.6	132.3	136.1
4	109.3	120.8	127.7	132.7	136.6
5	101.2	127.0	144.4	157.8	168.9
6	297.3	353.3	389.5	416.9	439.4
7	270.7	320.3	352.1	376.1	395.6
8	270.7	320.3	352.1	376.1	395.6
9	270.7	320.3	352.1	376.1	395.6
10	270.7	320.3	352.1	376.1	395.6
11	274.5	326.4	359.7	384.8	405.2
12	277.4	330.6	364.9	390.7	411.7
13	277.4	330.6	364.9	390.7	411.7
14	277.4	330.5	364.7	390.5	411.4
15	277.4	330.5	364.7	390.5	411.4
16	277.2	330.4	364.6	390.4	411.3
17	277.2	330.4	364.6	390.4	411.3
18	269.5	319.3	351.1	374.9	394.2
19	269.0	318.6	350.1	373.8	393.0
20	270.0	319.6	351.2	374.9	394.1
21	270.0	319.6	351.2	374.9	394.1
22	270.0	319.6	351.2	375.0	394.2
23	270.0	319.6	351.2	375.0	394.2
24	269.2	318.5	349.9	373.4	392.5
25	269.2	318.5	349.9	373.4	392.5
26	261.5	309.4	339.9	362.8	381.3

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)	
F556	Structure ustream of E-O west (Dep3, F556)		708.00	710.53	711.13	711.38	711.95	
F552	Structure at northwest corner of IL53 and E-O Expy (Dep1, F552)		707.20	708.76	709.44	709.80	710.80	
F502	**Pond 1 (0: F502)**		**703.00**	**706.66**	**708.27**	**709.09**	**711.25**	**Proposed Elevations**
F504	Pond 2 (0: F504)		701.00	705.24	706.58	707.22	708.86	
F554	Structure west of I-290 Ramp G2 (Dep2, F554))		692.00	694.77	697.07	698.46	702.80	
F506	usf of I-290 (Pond 3, F506)		691.14	694.13	695.48	696.14	697.89	
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.07	693.89	694.29	695.37	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.64	692.09	692.27	692.65	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.63	692.07	692.24	692.61	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.01	690.43	690.61	691.06	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.01	690.42	690.60	691.03	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.00	690.41	690.58	691.00	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.78	689.50	689.85	690.81	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.78	689.50	689.85	690.81	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.76	689.46	689.80	690.81	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.76	689.46	689.80	690.81	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.76	689.46	689.80	690.81	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.74	689.42	689.75	690.81	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.74	689.41	689.74	690.81	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.74	689.41	689.74	690.81	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.10	688.42	689.10	690.81	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.08	688.42	689.10	690.81	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.06	688.42	689.10	690.81	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.42	689.10	690.81	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.42	689.10	690.81	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.42	689.10	690.81	
F24	Pond us of Rohlwing Road (0: F24)		710.62	713.84	714.89	715.33	716.41	
XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.43	713.92	714.07	714.52	
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 11)	12597	697.64	713.43	713.92	714.07	714.52	
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 21)	12549	697.64	713.43	713.92	714.07	714.52	
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 31)	12445	700.94	713.43	713.92	714.07	714.52	
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 41)	12267	700.22	713.43	713.92	714.07	714.52	
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 51)	11910	701.47	713.38	713.87	714.05	714.43	
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 61)	11725	700.61	713.13	713.52	713.66	713.96	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 71)	11505	700.47	712.94	713.27	713.39	713.83	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (62: 85)	11286	700.43	712.44	712.90	713.08	713.83	
XS_206	usf of Unnamed Culv 1 (62: 97)	11175	698.75	711.69	712.67	713.03	713.83	
F508	Pond 4 (0: F508)		692.50	694.88	696.36	697.15	699.43	
F310	Depressional area west of I-290		704.80	706.18	706.62	706.81	707.28	
F312	Depressional area east of I-290		703.04					
F314	Depressional area east of I-290 ramp		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 33)	3609	680.08	693.51	694.02	694.18	694.59	
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 57)	3312	679.94	693.51	694.02	694.18	694.51	
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 97)	3090	680.72	693.51	694.02	694.18	694.51	
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.51	694.02	694.18	694.51	
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	691.75	692.32	692.67	693.57	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	691.75	692.32	692.67	693.57
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	691.69	692.32	692.67	693.57
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	691.69	692.32	692.67	693.57
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	691.69	692.32	692.67	693.57
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	691.69	692.32	692.67	693.57
XS_9322	D310 usf of E-O Expy/Park Blvd - South (310 :25)	1624	679.67	691.61	692.32	692.67	693.57
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	689.79	690.40	690.84	691.75
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	689.59	690.40	690.84	691.75
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	689.59	690.40	690.84	691.75
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	689.54	690.40	690.84	691.75
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	689.11	690.40	690.84	691.75
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.06	688.42	689.10	690.77
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.06	688.42	689.10	690.77
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.06	688.42	689.10	690.77
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.06	688.29	688.83	690.07
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.06	688.29	688.83	690.07
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.83	687.90	688.45	689.79
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.82	687.90	688.45	689.79
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.82	687.90	688.45	689.79
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.82	687.90	688.45	689.79
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.82	687.90	688.45	689.79

Proposed Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
MULCON
TABID= B4X3 SAVE22 NOOUT
WSLOT= 0.10
HSLOT= 30.0
NPIPES=    1
TYPE:       BOX
SPAN:      5.00
RISE:      3.00
BOTT:       0.0
ROUG:     0.013
MUDL:      0.03
ROUG:     0.030

CULVERT
TABID= CPND1
TYPE=  13
LABEL= Culvert between Pond 1 and Pond 2
Approach-Section Data
APPTAB=  1001
APPELV= 703.28
APPLEN=  10.0
APPLOS= 0.5
APPEXP= 1.0
Culvert Description
NODEID=YES
SFAC= 1.0
 NODE       NODEID  XNUM   STATION ELEVATION   KA   KD
  100          U/S  B4X3    230.00    703.28  0.0  0.0
               D/S  B4X3      0.00    702.28  0.0  0.0
   -1
CULCLS= BOX
Departure Section Data
DEPTAB=  1002
DEPELV= 702.28
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
KWING= 1.00
KPROJ= 1.00
C46= 0.85
TYPE 5 flow parameters
RBVALUE= 0.03
BVANGLE= 0.0
WWANGLE= 0.0
LPOVERD= 0.0
TYPE5SBF= 0.75
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
   -184.90    995.31     50.0      690.0 PAVED
   -128.41    995.00
    -71.74    994.75
      0.00    994.53
     79.07    994.65
    153.51    994.92
    212.82    995.31                     END
Head Sequence Definition
NFRAC= 10
POWER= 2.0
0.05
0.1
0.2
```

0.25
0.3
0.5
0.8
1.0
2.0
2.5
3.0
3.1
3.2
3.3
3.4
3.5
3.6
3.7
3.8
3.9
4.0
4.5
4.6
4.7
4.8
4.9
5.0
5.5
6.0
6.5
7.0
8.0
9.0
10.0
12.0
13.0
15.0
20.0
30.0
-1

Ramp G1 (Pond2-FEQ Node F504, D6-NW)

Illinois Department of Transportation

Culvert Waterway Information Table

Route:	EOWB	S.N. Exist:	NA	Computed by:	M. Younus	Date:	5-22-2012
Section:	Ramp G1 (Pond2)	S.N. Prop:	NA	Checked by:	M. Cothard	Date:	5-22-2012
County:	DuPage	Waterway:	Devon Avenue Trib.				
Station:	121+50						

Drainage Area = 0.385 Square Miles

Existing Overtopping Elevation: ft. @ Sta
Proposed Overtopping Evaluation: 715.40 ft. @ Sta 214+50 of Ramp G2

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.) Existing	Waterway Opening (sq. ft.) Proposed	Natural H.W.E.	Head (ft.) Existing	Head (ft.) Proposed	Headwater Elev. (ft.) Existing	Headwater Elev. (ft.) Proposed
	10	72		9.0					705.2
Design	50	98		9.0					706.6
Base	100	109		9.0					707.2
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	137		9.0					708.9

10-Year Outlet Velocity from Existing Structure = fps
10-Year Outlet Velocity from Proposed Structure = 8.0 fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: NA - October 1954

SCOPE OF WORK:

EXISTING STRUCTURE		PROPOSED STRUCTURE	
Bridge or Culvert Type:		Culvert Type:	RCBC
Cell Dimensions (W x H):		Cell Dimensions (W x H):	3'X3'
# of spans \ cells:		# of cells:	1
Length:		Length:	510
U/S Flowline:		U/S Flowline:	701.0
D/S Flowline:		D/S Flowline:	691.2
Skew:		Skew:	0
Low EOP:		Low EOP:	714.92

EXISTING DROPBOX		PROPOSED DROPBOX	
Dimensions:		Dimensions:	
Drop:		Drop:	
Weir Elevation:		Weir Elevation:	

NOTE(S): NAVD88 = NGVD29 – 0.28

Flood Frequency Summary for Peak Discharge: Flows

Sect	Return Period (years): 2.0	5.0	10.0	25.0	50.0	75.0
1	43.0	60.4	71.5	85.1	95.1	100.8
2	5.8	9.5	12.6	17.7	22.6	26.0
3	42.8	61.0	72.8	87.7	98.7	105.2
4	41.8	60.2	71.9	86.8	98.0	104.6
5	14.7	27.9	40.5	60.8	79.3	91.6
6	66.1	112.3	148.6	202.1	247.3	275.9
7	63.6	105.5	137.8	185.5	226.0	251.6
8	63.6	105.5	137.8	185.5	226.0	251.6
9	63.5	105.5	137.8	185.5	226.0	251.6
10	63.5	105.5	137.8	185.5	226.0	251.6
11	63.1	105.1	137.6	186.2	228.0	254.6
12	62.9	104.9	138.0	187.4	229.9	257.1
13	62.9	104.9	138.0	187.4	229.9	257.1
14	62.9	104.9	138.0	187.4	229.9	257.0
15	62.9	104.9	138.0	187.4	229.9	257.0
16	62.9	104.9	137.9	187.3	229.8	256.9
17	62.9	104.9	137.9	187.3	229.8	256.9
18	63.5	104.8	136.7	184.0	224.6	250.3
19	63.7	105.1	136.8	183.9	224.3	249.9
20	64.0	105.7	137.6	184.8	225.3	250.9
21	64.0	105.7	137.6	184.8	225.3	250.9
22	64.0	105.7	137.6	184.8	225.3	250.9
23	64.0	105.7	137.6	184.8	225.3	250.9
24	64.0	105.5	137.4	184.4	224.6	250.1
25	64.0	105.5	137.4	184.4	224.6	250.1
26	62.0	102.6	133.3	179.0	218.2	243.0

Sect	Return Period (years): 100.0	200.0	300.0	400.0	500.0
1	104.9	114.8	120.6	124.8	128.1
2	28.6	35.7	40.5	44.1	47.1
3	109.8	120.9	127.6	132.3	136.1
4	109.3	120.8	127.7	132.7	136.6
5	101.2	127.0	144.4	157.8	168.9
6	297.3	353.3	389.5	416.9	439.4
7	270.7	320.3	352.1	376.1	395.6
8	270.7	320.3	352.1	376.1	395.6
9	270.7	320.3	352.1	376.1	395.6
10	270.7	320.3	352.1	376.1	395.6
11	274.5	326.4	359.7	384.8	405.2
12	277.4	330.6	364.9	390.7	411.7
13	277.4	330.6	364.9	390.7	411.7
14	277.4	330.5	364.7	390.5	411.4
15	277.4	330.5	364.7	390.5	411.4
16	277.2	330.4	364.6	390.4	411.3
17	277.2	330.4	364.6	390.4	411.3
18	269.5	319.3	351.1	374.9	394.2
19	269.0	318.6	350.1	373.8	393.0
20	270.0	319.6	351.2	374.9	394.1
21	270.0	319.6	351.2	374.9	394.1
22	270.0	319.6	351.2	375.0	394.2
23	270.0	319.6	351.2	375.0	394.2
24	269.2	318.5	349.9	373.4	392.5
25	269.2	318.5	349.9	373.4	392.5
26	261.5	309.4	339.9	362.8	381.3

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)	
F556	Structure ustream of E-O west (Dep3, F556)		708.00	710.53	711.13	711.38	711.95	
F552	Structure at northwest corner of IL53 and E-O Expy (Dep1, F552)		707.20	708.76	709.44	709.80	710.80	
F502	Pond 1 (0: F502)		703.00	706.66	708.27	709.09	711.25	
F504	**Pond 2 (0: F504)**		**701.00**	**705.24**	**706.58**	**707.22**	**708.86**	**Proposed Elevations**
F554	Structure west of I-290 Ramp G2 (Dep2, F554))		692.00	694.77	697.07	698.46	702.80	
F506	usf of I-290 (Pond 3, F506)		691.14	694.13	695.48	696.14	697.89	
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.07	693.89	694.29	695.37	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.64	692.09	692.27	692.65	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.63	692.07	692.24	692.61	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.01	690.43	690.61	691.06	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.01	690.42	690.60	691.03	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.00	690.41	690.58	691.00	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.78	689.50	689.85	690.81	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.78	689.50	689.85	690.81	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.76	689.46	689.80	690.81	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.76	689.46	689.80	690.81	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.76	689.46	689.80	690.81	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.74	689.42	689.75	690.81	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.74	689.41	689.74	690.81	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.74	689.41	689.74	690.81	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.10	688.42	689.10	690.81	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.08	688.42	689.10	690.81	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.06	688.42	689.10	690.81	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.42	689.10	690.81	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.42	689.10	690.81	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.42	689.10	690.81	
F24	Pond us of Rohlwing Road (0: F24)		710.62	713.84	714.89	715.33	716.41	
XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.43	713.92	714.07	714.52	
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 11)	12597	697.64	713.43	713.92	714.07	714.52	
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 21)	12549	697.64	713.43	713.92	714.07	714.52	
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 31)	12445	700.94	713.43	713.92	714.07	714.52	
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 41)	12267	700.22	713.43	713.92	714.07	714.52	
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 51)	11910	701.47	713.38	713.87	714.05	714.43	
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 61)	11725	700.61	713.13	713.52	713.66	713.96	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 71)	11505	700.47	712.94	713.27	713.39	713.83	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (62: 85)	11286	700.43	712.44	712.90	713.08	713.83	
XS_206	usf of Unnamed Culv 1 (62: 97)	11175	698.75	711.69	712.67	713.03	713.83	
F508	Pond 4 (0: F508)		692.50	694.88	696.36	697.15	699.43	
F310	Depressional area west of I-290		704.80	706.18	706.62	706.81	707.28	
F312	Depressional area east of I-290		703.04					
F314	Depressional area east of I-290 ramp		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 33)	3609	680.08	693.51	694.02	694.18	694.59	
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 57)	3312	679.94	693.51	694.02	694.18	694.51	
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 97)	3090	680.72	693.51	694.02	694.18	694.51	
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.51	694.02	694.18	694.51	
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	691.75	692.32	692.67	693.57	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	691.75	692.32	692.67	693.57
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	691.69	692.32	692.67	693.57
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	691.69	692.32	692.67	693.57
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	691.69	692.32	692.67	693.57
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	691.69	692.32	692.67	693.57
XS_9322	D310 usf of E-O Expy/Park Blvd - South (310 :25)	1624	679.67	691.61	692.32	692.67	693.57
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	689.79	690.40	690.84	691.75
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	689.59	690.40	690.84	691.75
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	689.59	690.40	690.84	691.75
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	689.54	690.40	690.84	691.75
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	689.11	690.40	690.84	691.75
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.06	688.42	689.10	690.77
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.06	688.42	689.10	690.77
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.06	688.42	689.10	690.77
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.06	688.29	688.83	690.07
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.06	688.29	688.83	690.07
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.83	687.90	688.45	689.79
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.82	687.90	688.45	689.79
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.82	687.90	688.45	689.79
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.82	687.90	688.45	689.79
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.82	687.90	688.45	689.79

Proposed Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
MULCON
TABID= B4X3 SAVE22 NOOUT
WSLOT= 0.10
HSLOT= 30.0
NPIPES=    1
TYPE:       BOX
SPAN:      3.00
RISE:      3.00
BOTT:       0.0
ROUG:     0.013
MUDL:      0.03
ROUG:     0.030

CULVERT
TABID= CPND2
TYPE=  13
LABEL= Culvert between Pond 2 and Pond 3
Approach-Section Data
APPTAB=  1001
APPELV= 701.28
APPLEN=  10.0
APPLOS= 0.5
APPEXP= 1.0
Culvert Description
NODEID=YES
SFAC= 1.0
 NODE       NODEID  XNUM   STATION ELEVATION   KA   KD
  100          U/S  B4X3    510.00    701.28  0.0  0.0
               D/S  B4X3      0.00    691.48  0.0  0.0
   -1
CULCLS= BOX
Departure Section Data
DEPTAB=  1002
DEPELV= 691.48
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
KWING= 1.00
KPROJ= 1.00
C46= 0.85
TYPE 5 flow parameters
RBVALUE= 0.03
BVANGLE= 0.0
WWANGLE= 0.0
LPOVERD= 0.0
TYPE5SBF= 0.75
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
   -184.90    995.31     50.0      690.0 PAVED
   -128.41    995.00
    -71.74    994.75
      0.00    994.53
     79.07    994.65
    153.51    994.92
    212.82    995.31                     END
Head Sequence Definition
NFRAC= 10
POWER= 2.0
0.05
0.1
0.2
```

0.25
0.3
0.5
0.8
1.0
2.0
2.5
3.0
3.1
3.2
3.3
3.4
3.5
3.6
3.7
3.8
3.9
4.0
4.5
4.6
4.7
4.8
4.9
5.0
5.5
6.0
6.5
7.0
8.0
9.0
10.0
11.0
12.0
13.0
14.0
15.0
-1

Ramp G1, G2 (Dep2-FEQ Node F554)

Illinois Department of Transportation

Culvert Waterway Information Table

Route:	EOWB	S.N. Exist:	NA	Computed by:	M. Younus	Date:	5-22-2012
Section:	Ramp G1,G2 (Dep2)	S.N. Prop:	NA	Checked by:	M. Cothard	Date:	5-22-2012
County:	DuPage	Waterway:	Devon Avenue Trib.				
Station:	Ramp G2 219+00						

Drainage Area = 0.12 Square Miles

Existing Overtopping Elevation: ft. @ Sta
Proposed Overtopping Evaluation: 699.45 ft. @ Sta 110+00 on Ramp G1

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.) Existing	Waterway Opening (sq. ft.) Proposed	Natural H.W.E.	Head (ft.) Existing	Head (ft.) Proposed	Headwater Elev. (ft.) Existing	Headwater Elev. (ft.) Proposed
	10	41		11.2					694.8
Design	50	79		12.0					697.1
Base	100	101		12.0					698.5
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	169		12.0					702.8

10-Year Outlet Velocity from Existing Structure = fps
10-Year Outlet Velocity from Proposed Structure = 3.7 fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: NA - October 1954

SCOPE OF WORK:

EXISTING STRUCTURE		PROPOSED STRUCTURE	
Bridge or Culvert Type:		Culvert Type:	RCBC
Cell Dimensions (W x H):		Cell Dimensions (W x H):	4'X3'
# of spans \ cells:		# of cells:	1
Length:		Length:	180
U/S Flowline:		U/S Flowline:	692.0
D/S Flowline:		D/S Flowline:	691.2
Skew:		Skew:	0
Low EOP:		Low EOP:	698.95

EXISTING DROPBOX		PROPOSED DROPBOX	
Dimensions:		Dimensions:	
Drop:		Drop:	
Weir Elevation:		Weir Elevation:	

NOTE(S): NAVD88 = NGVD29 – 0.28

Flood Frequency Summary for Peak Discharge: Flows

Sect	Return Period (years): 2.0	5.0	10.0	25.0	50.0	75.0
1	43.0	60.4	71.5	85.1	95.1	100.8
2	5.8	9.5	12.6	17.7	22.6	26.0
3	42.8	61.0	72.8	87.7	98.7	105.2
4	41.8	60.2	71.9	86.8	98.0	104.6
5	14.7	27.9	40.5	60.8	79.3	91.6
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23	64.0	105.7	137.6	184.8	225.3	250.9
24	64.0	105.5	137.4	184.4	224.6	250.1
25	64.0	105.5	137.4	184.4	224.6	250.1
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Sect	Return Period (years): 100.0	200.0	300.0	400.0	500.0
1	104.9	114.8	120.6	124.8	128.1
2	28.6	35.7	40.5	44.1	47.1
3	109.8	120.9	127.6	132.3	136.1
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21	270.0	319.6	351.2	374.9	394.1
22	270.0	319.6	351.2	375.0	394.2
23	270.0	319.6	351.2	375.0	394.2
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PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)	
F556	Structure ustream of E-O west (Dep3, F556)		708.00	710.53	711.13	711.38	711.95	
F552	Structure at northwest corner of IL53 and E-O Expy (Dep1, F552)		707.20	708.76	709.44	709.80	710.80	
F502	Pond 1 (0: F502)		703.00	706.66	708.27	709.09	711.25	
F504	Pond 2 (0: F504)		701.00	705.24	706.58	707.22	708.86	
F554	**Structure west of I-290 Ramp G2 (Dep2, F554))**		**692.00**	**694.77**	**697.07**	**698.46**	**702.80**	**Proposed Elevations**
F506	usf of I-290 (Pond 3, F506)		691.14	694.13	695.48	696.14	697.89	
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.07	693.89	694.29	695.37	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.64	692.09	692.27	692.65	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.63	692.07	692.24	692.61	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.01	690.43	690.61	691.06	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.01	690.42	690.60	691.03	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.00	690.41	690.58	691.00	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.78	689.50	689.85	690.81	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.78	689.50	689.85	690.81	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.76	689.46	689.80	690.81	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.76	689.46	689.80	690.81	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.76	689.46	689.80	690.81	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.74	689.42	689.75	690.81	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.74	689.41	689.74	690.81	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.74	689.41	689.74	690.81	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.10	688.42	689.10	690.81	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.08	688.42	689.10	690.81	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.06	688.42	689.10	690.81	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.42	689.10	690.81	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.42	689.10	690.81	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.42	689.10	690.81	
F24	Pond us of Rohlwing Road (0: F24)		710.62	713.84	714.89	715.33	716.41	
XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.43	713.92	714.07	714.52	
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 11)	12597	697.64	713.43	713.92	714.07	714.52	
XS_220	Approx. 59 feet ds of Rohlwing Road (62: 21)	12549	697.64	713.43	713.92	714.07	714.52	
XS_218	Approx. 163 feet ds of Rohlwing Road (62: 31)	12445	700.94	713.43	713.92	714.07	714.52	
XS_216	Approx. 341 feet ds of Rohlwing Road (62: 41)	12267	700.22	713.43	713.92	714.07	714.52	
XS_214	Approx. 698 feet ds of Rohlwing Road (62: 51)	11910	701.47	713.38	713.87	714.05	714.43	
XS_212	Approx. 883 feet ds of Rohlwing Road (62: 61)	11725	700.61	713.13	713.52	713.66	713.96	
XS_210	Approx. 1,103 feet ds of Rohlwing Road (62: 71)	11505	700.47	712.94	713.27	713.39	713.83	
XS_208	Approx. 165 feet us of Unnamed Culv 1 (62: 85)	11286	700.43	712.44	712.90	713.08	713.83	
XS_206	usf of Unnamed Culv 1 (62: 97)	11175	698.75	711.69	712.67	713.03	713.83	
F508	Pond 4 (0: F508)		692.50	694.88	696.36	697.15	699.43	
F310	Depressional area west of I-290		704.80	706.18	706.62	706.81	707.28	
F312	Depressional area east of I-290		703.04					
F314	Depressional area east of I-290 ramp		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 33)	3609	680.08	693.51	694.02	694.18	694.59	
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 57)	3312	679.94	693.51	694.02	694.18	694.51	
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 97)	3090	680.72	693.51	694.02	694.18	694.51	
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.51	694.02	694.18	694.51	
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	691.75	692.32	692.67	693.57	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	691.75	692.32	692.67	693.57
XS_330	Approx 931 feet us of Park Blvd - South (310: 7)	2555	680.40	691.69	692.32	692.67	693.57
XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	691.69	692.32	692.67	693.57
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	691.69	692.32	692.67	693.57
XS_324	Approx 283 feet us of Park Blvd - South (310: 20)	1907	680.66	691.69	692.32	692.67	693.57
XS_9322	D310 usf of E-O Expy/Park Blvd - South (310 :25)	1624	679.67	691.61	692.32	692.67	693.57
XS_9304 (J1)	U302 dsf of Park Blvd. - North (302: 1)	834	677.42	689.79	690.40	690.84	691.75
XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	689.59	690.40	690.84	691.75
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	689.59	690.40	690.84	691.75
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	689.54	690.40	690.84	691.75
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	689.11	690.40	690.84	691.75
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.06	688.42	689.10	690.77
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.06	688.42	689.10	690.77
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.06	688.42	689.10	690.77
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.06	688.29	688.83	690.07
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.06	688.29	688.83	690.07
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.83	687.90	688.45	689.79
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.82	687.90	688.45	689.79
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.82	687.90	688.45	689.79
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.82	687.90	688.45	689.79
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.82	687.90	688.45	689.79

Proposed Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
MULCON
TABID= B104 SAVE22 NOOUT
WSLOT= 0.10
HSLOT= 30.0
NPIPES=    1
TYPE:       BOX
SPAN:      4.00
RISE:      3.00
BOTT:       0.0
ROUG:     0.013
MUDL:      0.03
ROUG:     0.030

CULVERT
TABID= CDEP2
TYPE=  13
LABEL= Culvert between Dep 2 and Pond 3
Approach-Section Data
APPTAB=  1001
APPELV= 692.28
APPLEN=  10.0
APPLOS= 0.5
APPEXP= 1.0
Culvert Description
NODEID=YES
SFAC= 1.0
 NODE       NODEID  XNUM   STATION ELEVATION   KA   KD
  100          U/S  B104    180.00    692.28  0.0  0.0
               D/S  B104      0.00    691.48  0.0  0.0
   -1
CULCLS= BOX
Departure Section Data
DEPTAB=  1002
DEPELV= 691.48
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
KWING= 1.00
KPROJ= 1.00
C46= 0.85
TYPE 5 flow parameters
RBVALUE= 0.03
BVANGLE= 0.0
WWANGLE= 0.0
LPOVERD= 0.0
TYPE5SBF= 0.75
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
   -184.90    995.31     50.0      690.0 PAVED
   -128.41    995.00
    -71.74    994.75
      0.00    994.53
     79.07    994.65
    153.51    994.92
    212.82    995.31                     END
Head Sequence Definition
NFRAC= 10
POWER= 2.0
0.05
0.1
0.2
```

0.25
0.3
0.5
0.8
1.0
2.0
2.5
3.0
3.1
3.2
3.3
3.4
3.5
3.6
3.7
3.8
3.9
4.0
4.5
4.6
4.7
4.8
4.9
5.0
5.5
6.0
6.5
7.0
8.0
9.0
10.0
12.0
13.0
15.0
20.0
30.0
-1

Ramp G7 (Pond4-FEQ Node F508, D6-E)

Illinois Department of Transportation

Culvert Waterway Information Table

Route:	EOWB	S.N. Exist:	NA	Computed by:	M. Younus	Date:	5-22-2012
Section:	Ramp G7 (Pond 4)	S.N. Prop:	NA	Checked by:	M. Cothard	Date:	5-22-2012
County:	DuPage	Waterway:	Devon Avenue Trib.				
Station:	737+00						

Drainage Area = 0.27 Square Miles

Existing Overtopping Elevation: ft. @ Sta
Proposed Overtopping Evaluation: 700.35 ft. @ Sta 1382+00 on I-290 xs plot

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.) Existing	Waterway Opening (sq. ft.) Proposed	Natural H.W.E.	Head (ft.) Existing	Head (ft.) Proposed	Headwater Elev. (ft.) Existing	Headwater Elev. (ft.) Proposed
	10	61		14.4					694.9
Design	50	101		18.0					696.4
Base	100	121		18.0					697.2
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	179		18.0					699.4

10-Year Outlet Velocity from Existing Structure = fps
10-Year Outlet Velocity from Proposed Structure = 4.2 fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: NA - October 1954

SCOPE OF WORK:

EXISTING STRUCTURE		PROPOSED STRUCTURE	
Bridge or Culvert Type:		Culvert Type:	RCBC
Cell Dimensions (W x H):		Cell Dimensions (W x H):	6'X3'
# of spans \ cells:		# of cells:	1
Length:		Length:	120
U/S Flowline:		U/S Flowline:	692.5
D/S Flowline:		D/S Flowline:	691.2
Skew:		Skew:	0
Low EOP:		Low EOP:	700.05

EXISTING DROPBOX		PROPOSED DROPBOX	
Dimensions:		Dimensions:	
Drop:		Drop:	
Weir Elevation:		Weir Elevation:	

NOTE(S): NAVD88 = NGVD29 – 0.28

Flood Frequency Summary for Peak Discharge: Flows

Sect	Return Period (years): 2.0	5.0	10.0	25.0	50.0	75.0
1	63.7	104.1	132.2	169.7	199.1	217.0
2	32.5	53.9	66.6	83.0	96.2	104.4
3	32.2	54.4	67.0	83.3	96.5	104.7
4	32.1	54.6	67.5	84.5	98.3	106.9
5	29.4	49.5	62.7	82.2	97.9	107.4
6	18.4	40.1	55.8	78.8	98.6	111.2
7	18.6	45.0	63.7	90.3	112.9	127.3
8	20.4	47.6	67.1	94.8	118.3	133.4
9	23.2	53.5	75.1	105.1	130.0	145.8
10	26.3	59.6	83.5	116.1	142.7	159.4
11	28.0	62.9	88.1	122.1	149.9	167.3
12	20.7	44.9	61.1	82.8	100.8	112.3

Sect	Return Period (years): 100.0	200.0	300.0	400.0	500.0
1	229.9	262.5	282.6	297.3	309.1
2	110.5	126.0	135.8	143.1	148.9
3	110.7	126.3	136.1	143.4	149.3
4	113.2	129.4	139.5	147.0	153.0
5	114.4	132.1	143.4	151.8	158.7
6	120.7	145.8	161.9	174.1	183.9
7	138.1	166.4	184.6	198.2	209.3
8	144.7	174.6	193.8	208.3	220.0
9	157.7	188.7	208.5	223.4	235.5
10	171.8	204.2	224.8	240.2	252.7
11	180.2	213.9	235.4	251.6	264.6
12	121.0	143.8	158.7	170.0	179.2

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)	
F556	Structure ustream of E-O west (Dep3, F556)		708.00	710.53	711.13	711.38	711.95	
F552	Structure at northwest corner of IL53 and E-O Expy (Dep1, F552)		707.20	708.76	709.44	709.80	710.80	
F502	Pond 1 (0: F502)		703.00	706.66	708.27	709.09	711.25	
F504	Pond 2 (0: F504)		701.00	705.24	706.58	707.22	708.86	
F554	Structure west of I-290 Ramp G2 (Dep2, F554))		692.00	694.77	697.07	698.46	702.80	
F506	usf of I-290 (Pond 3, F506)		691.14	694.13	695.48	696.14	697.89	
F20	F20 Pond downstream of I-290 (0: F20)		691.52	693.07	693.89	694.29	695.37	
XS_9178 (B7)	U44 dsf of Park Blvd. (44: 1)	8656	684.72	691.64	692.09	692.27	692.65	
XS_178a	D44 10 feet ds pf Park Blvd. (expcon 7) (44: 7)	8646	684.72	691.63	692.07	692.24	692.61	
XS_176	U42 679 feet us of Stone Weir 2(42: 1)	8392	687.75	690.01	690.43	690.61	691.06	
XS_174	326 feet us of Stone Weir 2 (42: 4)	8039	687.69	690.01	690.42	690.60	691.03	
XS_172	D42 us of Stone Weir 2 (42: 7)	7713	687.62	690.00	690.41	690.58	691.00	
XS_170	U40 ds of Stone Weir 2 (40: 1)	7662	685.56	688.78	689.50	689.85	690.81	
XS_9170 (B6)	D40 usf Foot Bridge 2 (40: 4)	7653	685.56	688.78	689.50	689.85	690.81	
XS_9168 (B5)	U38 dsf Foot Bridge 2 (38: 1)	7613	683.39	688.76	689.46	689.80	690.81	
XS_168a	D38 40 feet ds of Foot Bridage 2 (expcon 6) (38: 4)	7573	683.32	688.76	689.46	689.80	690.81	
XS_166	U36 544 feet us of Stone Weir 1 (expcon 6) (36: 1)	7252	683.22	688.76	689.46	689.80	690.81	
XS_164	254 feet us of Stone Weir 1 (36: 4)	6962	682.72	688.74	689.42	689.75	690.81	
XS_162	128 feet us of Stone Weir 1 (36: 7)	6836	682.22	688.74	689.41	689.74	690.81	
XS_160	D36 us of Stone Weir 1 (36: 10)	6708	681.72	688.74	689.41	689.74	690.81	
XS_158	U34 ds of Stone Weir 1 (34: 1)	6667	681.28	687.10	688.42	689.10	690.81	
XS_9158 (B4)	D34 usf of Foot Bridge 1 (34: 4)	6663	681.28	687.08	688.42	689.10	690.81	
XS_9156 (B3)	U32 dsf of Foot Bridge 1 (32: 1)	6578	683.13	687.06	688.42	689.10	690.81	
XS_156a	D32 75 feet ds of Foot Bridge 1 (expcon 5) (32: 4)	6503	683.07	687.06	688.42	689.10	690.81	
XS_154	U30 387 feet ds of Foot Bridge 1 (expcon 5) (30: 1)	6191	683.02	687.06	688.42	689.10	690.81	
XS_154a	D30 Confluence of South Branch (30: 4)	5973	683.02	687.06	688.42	689.10	690.81	
F24	Pond us of Rohlwing Road (0: F24)		710.62	713.84	714.89	715.33	716.41	
XS_224	dsf of Rohlwing Road (62: 1)	12608	697.64	713.43	713.92	714.07	714.52	
XS_222	Approx. 11 feet ds of Rohlwing Road (62: 11)	12597	697.64	713.43	713.92	714.07	714.52	
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XS_212	Approx. 883 feet ds of Rohlwing Road (62: 61)	11725	700.61	713.13	713.52	713.66	713.96	
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XS_208	Approx. 165 feet us of Unnamed Culv 1 (62: 85)	11286	700.43	712.44	712.90	713.08	713.83	
XS_206	usf of Unnamed Culv 1 (62: 97)	11175	698.75	711.69	712.67	713.03	713.83	
F508	**Pond 4 (0: F508)**		**692.50**	**694.88**	**696.36**	**697.15**	**699.43**	**Proposed Elevations**
F310	Depressional area west of I-290		704.80	706.18	706.62	706.81	707.28	
F312	Depressional area east of I-290		703.04					
F314	Depressional area east of I-290 ramp		797.66					
XS_338	Approx. 275 feet ds of Happy Acres Basin (314: 33)	3609	680.08	693.51	694.02	694.18	694.59	
XS_336	Approx. 572 feet ds of Happy Acres Basin (314: 57)	3312	679.94	693.51	694.02	694.18	694.51	
XS_334	Approx. 794 feet ds of Happy Acres Basin (314: 97)	3090	680.72	693.51	694.02	694.18	694.51	
XS2001	Approx. 804 feet ds of Happy Acres Basin (312: 1)	3080	663.68	693.51	694.02	694.18	694.51	
XS2001	Approx. 1166 feet ds of Happy Acres Basin (312: 7)	2718	663.18	691.75	692.32	692.67	693.57	

PVSTATS Statistical Analysis Results
Devon Avenue Tributary
Proposed (FEQ Models Used: DALPr9p.FEQ, DABPr9p.FEQ)

Cross Section ID	Description	Station (ft)	Invert Elevation (ft-NAVD)	PVS3O 10-Year (ft-NAVD)	PVS3O 50-Year (ft-NAVD)	PVS3O 100-Year (ft-NAVD)	PVS3O 500-Year (ft-NAVD)
XS_332	Approx. 1088 feet us of Park Blvd - South (310: 1)	2712	681.18	691.75	692.32	692.67	693.57
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XS_328	Approx 689 feet us of Park Blvd - South (310: 11)	2313	679.82	691.69	692.32	692.67	693.57
XS_326	Approx 468 feet us of Park Blvd - South (310: 15)	2092	679.44	691.69	692.32	692.67	693.57
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XS_9322	D310 usf of E-O Expy/Park Blvd - South (310 :25)	1624	679.67	691.61	692.32	692.67	693.57
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XS3018	D302 usf of Driving Range Culvert (302: 6)	731	677.35	689.59	690.40	690.84	691.75
XS3018	U300 dsf of Driving Range Culvert (300: 1)	750	677.35	689.59	690.40	690.84	691.75
XS3019	550 feet ds of Driving Range Culvert (300: 5)	200	675.60	689.54	690.40	690.84	691.75
XS3020	554 feet ds of Driving Range Culvert (300: 9)	196	675.60	689.11	690.40	690.84	691.75
XS_152	U28 confluence of South Branch(28: 1)	5972	683.02	687.06	688.42	689.10	690.77
XS_152a	242 feet us of Weir (28: 4)	5690	683.02	687.06	688.42	689.10	690.77
XS_150	D28 us stream of Weir(d32) (28: 7)	5448	683.02	687.06	688.42	689.10	690.77
XS_148	U26 ds stream of Weir(d32) (26: 1)	5401	682.09	687.06	688.29	688.83	690.07
XS_9146 (B2)	D26 usf of Pierce Rd. (26: 4)	5373	682.07	687.06	688.29	688.83	690.07
XS_9144 (B1)	U24 dsf of Pierce Rd. (24: 1)	5225	683.15	686.83	687.90	688.45	689.79
XS_144a	D24 30 ds of Pierce Rd. (Expcon 4) (24: 4)	5195	683.02	686.82	687.90	688.45	689.79
XS_142	U22 59 feet ds of Pierice Rd (Expcon 4) (22: 1)	5166	682.92	686.82	687.90	688.45	689.79
XS_142a	184 feet d/s of Pierce Rd (22: 6)	5041	682.92	686.82	687.90	688.45	689.79
XS_140	557 feet d/s of Pierce Rd (22: 11)	4668	682.92	686.82	687.90	688.45	689.79

Proposed Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
FTABIN
FILE=  \utlheader\embweir.mtb
FILE=  \utlheader\type5.mtb
TABID= -1


FEQX
GISID=   NONE
TABLE#=  1001  SAVE22 NOOUT EXTEND
STATION=   99.99
NAVM=    0 LEFT= 0.00 RIGHT= 0.00 SCALE= 1.00 SHIFT= 0.00
NSUB     1   0.040
Approach Cross Section
    -50.10    750.00    1
    -50.00    692.78    1
      0.00    692.78    1
     50.00    692.78   -1

FEQX
GISID=   NONE
TABLE#=  1002  SAVE22 NOOUT EXTEND
STATION=   99.99
NAVM=    0 LEFT= 0.00 RIGHT= 0.00 SCALE= 1.00 SHIFT= 0.00
NSUB     1   0.040
Departure Cross Section
    -50.10    750.00    1
    -50.00    691.48    1
      0.00    691.48    1
     50.00    691.48   -1

MULCON
TABID= B4X3 SAVE22 NOOUT
WSLOT= 0.10
HSLOT= 30.0
NPIPES=    1
TYPE:       BOX
SPAN:      6.00
RISE:      3.00
BOTT:       0.0
ROUG:     0.013
MUDL:      0.03
ROUG:     0.030

CULVERT
TABID= CPND4
TYPE=  13
LABEL= Culvert between Pond 4 and Pond 3
Approach-Section Data
APPTAB=  1001
APPELV= 692.78
APPLEN=  10.0
APPLOS= 0.5
APPEXP= 1.0
Culvert Description
NODEID=YES
SFAC= 1.0
 NODE       NODEID  XNUM   STATION ELEVATION   KA   KD
  100          U/S  B4X3    120.00    692.78  0.0  0.0
               D/S  B4X3      0.00    691.48  0.0  0.0
   -1
CULCLS= BOX
Departure Section Data
DEPTAB=  1002
DEPELV= 691.48
LOSOPT=MOMENTUM
Discharge Coefficient Data
KRB= 1.00
```

```
KWING= 1.00
KPROJ= 1.00
C46= 0.85
TYPE 5 flow parameters
RBVALUE= 0.03
BVANGLE= 0.0
WWANGLE= 0.0
LPOVERD= 0.0
TYPE5SBF= 0.75
Roadway Description
PLCWTB= 9994
GLCWTB= 9995
PHCWTB= 9996
GHCWTB= 9997
PSUBTB= 9998
GSUBTB= 9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
   -184.90    995.31     50.0      690.0 PAVED
   -128.41    995.00
    -71.74    994.75
      0.00    994.53
     79.07    994.65
    153.51    994.92
    212.82    995.31                     END
Head Sequence Definition
NFRAC= 10
POWER= 2.0
0.05
0.1
0.2
0.25
0.3
0.5
0.8
1.0
2.0
2.5
3.0
3.1
3.2
3.3
3.4
3.5
3.6
3.7
3.8
3.9
4.0
4.5
4.6
4.7
4.8
4.9
5.0
5.5
6.0
6.5
8.0
9.0
10.0
12.0
13.0
15.0
20.0
30.0
-1
```

```
FINISH
```

Ramp G3 (Pond5-FEQ Node F312)

Illinois Department of Transportation

Culvert Waterway Information Table

Route:	EOWB	S.N. Exist:	NA	Computed by:	M. Younus	Date:	5-22-2012
Section:	Ramp G3 (Pond 5)	S.N. Prop:	NA	Checked by:	M. Cothard	Date:	5-22-2012
County:	DuPage	Waterway:	Devon Avenue Trib.				
Station:	1305+50						

Drainage Area = 0.04 Square Miles

Existing Overtopping Elevation: ft. @ Sta

Proposed Overtopping Evaluation: 708.3 ft. @ Sta 316+00

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.) Existing	Waterway Opening (sq. ft.) Proposed	Natural H.W.E.	Head (ft.) Existing	Head (ft.) Proposed	Headwater Elev. (ft.) Existing	Headwater Elev. (ft.) Proposed
	10	1.5		0.2					703.1
Design	50	1.6		0.2					703.5
Base	100	1.7		0.2					703.9
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	1.9		0.2					704.4

10-Year Outlet Velocity from Existing Structure = fps

10-Year Outlet Velocity from Proposed Structure = 7.5 fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: NA - October 1954

SCOPE OF WORK:

EXISTING STRUCTURE		PROPOSED STRUCTURE		
Bridge or Culvert Type:		Culvert Type:	RCP	
Cell Dimensions (W x H):		Cell Dimensions (W x H):	24"	with 6" orifice
# of spans \ cells:		# of cells:	1	
Length:		Length:	200	
U/S Flowline:		U/S Flowline:	700.0	
D/S Flowline:		D/S Flowline:	699.1	
Skew:		Skew:		
Low EOP:		Low EOP:	708.0	

EXISTING DROPBOX		PROPOSED DROPBOX	
Dimensions:		Dimensions:	
Drop:		Drop:	
Weir Elevation:		Weir Elevation:	

NOTE(S): NAVD88 = NGVD29 – 0.28, Proposed headwater elevations were estimated from the historical FEQ results.
High velocity requires riprap stabilization at the inlet and outlet structure

FREE NODES

NODE	NODEID	MAX DEPTH	MAX ELEV	BOTM ELEV	QMAX	QMIN	TIME OF MAX Z	TIME OF MAX Q	TIME OF MIN Q
F1	ARLHTS	6.9722	680.0222	673.0500	0.0000E+00	0.0000E+00	87/ 8/14: 4.500	87/ 8/12: 0.000	87/ 8/12: 0.000
F2	ARLHTS	6.9722	680.0222	673.0500	0.0000E+00	0.0000E+00	87/ 8/14: 4.500	87/ 8/12: 0.000	87/ 8/12: 0.000
F3	ARLBOX	680.3632	680.3632	0.0000	2.1439E+02	1.1803E+00	87/ 8/14: 4.500	87/ 8/14: 4.333	87/ 8/12: 8.667
F4	ARLBOX	680.3632	680.3632	0.0000	2.1439E+02	1.1803E+00	87/ 8/14: 4.500	87/ 8/14: 4.333	87/ 8/12: 8.667
F5	OVFDTH	3.3978	684.1978	680.8000	0.0000E+00	0.0000E+00	87/ 8/14: 4.333	87/ 8/12: 0.000	87/ 8/12: 0.000
F6	OVFDTH	3.3978	684.1978	680.8000	0.0000E+00	0.0000E+00	87/ 8/14: 4.333	87/ 8/12: 0.000	87/ 8/12: 0.000
F7	MIDASC	3.3978	684.1978	680.8000	4.5763E+00	9.9923E-01	87/ 8/14: 4.333	87/ 8/14:18.833	87/ 8/12: 0.000
F8	MIDASC	3.3978	684.1978	680.8000	4.5763E+00	9.9923E-01	87/ 8/14: 4.333	87/ 8/14:18.833	87/ 8/12: 0.000
F9	MIDASP	2.0824	685.0824	683.0000	1.0000E+00	1.0000E+00	87/ 8/14:19.167	87/ 8/14: 1.896	87/ 8/14: 2.004
F10	MIDASP	2.0824	685.0824	683.0000	4.5763E+00	9.9923E-01	87/ 8/14:19.167	87/ 8/14:18.833	87/ 8/12: 0.000
F11	OPDR2	3.5850	687.0549	683.4700	0.0000E+00	0.0000E+00	87/ 8/14: 4.167	87/ 8/12: 0.000	87/ 8/12: 0.000
F12	OPDR2	3.5850	687.0549	683.4700	0.0000E+00	0.0000E+00	87/ 8/14: 4.167	87/ 8/12: 0.000	87/ 8/12: 0.000
F13	PIERCE	5.7184	687.7485	682.0300	0.0000E+00	0.0000E+00	87/ 8/14: 3.833	87/ 8/12: 0.000	87/ 8/12: 0.000
F14	PIERCE	5.7184	687.7485	682.0300	0.0000E+00	0.0000E+00	87/ 8/14: 3.833	87/ 8/12: 0.000	87/ 8/12: 0.000
F15	FBRDG1	5.8826	687.8226	681.9400	0.0000E+00	0.0000E+00	87/ 8/14: 3.833	87/ 8/12: 0.000	87/ 8/12: 0.000
F16	FBRDG1	5.8826	687.8226	681.9400	0.0000E+00	0.0000E+00	87/ 8/14: 3.833	87/ 8/12: 0.000	87/ 8/12: 0.000
F17	FBRDG2	4.3323	689.3423	685.0100	0.0000E+00	0.0000E+00	87/ 8/14: 3.333	87/ 8/12: 0.000	87/ 8/12: 0.000
F18	FBRDG2	4.3323	689.3423	685.0100	0.0000E+00	0.0000E+00	87/ 8/14: 3.333	87/ 8/12: 0.000	87/ 8/12: 0.000
F19	LPRES	8.7540	693.7540	685.0000	1.9754E+02	0.0000E+00	87/ 8/14: 2.833	87/ 8/14: 2.001	87/ 8/12: 0.000
F20	LPRES	8.7540	693.7540	685.0000	1.7763E+02	0.0000E+00	87/ 8/14: 2.833	87/ 8/14: 2.833	87/ 8/12: 0.000
F23	LPRES	5.6482	714.6482	709.0000	0.0000E+00	0.0000E+00	87/ 8/14: 2.000	87/ 8/12: 0.000	87/ 8/12: 0.000
F24	LPRES	5.6482	714.6482	709.0000	1.4949E+02	0.0000E+00	87/ 8/14: 2.000	87/ 8/14: 2.000	87/ 8/12: 0.000
F27	DUMMY	16.2836	714.2036	697.9200	1.4949E+02	0.0000E+00	87/ 8/14: 2.000	87/ 8/14: 2.000	87/ 8/12: 0.000
F28	DUMMY	16.2836	714.2036	697.9200	1.4949E+02	-9.8831E-03	87/ 8/14: 2.000	87/ 8/14: 2.000	87/ 8/13:20.020
F201	LPRES	9.1758	691.1758	682.0000	4.9352E+01	-1.1446E+00	87/ 8/14:15.667	87/ 8/14:15.333	87/ 8/14: 2.833
F202	LPRES	9.1758	691.1758	682.0000	6.7034E+01	0.0000E+00	87/ 8/14:15.333	87/ 8/14:15.333	87/ 8/12: 0.000
F203	LPRES	8.1791	691.1791	683.0000	0.0000E+00	0.0000E+00	87/ 8/14:15.500	87/ 8/12: 0.000	87/ 8/12: 0.000
F204	LPRES	8.1791	691.1791	683.0000	4.9352E+01	-1.1446E+00	87/ 8/14:15.500	87/ 8/14:15.333	87/ 8/14: 2.833
F205	DUMMY	14.6325	691.1325	676.5000	6.8328E+01	0.0000E+00	87/ 8/14:15.167	87/ 8/14:15.333	87/ 8/12: 0.000
F206	DUMMY	14.6325	691.1325	676.5000	6.8328E+01	0.0000E+00	87/ 8/14:15.167	87/ 8/14:15.333	87/ 8/12: 0.000
F301	LPRES	24.2855	694.2855	670.0000	-7.8167E-02	-9.4700E+00	87/ 8/14:16.000	87/ 8/13:20.000	87/ 8/16:21.844
F302	LPRES	24.2855	694.2855	670.0000	1.1729E+01	-2.9773E+01	87/ 8/14:16.000	87/ 8/16:21.667	87/ 8/14: 2.000
F307	DUMMY	4.4616	687.7616	683.3000	0.0000E+00	0.0000E+00	87/ 8/14: 3.833	87/ 8/12: 0.000	87/ 8/12: 0.000
F308	DUMMY	4.4616	687.7616	683.3000	0.0000E+00	0.0000E+00	87/ 8/14: 3.833	87/ 8/12: 0.000	87/ 8/12: 0.000
F309	DEPUS	706.6754	706.6754	0.0000	0.0000E+00	0.0000E+00	87/ 8/14: 1.083	87/ 8/12: 0.000	87/ 8/12: 0.000
F310	DEPUS	706.6754	706.6754	0.0000	1.6502E+01	0.0000E+00	87/ 8/14: 1.083	87/ 8/14: 1.083	87/ 8/12: 0.000
F311	DEPDS	703.8742	703.8742	0.0000	1.6502E+01	0.0000E+00	87/ 8/14:14.000	87/ 8/14: 1.083	87/ 8/12: 0.000
F312	DEPDS	703.8742	703.8742	0.0000	1.7117E+00	0.0000E+00	87/ 8/14:14.000	87/ 8/14:14.000	87/ 8/12: 0.000
F313	DEPPB	700.8848	700.8848	0.0000	1.7117E+00	0.0000E+00	87/ 8/14: 1.083	87/ 8/14:14.000	87/ 8/12: 0.000
F314	DEPPB	700.8848	700.8848	0.0000	8.6376E+00	0.0000E+00	87/ 8/14: 1.083	87/ 8/14: 1.083	87/ 8/12: 0.000
F315	DEPPB	13.2843	694.2843	681.0000	8.6376E+00	0.0000E+00	87/ 8/14:16.000	87/ 8/14: 1.083	87/ 8/12: 0.000
F316	DEPPB	13.2843	694.2843	681.0000	8.6370E+00	0.0000E+00	87/ 8/14:16.000	87/ 8/14: 1.083	87/ 8/12: 0.000
F317	DEPPB	693.7540	693.7540	0.0000	0.0000E+00	0.0000E+00	87/ 8/14: 2.833	87/ 8/12: 0.000	87/ 8/12: 0.000
F318	DEPPB	693.7540	693.7540	0.0000	0.0000E+00	0.0000E+00	87/ 8/14: 2.833	87/ 8/12: 0.000	87/ 8/12: 0.000
F403	BASEF	13.3744	694.2844	680.9100	5.0000E-01	5.0000E-01	87/ 8/14:16.000	87/ 8/14: 1.896	87/ 8/14: 2.014
F404	BASEF	13.3744	694.2844	680.9100	5.0035E-01	4.9939E-01	87/ 8/14:16.000	87/ 8/14: 2.011	87/ 8/14: 6.001
F405	OVHAP	13.3744	694.2844	680.9100	1.1729E+01	-2.9773E+01	87/ 8/14:16.000	87/ 8/16:21.667	87/ 8/14: 2.000
F406	OVHAP	13.3744	694.2844	680.9100	1.1728E+01	-2.9773E+01	87/ 8/14:16.000	87/ 8/16:21.667	87/ 8/14: 2.000
F501	POND1	707.3541	707.3541	0.0000	8.9062E+01	0.0000E+00	87/ 8/14: 2.107	87/ 8/14: 2.000	87/ 8/12: 0.000
F502	POND1	707.3541	707.3541	0.0000	8.1066E+01	0.0000E+00	87/ 8/14: 2.107	87/ 8/14: 2.066	87/ 8/12: 0.000
F503	POND2	705.6021	705.6021	0.0000	8.1066E+01	0.0000E+00	87/ 8/14: 2.191	87/ 8/14: 2.066	87/ 8/12: 0.000
F504	POND2	705.6021	705.6021	0.0000	8.1403E+01	0.0000E+00	87/ 8/14: 2.191	87/ 8/14: 2.191	87/ 8/12: 0.000
F505	POND3	695.0520	695.0520	0.0000	2.0906E+02	0.0000E+00	87/ 8/14: 2.001	87/ 8/14: 2.000	87/ 8/12: 0.000
F506	POND3	695.0520	695.0520	0.0000	1.9754E+02	0.0000E+00	87/ 8/14: 2.001	87/ 8/14: 2.001	87/ 8/12: 0.000
F507	POND4	695.9771	695.9771	0.0000	1.3235E+02	0.0000E+00	87/ 8/14: 2.274	87/ 8/14: 2.000	87/ 8/12: 0.000
F508	POND4	695.9771	695.9771	0.0000	9.3946E+01	0.0000E+00	87/ 8/14: 2.274	87/ 8/14: 2.274	87/ 8/12: 0.000
F551	DEP1	709.2458	709.2458	0.0000	0.0000E+00	0.0000E+00	87/ 8/14: 2.004	87/ 8/12: 0.000	87/ 8/12: 0.000
F552	DEP1	709.2458	709.2458	0.0000	1.5286E+01	0.0000E+00	87/ 8/14: 2.004	87/ 8/14: 2.004	87/ 8/12: 0.000
F553	DEP2	695.8289	695.8289	0.0000	0.0000E+00	0.0000E+00	87/ 8/14: 2.000	87/ 8/12: 0.000	87/ 8/12: 0.000
F554	DEP2	695.8289	695.8289	0.0000	5.8654E+01	0.0000E+00	87/ 8/14: 2.000	87/ 8/14: 1.083	87/ 8/12: 0.000
F555	DEP3	710.8159	710.8159	0.0000	6.4128E+01	-2.6142E-02	87/ 8/14: 2.000	87/ 8/14: 2.002	87/ 8/13:20.001
F556	DEP3	710.8159	710.8159	0.0000	7.3794E+01	0.0000E+00	87/ 8/14: 2.000	87/ 8/14: 2.000	87/ 8/12: 0.000
F571	CNWD	710.8159	710.8159	0.0000	6.4095E+01	0.0000E+00	87/ 8/14: 2.000	87/ 8/14: 2.001	87/ 8/12: 0.000
F572	CNWD	710.8159	710.8159	0.0000	6.4128E+01	-2.6142E-02	87/ 8/14: 2.000	87/ 8/14: 2.002	87/ 8/13:20.001
F573	CPND4	695.0520	695.0520	0.0000	9.3946E+01	0.0000E+00	87/ 8/14: 2.001	87/ 8/14: 2.274	87/ 8/12: 0.000

An excerpt from the Proposed Conditions peak file for the storm event of September 1987 (storm event of record)

Elevation and flow used for the 100-year storm event

F574	CPND4	695.0520	695.0520	0.0000	9.3946E+01	0.0000E+00	87/	8/14:	2.001	87/	8/14:	2.274	87/	8/12: 0.000
F575	CDEP1	707.3541	707.3541	0.0000	1.5286E+01	0.0000E+00	87/	8/14:	2.107	87/	8/14:	2.004	87/	8/12: 0.000
F576	CDEP1	707.3541	707.3541	0.0000	1.5286E+01	-1.1509E-02	87/	8/14:	2.107	87/	8/14:	2.004	87/	8/13:20.001
F577	CDEP2	695.0520	695.0520	0.0000	5.8654E+01	0.0000E+00	87/	8/14:	2.001	87/	8/14:	1.083	87/	8/12: 0.000
F578	CDEP2	695.0520	695.0520	0.0000	5.8653E+01	0.0000E+00	87/	8/14:	2.001	87/	8/14:	1.083	87/	8/12: 0.000
F579	CDEP3	707.3541	707.3541	0.0000	7.3794E+01	0.0000E+00	87/	8/14:	2.107	87/	8/14:	2.000	87/	8/12: 0.000
F580	CDEP3	707.3541	707.3541	0.0000	7.3793E+01	0.0000E+00	87/	8/14:	2.107	87/	8/14:	2.000	87/	8/12: 0.000

```
FTABIN
FILE=  \utlheader\embweir.mtb
FILE=  \utlheader\type5.mtb
TABID= -1

ORIFICE
TABLE#= C312
LABEL=Orifice for Pond east of I-290 (F312)
 Numbr Shape  Edge VertD HoriD Invrt OrifC WeirC
     1  CIRC SHARP  0.50  0.50700.28  0.60  0.6
 AppTb Oritb MxZup MnHup MxPFD MnPFD LIPrc
             720.0  0.05  0.95 0.007  0.03
```

Proposed Orifice Data
(Based on NGVD 1929 Datum)

Ramp G6, K4 (FEQ Node F314)

Illinois Department of Transportation

Culvert Waterway Information Table

Route:	EOWB	S.N. Exist:	NA	Computed by:	M. Younus	Date:	5-22-2012
Section:	Ramp G6,K4 (F314)	S.N. Prop:	NA	Checked by:	M. Cothard	Date:	5-22-2012
County:	DuPage	Waterway:	Devon Avenue Trib.				
Station:	619+00 on Ramp G6						

Drainage Area = 0.044 Square Miles

Existing Overtopping Elevation: ft. @ Sta
Proposed Overtopping Evaluation: 717.14 ft. @ Sta 312+00 on K3

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.) Existing	Waterway Opening (sq. ft.) Proposed	Natural H.W.E.	Head (ft.) Existing	Head (ft.) Proposed	Headwater Elev. (ft.) Existing	Headwater Elev. (ft.) Proposed
	10	6		2.16					700.4
Design	50	8		2.69					700.7
Base	100	10		3.08					701.0
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	14		3.14					701.5

10-Year Outlet Velocity from Existing Structure = fps
10-Year Outlet Velocity from Proposed Structure = 2.7 fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: NA - October 1954

SCOPE OF WORK:

EXISTING STRUCTURE		PROPOSED STRUCTURE	
Bridge or Culvert Type:		Culvert Type:	RCP
Cell Dimensions (W x H):		Cell Dimensions (W x H):	24"
# of spans \ cells:		# of cells:	1
Length:		Length:	160
U/S Flowline:		U/S Flowline:	699.10
D/S Flowline:		D/S Flowline:	697.06
Skew:		Skew:	0
Low EOP:		Low EOP:	716.66

EXISTING DROPBOX		PROPOSED DROPBOX	
Dimensions:		Dimensions:	
Drop:		Drop:	
Weir Elevation:		Weir Elevation:	

NOTE(S): NAVD88 = NGVD29 – 0.28, Proposed headwater elevation were estimated from the FEQ results

FREE NODES

NODE	NODEID	MAX DEPTH	MAX ELEV	BOTM ELEV	QMAX	QMIN	TIME OF MAX Z	TIME OF MAX Q	TIME OF MIN Q
F1	ARLHTS	6.0934	679.1434	673.0500	0.0000E+00	0.0000E+00	53/ 7/21:16.833	53/ 7/16: 0.000	53/ 7/16: 0.000
F2	ARLHTS	6.0934	679.1434	673.0500	0.0000E+00	0.0000E+00	53/ 7/21:16.833	53/ 7/16: 0.000	53/ 7/16: 0.000
F3	ARLBOX	679.2831	679.2831	0.0000	1.3420E+02	1.1806E+00	53/ 7/21:16.833	53/ 7/21:16.667	53/ 7/16: 8.167
F4	ARLBOX	679.2831	679.2831	0.0000	1.3420E+02	1.1806E+00	53/ 7/21:16.833	53/ 7/21:16.667	53/ 7/16: 8.167
F5	OVFDTH	2.4902	683.2902	680.8000	0.0000E+00	0.0000E+00	53/ 7/21:16.667	53/ 7/16: 0.000	53/ 7/16: 0.000
F6	OVFDTH	2.4902	683.2902	680.8000	0.0000E+00	0.0000E+00	53/ 7/21:16.667	53/ 7/16: 0.000	53/ 7/16: 0.000
F7	MIDASC	2.4902	683.2902	680.8000	2.9656E+00	9.9923E-01	53/ 7/21:16.667	53/ 7/22: 0.333	53/ 7/16: 0.000
F8	MIDASC	2.4902	683.2902	680.8000	2.9656E+00	9.9923E-01	53/ 7/21:16.667	53/ 7/22: 0.333	53/ 7/16: 0.000
F9	MIDASP	1.8553	684.8553	683.0000	1.0000E+00	1.0000E+00	53/ 7/22: 0.167	53/ 7/21:15.267	53/ 7/21:13.000
F10	MIDASP	1.8553	684.8553	683.0000	2.9656E+00	9.9923E-01	53/ 7/22: 0.167	53/ 7/22: 0.333	53/ 7/16: 0.000
F11	OPDR2	2.8469	686.3169	683.4700	0.0000E+00	0.0000E+00	53/ 7/21:16.500	53/ 7/16: 0.000	53/ 7/16: 0.000
F12	OPDR2	2.8469	686.3169	683.4700	0.0000E+00	0.0000E+00	53/ 7/21:16.500	53/ 7/16: 0.000	53/ 7/16: 0.000
F13	PIERCE	4.8707	686.9008	682.0300	0.0000E+00	0.0000E+00	53/ 7/21:16.167	53/ 7/16: 0.000	53/ 7/16: 0.000
F14	PIERCE	4.8707	686.9008	682.0300	0.0000E+00	0.0000E+00	53/ 7/21:16.167	53/ 7/16: 0.000	53/ 7/16: 0.000
F15	FBRDG1	5.0611	687.0011	681.9400	0.0000E+00	0.0000E+00	53/ 7/21:16.000	53/ 7/16: 0.000	53/ 7/16: 0.000
F16	FBRDG1	5.0611	687.0011	681.9400	0.0000E+00	0.0000E+00	53/ 7/21:16.000	53/ 7/16: 0.000	53/ 7/16: 0.000
F17	FBRDG2	4.0629	689.0729	685.0100	0.0000E+00	0.0000E+00	53/ 7/21:15.083	53/ 7/16: 0.000	53/ 7/16: 0.000
F18	FBRDG2	4.0629	689.0729	685.0100	0.0000E+00	0.0000E+00	53/ 7/21:15.083	53/ 7/16: 0.000	53/ 7/16: 0.000
F19	LPRES	8.3943	693.3943	685.0000	1.5571E+02	0.0000E+00	53/ 7/21:14.500	53/ 7/21:13.833	53/ 7/16: 0.000
F20	LPRES	8.3943	693.3943	685.0000	1.4115E+02	0.0000E+00	53/ 7/21:14.500	53/ 7/21:14.500	53/ 7/16: 0.000
F23	LPRES	6.2109	715.2109	709.0000	0.0000E+00	0.0000E+00	53/ 7/21:13.000	53/ 7/16: 0.000	53/ 7/16: 0.000
F24	LPRES	6.2109	715.2109	709.0000	1.9405E+02	0.0000E+00	53/ 7/21:13.000	53/ 7/21:12.476	53/ 7/16: 0.000
F27	DUMMY	16.5968	714.5168	697.9200	1.9405E+02	0.0000E+00	53/ 7/21:13.010	53/ 7/21:12.476	53/ 7/16: 0.000
F28	DUMMY	16.5968	714.5168	697.9200	1.9404E+02	0.0000E+00	53/ 7/21:13.010	53/ 7/21:12.476	53/ 7/16: 0.000
F201	LPRES	8.9276	690.9276	682.0000	2.2752E+01	-9.5048E-01	53/ 7/22: 8.167	53/ 7/22: 8.167	53/ 7/21:16.333
F202	LPRES	8.9276	690.9276	682.0000	3.1009E+01	-9.1224E-02	53/ 7/22: 8.167	53/ 7/22: 7.833	53/ 7/21:15.257
F203	LPRES	7.9307	690.9307	683.0000	0.0000E+00	0.0000E+00	53/ 7/22: 8.167	53/ 7/16: 0.000	53/ 7/16: 0.000
F204	LPRES	7.9307	690.9307	683.0000	2.2752E+01	-9.5048E-01	53/ 7/22: 8.167	53/ 7/22: 8.167	53/ 7/21:16.333
F205	DUMMY	13.4393	689.9393	676.5000	2.9571E+01	0.0000E+00	53/ 7/22: 9.500	53/ 7/22: 9.500	53/ 7/16: 0.000
F206	DUMMY	13.4393	689.9393	676.5000	2.9571E+01	0.0000E+00	53/ 7/22: 9.500	53/ 7/22: 9.500	53/ 7/16: 0.000
F301	LPRES	15.4368	685.4368	670.0000	-7.9173E-02	-9.4700E+00	53/ 7/21:14.000	53/ 7/17:23.167	53/ 7/21:13.000
F302	LPRES	15.4368	685.4368	670.0000	0.0000E+00	-7.2085E-01	53/ 7/21:14.000	53/ 7/16: 0.000	53/ 7/21:14.000
F307	DUMMY	3.6115	686.9115	683.3000	0.0000E+00	0.0000E+00	53/ 7/21:16.167	53/ 7/16: 0.000	53/ 7/16: 0.000
F308	DUMMY	3.6115	686.9115	683.3000	0.0000E+00	0.0000E+00	53/ 7/21:16.167	53/ 7/16: 0.000	53/ 7/16: 0.000
F309	DEPUS	706.7943	706.7943	0.0000	0.0000E+00	0.0000E+00	53/ 7/21:12.053	53/ 7/16: 0.000	53/ 7/16: 0.000
F310	DEPUS	706.7943	706.7943	0.0000	1.8623E+01	0.0000E+00	53/ 7/21:12.053	53/ 7/21:13.000	53/ 7/16: 0.000
F311	DEPDS	701.9536	701.9536	0.0000	1.8623E+01	0.0000E+00	53/ 7/21:14.000	53/ 7/21:13.000	53/ 7/16: 0.000
F312	DEPDS	701.9536	701.9536	0.0000	1.0990E+00	-4.5031E-01	53/ 7/21:14.000	53/ 7/21:14.000	53/ 7/21:12.053
F313	DEPPB	701.0436	701.0436	0.0000	1.0990E+00	-4.5031E-01	53/ 7/21:13.000	53/ 7/21:14.000	53/ 7/21:12.053
F314	DEPPB	701.0436	701.0436	0.0000	1.0220E+01	0.0000E+00	53/ 7/21:13.000	53/ 7/21:13.000	53/ 7/16: 0.000
F315	DEPPB	12.4573	693.4573	681.0000	1.0220E+01	0.0000E+00	53/ 7/21:14.000	53/ 7/21:13.000	53/ 7/16: 0.000
F316	DEPPB	12.4573	693.4573	681.0000	1.0219E+01	-3.2044E-03	53/ 7/21:14.000	53/ 7/21:13.000	53/ 7/21:12.000
F317	DEPPB	693.3943	693.3943	0.0000	0.0000E+00	0.0000E+00	53/ 7/21:14.500	53/ 7/16: 0.000	53/ 7/16: 0.000
F318	DEPPB	693.3943	693.3943	0.0000	0.0000E+00	0.0000E+00	53/ 7/21:14.500	53/ 7/16: 0.000	53/ 7/16: 0.000
F403	BASEF	12.5474	693.4574	680.9100	5.0000E-01	5.0000E-01	53/ 7/21:14.000	53/ 7/21:14.146	53/ 7/21:15.267
F404	BASEF	12.5474	693.4574	680.9100	5.0042E-01	4.9888E-01	53/ 7/21:14.000	53/ 7/21:15.257	53/ 7/21:12.013
F405	OVHAP	12.5474	693.4574	680.9100	0.0000E+00	-7.2085E-01	53/ 7/21:14.000	53/ 7/16: 0.000	53/ 7/21:14.000
F406	OVHAP	12.5474	693.4574	680.9100	0.0000E+00	-7.2086E-01	53/ 7/21:14.000	53/ 7/16: 0.000	53/ 7/21:14.000
F501	POND1	706.6868	706.6868	0.0000	9.5136E+01	0.0000E+00	53/ 7/21:13.667	53/ 7/21:13.000	53/ 7/16: 0.000
F502	POND1	706.6868	706.6868	0.0000	7.3417E+01	0.0000E+00	53/ 7/21:13.667	53/ 7/21:13.152	53/ 7/16: 0.000
F503	POND2	705.2672	705.2672	0.0000	7.3417E+01	0.0000E+00	53/ 7/21:14.167	53/ 7/21:13.152	53/ 7/16: 0.000
F504	POND2	705.2672	705.2672	0.0000	6.9366E+01	0.0000E+00	53/ 7/21:14.167	53/ 7/21:14.167	53/ 7/16: 0.000
F505	POND3	694.4876	694.4876	0.0000	1.6122E+02	0.0000E+00	53/ 7/21:13.833	53/ 7/21:13.500	53/ 7/16: 0.000
F506	POND3	694.4876	694.4876	0.0000	1.5571E+02	0.0000E+00	53/ 7/21:13.833	53/ 7/21:13.833	53/ 7/16: 0.000
F507	POND4	695.7252	695.7252	0.0000	1.6883E+02	0.0000E+00	53/ 7/21:13.500	53/ 7/21:13.000	53/ 7/16: 0.000
F508	POND4	695.7252	695.7252	0.0000	9.1780E+01	0.0000E+00	53/ 7/21:13.500	53/ 7/21:13.500	53/ 7/16: 0.000
F551	DEP1	709.2740	709.2740	0.0000	0.0000E+00	0.0000E+00	53/ 7/21:13.014	53/ 7/16: 0.000	53/ 7/16: 0.000
F552	DEP1	709.2740	709.2740	0.0000	1.5639E+01	0.0000E+00	53/ 7/21:13.014	53/ 7/21:13.014	53/ 7/16: 0.000
F553	DEP2	694.9742	694.9742	0.0000	0.0000E+00	0.0000E+00	53/ 7/21:13.000	53/ 7/16: 0.000	53/ 7/16: 0.000
F554	DEP2	694.9742	694.9742	0.0000	4.2218E+01	0.0000E+00	53/ 7/21:13.000	53/ 7/21:12.414	53/ 7/16: 0.000
F555	DEP3	710.9438	710.9438	0.0000	6.5957E+01	-1.1434E-01	53/ 7/21:13.000	53/ 7/21:13.002	53/ 7/21:12.002
F556	DEP3	710.9438	710.9438	0.0000	7.9652E+01	0.0000E+00	53/ 7/21:13.000	53/ 7/21:13.000	53/ 7/16: 0.000
F571	CNWD	710.9438	710.9438	0.0000	6.5895E+01	0.0000E+00	53/ 7/21:13.000	53/ 7/21:13.010	53/ 7/16: 0.000
F572	CNWD	710.9438	710.9438	0.0000	6.5957E+01	-1.1434E-01	53/ 7/21:13.000	53/ 7/21:13.002	53/ 7/21:12.002
F573	CPND4	694.4876	694.4876	0.0000	9.1780E+01	0.0000E+00	53/ 7/21:13.833	53/ 7/21:13.500	53/ 7/16: 0.000

An excerpt from the Proposed Conditions peak file for the storm event of July 1953 (storm event of record)

Elevation and flow used for the 100-year storm event

F574	CPND4	694.4876	694.4876	0.0000	9.1779E+01	0.0000E+00	53/	7/21:13.833	53/	7/21:13.500	53/	7/16:	0.000
F575	CDEP1	706.6868	706.6868	0.0000	1.5639E+01	0.0000E+00	53/	7/21:13.667	53/	7/21:13.014	53/	7/16:	0.000
F576	CDEP1	706.6868	706.6868	0.0000	1.5639E+01	0.0000E+00	53/	7/21:13.667	53/	7/21:13.014	53/	7/16:	0.000
F577	CDEP2	694.4876	694.4876	0.0000	4.2218E+01	0.0000E+00	53/	7/21:13.833	53/	7/21:12.414	53/	7/16:	0.000
F578	CDEP2	694.4876	694.4876	0.0000	4.2217E+01	0.0000E+00	53/	7/21:13.833	53/	7/21:12.414	53/	7/16:	0.000
F579	CDEP3	706.6868	706.6868	0.0000	7.9652E+01	0.0000E+00	53/	7/21:13.667	53/	7/21:13.000	53/	7/16:	0.000
F580	CDEP3	706.6868	706.6868	0.0000	7.9651E+01	-2.8063E-03	53/	7/21:13.667	53/	7/21:13.000	53/	7/21:	12.000

Proposed Conditions Culvert Data
(Based on NGVD 1929 Datum)

```
MULCON
TABID=  M312 SAVE22 OLDBETA NOOUT
WSLOT=0.01
HSLOT=100
NPIPES= 1
TYPE=       CIRC
SPAN=       2.00
RISE=       2.00
BOTT=       0.00
ROUG=      0.013


CULVERT
TABID= C314
TYPE=   13
LABEL=  24-inch RCP under I-290 RampK4 located south of Thorndale Ave
APPROACH SECTION DATA
APPTAB= 1001
APPELV= 699.38
APPLEN=  30.0
APPLOS= 0.0
APPEXP= 0.5
CULVERT DESCRIPTION
NODEID=YES
SFAC= 1.0
 NODE NODENAME  XTAB   STATION ELEVATION
    1 UPSTREAM  M312    160.00    699.38


      DNSTREAM  M312      0.00    697.34
-1
CULCLS=PIPE
DEPARTURE SECTION DESCRIPTION
DEPTAB= 1002
DEPELV=    697.34
LOSOPT=MOMENTUM
DISCHARGE COEFFICIENT DATA
KRB= 0.00
KWING= 0.00
KPROJ= 0.00
C46= 0.00
TYPE 5 flow parameters
RBVALUE=      0.03
BVANGLE=      0.00
WWANGLE=      40.0
LPOVERD=       0.0
TYPE5SBF=     0.75
ROADWAY DESCRIPTION
PLCWTB=9994
GLCWTB=9995
PHCWTB=9996
GHCWTB=9997
PSUBTB=9998
GSUBTB=9999
    OFFSET     CREST     WIDTH  APPROACH SURFACE
    -56.39    989.66     74.00    688.50 PAVED
    -53.64    989.68              688.27
    -27.36    989.90              686.11
    -22.29    989.94              684.40
    -11.69    990.03              682.35
      0.00    990.13              682.38
      6.03    990.16              682.40
     17.33    990.23              684.50
     20.44    990.25              686.29
     46.60    990.40              689.50 END
UPSTREAM HEADS TO USE IN COMPUTING THE TABLE
NFRAC=11
```

```
POWER=2.0
      .250
      .500
      .750
     1.000
     1.500
     2.000
     2.500
     3.000
     3.500
     4.000
     4.500
     5.000
     5.500
     6.000
     6.500
     7.000
     8.000
     9.000
    10.000
    12.000
    14.000
    16.000
    18.000
    20.000
    -1.000
```

HYDRAULIC REPORT DATA SHEETS

LIST OF HYDRAULIC REPORT DATA (HRD) SHEETS

1. Eastern Park Blvd-South (FEQ Node D310)
2. EOH-East (Proposed,FEQ Node D62)
3. I290-North (Pond 3, FEQ Node F506)
4. I290-South (FEQ Node F310)
5. IL53-South (FEQ Node F24)
6. Norwood Avenue (FEQ Node U62)
7. EOH-East (Existing, FEQ Node D60)
8. EOH-East Ramp (Existing, FEQ Node D64)
9. EOH-West (Proposed,Dep3-FEQ Node F556)
10. IL53-North (Dep1, FEQ Node F552)
11. Ramp G1 (Pond2-FEQ Node F504, D6-NW)
12. Ramp G1, G2 (Dep2-FEQ Node F554)
13. Ramp G3 (Pond5-FEQ Node F312)
14. Ramp G5 (Pond1- FEQ Node F502, D6-W)
15. Ramp G6, K4 (FEQ Node F314)
16. Ramp G7 (Pond4-FEQ Node F508, D6-E)

Illinois Department of Transportation

Hydraulic Report Data Sheets
Based on NAVD 1988 Datum

Route	Eastern Park Blvd South	P or D #	P-91-443-06
Section		PTB #	141 Item 2
County	DuPage		
Exist SN	1025+00 on EOH		
Prop SN	1025+00 on EOH		

General Information

1. Name of the Stream: Devon Avenue Tributary

2. Location of the Structure: SW ¼ of the NE ¼ of Section 6 , Township 40N, Range 11E of the 3rd P.M.

3. Hydraulic Report Prepared By: ☒ Consultant Christopher B. Burke Engineering, Ltd.
   ☐ District

4. Hydraulic Report Approval Authority: ☐ District – Post PDF of HR to BBS Hydraulics SharePoint Server
   ☐ BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics

Site Design Data

5. Drainage Area (sq. mi.): ±0.26

6. Highway Classification:
   ☐ Rural
   ☒ Urban
   ☐ Other
   ☒ Principal Arterial
   ☐ Minor Arterial
   ☐ Collector
   ☐ Local

7. Design Frequency: ☐ 30 yr ☒ 50 Yr. ☐ Other

8. Number of Waterway Information Tables (WIT): 1
   If more than one, explain:

Hydrologic & Hydraulic Analysis

9. Hydrology Modeling (check all that apply): ☐ USGS/Stream Stats ☐ FIS ☐ Gage Data
   ☒ Other FEQ Model

10. Hydraulic Modeling (check all that apply):
    a. Method: ☐ HEC-RAS ☐ WSPRO ☒ Other FEQ Model
    b. Manning's "n" values determined as per IDOT DM CH.5? ☒ Yes ☐ No
       If no, explain:
    c. Source of Starting WSE: Salt Creek
    d. Non- IDOT encroachments in Survey? ☒ Yes ☐ No
       If yes, are they accounted for? ☒ Yes ☐ No
    e. Does the Tailwater Control? ☐ Yes ☒ No
       If yes, list:
    f. Were the Expansion/Contraction cones properly addressed? ☒ Yes ☐ No ☐ N/A
       If No or N/A, explain:

g. What Expansion and Contraction Rates were used? Expansion: 4 (X:1)
Contraction 2 (X:1)

IDNR – OWR Floodway Permit

11. Is area experiencing urbanization or expected to urbanize within 10 years? ☒ Yes ☐ No

12. Are there any sensitive flood receptors located upstream within possible backwater influence? ☒ Yes ☐ No
If yes, list and describe critical upstream flood damageable properties and their elevations.
Please refer to Drainage Investigation Section of the Hydraulic Report narrative.

13. Is there any History of Flooding or Overtopping problems? ☐ Yes ☒ No
Sources of Observed Highwater:

14. Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated Public Body of Water? ☐ Yes ☒ No

15. Required IDNR - OWR Permit type:
☐ Individual ☐ SWP #2 ☐ SWP #12 ☐ Floodway
☒ None ☐ Other

Proposed Structure Data (NAVD 1988 Datum)

16. Project Scope (check all that apply):
a. ☒ Complete Replacement
b. ☐ Superstructure Replacement
c: ☐ Superstructure Widening; Length of Pier Extension in the water:
U/S D/S
d. ☐ Bridge ☒Culvert
e. ☒ New Alignment
f. Work Planned Below Q_{100} HWE? ☒ Yes ☐ No
g. ☒ Profile Raise

17. If a bridge is proposed, supply:
Flow line elevation (ft): Abutment type:
Preliminary low beam elevation (ft): Skew (degrees):
Width of deck (ft): Number of spans:
Total length from face to face of abutment (ft)

18. If a culvert is proposed, supply:
Type and size: 9' X 3' RCBC Length (ft): 805
Upstream invert elevation (ft): 689.57 Entrance type:
Downstream invert elevation (ft): 687.48 Skew (degrees): 0
Note: Upstream and downstream elevations should reflect the elevations before the 3" drop is applied

19. If a three-sided structure is proposed, supply:
Flow line elevation (ft): Skew (degrees):
Span (ft): Length (ft):
Height (ft): Number of spans:

20. a. Is the IDOT Clearance Policy Met? ☐ Yes ☐ No ☒ NA Value (ft):
b. Is the IDOT Freeboard Policy Met? ☐ Yes ☐ No ☒ NA Value (ft): 1.60

21. Type of streambed soil : ☐ Clay ☐ Silt ☐ Sand ☒ Loam ☐

22. Scour/ Migration Problems: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Ice Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Debris Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Countermeasures Proposed:

Existing Structure Data (NAVD 1988 Datum)

		Structure U/S	Subject Structure	Structure D/S
23.	Distance from proposed structure: (ft.)	1088	N/A	25
24.	Type of structure:	24" RCP	5' x 3.17' RCEPC Eastern Park Blvd (South)	5' x 3.17' RCEPC Thorndale Ave
25.	Low beam elevation:	667.53	692.74 ft	693.2 ft
26.	Flow line elevation:	665.53	689.57 ft	690.03 ft
27.	Maximum known high water elevation:	N/A	N/A	N/A
28.	Date of maximum high water:	October 1954	October 1954	October 1954
29.	Cause (backwater, headwater, etc.):		Unknown	
30.	Does structure carry entire design flood flow?	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
	If not, state area of additional waterway opening: (ft^2)			
31.	Type and size of existing overflow structures:			
32.	Has adverse scour occurred under or adjacent to the structure?	No	No	No
33.	Classify type of scour and/or aggradation / degradation:			

Required Additional Data

34. Deviations from the General Procedures presented in IDOT DM CH. 2, CH.6, and CH.7:

35. Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area:

36. Site Inspection made by: Gerald L. Robinson, P.E., CFM Date: 11/5/2010

Remarks:

37. Prepared by: Muhammad Younus, CFM Date 8/22/2012

Signed (QA/QC): Date 10/4/2012

Illinois Department of Transportation

Hydraulic Report Data Sheets Based on NAVD 1988 Datum

Route	EOH East (Pr) (Proposed)	P or D #	P-91-443-06
Section		PTB #	141 Item 2
County	DuPage		
Exist SN			
Prop SN	995+00		

General Information

1. Name of the Stream: Devon Avenue Tributary

2. Location of the Structure: SE ¼ of the NW ¼ of Section 6 , Township 40N, Range 11E of the 3rd P.M.

3. Hydraulic Report Prepared By: ☒ Consultant Christopher B. Burke Engineering, Ltd. ☐ District

4. Hydraulic Report Approval Authority: ☐ District – Post PDF of HR to BBS Hydraulics SharePoint Server ☐ BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics

Site Design Data

5. Drainage Area (sq. mi.): ±0.24

6. Highway Classification: ☐ Rural ☒ Urban ☐ Other ☒ Principal Arterial ☐ Minor Arterial ☐ Collector ☐ Local

7. Design Frequency: ☐ 30 yr ☒ 50 Yr. ☐ Other

8. Number of Waterway Information Tables (WIT): 1
If more than one, explain:

Hydrologic & Hydraulic Analysis

9. Hydrology Modeling (check all that apply): ☐ USGS/Stream Stats ☐ FIS ☐ Gage Data ☒ Other FEQ Model

10. Hydraulic Modeling (check all that apply):
a. Method: ☐ HEC-RAS ☐ WSPRO ☒ Other FEQ Model
b. Manning's "n" values determined as per IDOT DM CH.5? ☒ Yes ☐ No
If no, explain:
c. Source of Starting WSE: Salt Creek
d. Non- IDOT encroachments in Survey? ☒ Yes ☐ No
If yes, are they accounted for? ☒ Yes ☐ No
e. Does the Tailwater Control? ☐ Yes ☒ No
If yes, list:

f. Were the Expansion/Contraction cones properly addressed? ☒ Yes ☐ No ☐ N/A
If No or N/A, explain:

g. What Expansion and Contraction Rates were used? Expansion: 4 (X:1)
Contraction 2 (X:1)

IDNR – OWR Floodway Permit

11. Is area experiencing urbanization or expected to urbanize within 10 years? ☒ Yes ☐ No

12. Are there any sensitive flood receptors located upstream within possible backwater influence? ☐ Yes ☒ No
If yes, list and describe critical upstream flood damageable properties and their elevations.

13. Is there any History of Flooding or Overtopping problems? ☐ Yes ☒ No
Sources of Observed Highwater:

14. Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated Public Body of Water? ☐ Yes ☒ No

15. Required IDNR - OWR Permit type:
☐ Individual ☐ SWP #2 ☐ SWP #12 ☐ Floodway
☒ None ☐ Other

Proposed Structure Data (NAVD 1988 Datum)

16. Project Scope (check all that apply):
a. ☒ Complete Replacement
b. ☐ Superstructure Replacement
c: ☐ Superstructure Widening; Length of Pier Extension in the water:
U/S D/S
d. ☐ Bridge ☒Culvert
e. ☒ New Alignment
f. Work Planned Below Q_{100} HWE? ☒ Yes ☐ No
g. ☐ Profile Raise

17. If a bridge is proposed, supply:
Flow line elevation (ft):
Preliminary low beam elevation (ft):
Width of deck (ft):
Total length from face to face of abutment (ft)
Abutment type:
Skew (degrees):
Number of spans:

18. If a culvert is proposed, supply:
Type and size: 3'X6' RCBC
Upstream invert elevation (ft): 708.82
Downstream invert elevation (ft): 693
Length (ft): 670
Entrance type:
Skew (degrees): 0
Note: Upstream and downstream elevations should reflect the elevations before the 3" drop is applied

19. If a three-sided structure is proposed, supply:
Flow line elevation (ft):
Span (ft):
Height (ft):
Skew (degrees):
Length (ft):
Number of spans:

20. a. Is the IDOT Clearance Policy Met? ☐ Yes ☐ No ☒ NA Value (ft):
b. Is the IDOT Freeboard Policy Met? ☐ Yes ☐ No ☒ NA Value (ft): 3.56

21. Type of streambed soil : ☐ Clay ☐ Silt ☐ Sand ☒ Loam ☐

22. Scour/ Migration Problems: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Ice Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Debris Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Countermeasures Proposed:

Existing Structure Data (NAVD 1988 Datum)

		Structure U/S	Subject Structure	Structure D/S
23.	Distance from proposed structure: (ft.)	350 ft	N/A	150 ft
24.	Type of structure:	2-4.5 RCPC EOH-East	60" CMP Unnamed	2-60"X38" RCEP (IL-53)
25.	Low beam elevation:	712.97 ft	713.81 ft	713.97 ft
26.	Flow line elevation:	708.47 ft	708.80 ft	710.80 ft
27.	Maximum known high water elevation:	N/A	N/A	N/A
28.	Date of maximum high water:	October 1954	October 1954	October 1954
29.	Cause (backwater, headwater, etc.):		Unknown	
30.	Does structure carry entire design flood flow?	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
	If not, state area of additional waterway opening: (ft^2)			
31.	Type and size of existing overflow structures:			
32.	Has adverse scour occurred under or adjacent to the structure?	No	No	No
33.	Classify type of scour and/or aggradation / degradation:			

Required Additional Data

34. Deviations from the General Procedures presented in IDOT DM CH. 2, CH.6, and CH.7:

35. Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area:

36. Site Inspection made by: Gerald L. Robinson, P.E., CFM Date: 11/5/2010

Remarks:

37. Prepared by: Emily Anderson, PE, CFM Date 6/14/2012

Signed (QA/QC): Chinliang Wang Date 6/14/2012

Illinois Department of Transportation

Hydraulic Report Data Sheets
Based on NAVD 1988 Datum

Route	I-290 North	P or D #	P-91-443-06
Section		PTB #	141 Item 2
County	DuPage		
Exist SN	1384+50		
Prop SN	1384+50		

General Information

1. Name of the Stream: Devon Avenue Tributary

2. Location of the Structure: SE ¼ of the NW ¼ of Section 6 , Township 40N, Range 11E of the 3rd P.M.

3. Hydraulic Report Prepared By: ☒ Consultant Christopher B. Burke Engineering, Ltd. ☐ District

4. Hydraulic Report Approval Authority: ☐ District – Post PDF of HR to BBS Hydraulics SharePoint Server ☐ BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics

Site Design Data

5. Drainage Area (sq. mi.): ±0.55

6. Highway Classification: ☐ Rural ☒ Urban ☐ Other ☒ Principal Arterial ☐ Minor Arterial ☐ Collector ☐ Local

7. Design Frequency: ☐ 30 yr ☒ 50 Yr. ☐ Other

8. Number of Waterway Information Tables (WIT): 1
If more than one, explain:

Hydrologic & Hydraulic Analysis

9. Hydrology Modeling (check all that apply): ☐ USGS/Stream Stats ☐ FIS ☐ Gage Data ☒ Other FEQ Model

10. Hydraulic Modeling (check all that apply):
a. Method: ☐ HEC-RAS ☐ WSPRO ☒ Other FEQ Model
b. Manning's "n" values determined as per IDOT DM CH.5? ☒ Yes ☐ No
If no, explain:
c. Source of Starting WSE: Salt Creek
d. Non- IDOT encroachments in Survey? ☒ Yes ☐ No
If yes, are they accounted for? ☒ Yes ☐ No
e. Does the Tailwater Control? ☐ Yes ☒ No
If yes, list:

f. Were the Expansion/Contraction cones properly addressed? ☒ Yes ☐ No ☐ N/A
If No or N/A, explain:

g. What Expansion and Contraction Rates were used? Expansion: 4 (X:1)
Contraction 2 (X:1)

IDNR – OWR Floodway Permit

11. Is area experiencing urbanization or expected to urbanize within 10 years? ☒ Yes ☐ No

12. Are there any sensitive flood receptors located upstream within possible backwater influence? ☐ Yes ☒ No
If yes, list and describe critical upstream flood damageable properties and their elevations.

13. Is there any History of Flooding or Overtopping problems? ☐ Yes ☒ No
Sources of Observed Highwater:

14. Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated Public Body of Water? ☐ Yes ☒ No

15. Required IDNR - OWR Permit type:
☐ Individual ☐ SWP #2 ☐ SWP #12 ☐ Floodway
☒ None ☐ Other

Proposed Structure Data (NAVD 1988 Datum)

16. Project Scope (check all that apply):
a. ☐ Complete Replacement
b. ☐ Superstructure Replacement
c: ☐ Superstructure Widening; Length of Pier Extension in the water:
U/S D/S
d. ☐ Bridge ☒ Culvert
e. ☐ New Alignment
f. Work Planned Below Q_{100} HWE? ☒ Yes ☐ No
g. ☐ Profile Raise

17. If a bridge is proposed, supply:
Flow line elevation (ft):
Preliminary low beam elevation (ft):
Width of deck (ft):
Total length from face to face of abutment (ft)
Abutment type:
Skew (degrees):
Number of spans:

18. If a culvert is proposed[1], supply:
Type and size: 9.5'X3.64' Box
Upstream invert elevation (ft): 691.14
Downstream invert elevation (ft): 690.29
Length (ft): 275
Entrance type:
Skew (degrees): 0
Note: Upstream and downstream elevations should reflect the elevations before the 3" drop is applied

[1] The existing culvert will be modified by reducing the length from the upstream end, by increasing the length at the downstream end.

19. If a three-sided structure is proposed, supply:
Flow line elevation (ft):
Span (ft):
Height (ft):
Skew (degrees):
Length (ft):
Number of spans:

20. a. Is the IDOT Clearance Policy Met? ☐ Yes ☐ No ☒ NA Value (ft):
b. Is the IDOT Freeboard Policy Met? ☐ Yes ☐ No ☒ NA Value (ft): 2.96

21. Type of streambed soil : ☐ Clay ☐ Silt ☐ Sand ☒ Loam ☐

22. Scour/ Migration Problems: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Ice Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Debris Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Countermeasures Proposed:

Existing Structure Data (NAVD 1988 Datum)

		Structure U/S	Subject Structure	Structure D/S
23.	Distance from proposed structure: (ft.)	700 ft	N/A	490 ft
24.	Type of structure:	2 - 4.5' RCP I-290 Ramp	9.5' x 3.64' RCBC Culvert	3-7' x 2' RCBC
25.	Low beam elevation:	710.96 ft	695.03 ft	693.10 ft
26.	Flow line elevation:	706.46 ft	691.39 ft	691.10 ft
27.	Maximum known high water elevation:	Unknown	Unknown	Unknown
28.	Date of maximum high water:	Unknown	Unknown	Unknown
29.	Cause (backwater, headwater, etc.):		Unknown	
30.	Does structure carry entire design flood flow?	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
	If not, state area of additional waterway opening: (ft^2)			
31.	Type and size of existing overflow structures:			
32.	Has adverse scour occurred under or adjacent to the structure?	No	No	No
33.	Classify type of scour and/or aggradation / degradation:			

Required Additional Data

34. Deviations from the General Procedures presented in IDOT DM CH. 2, CH.6, and CH.7:

35. Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area:

36. Site Inspection made by: Gerald L. Robinson, P.E., CFM Date: 11/5/2010

Remarks:

37. Prepared by: Muhammad Younus, CFM Date 8/22/2012

Signed (QA/QC): Date 10/4/2012

Illinois Department of Transportation

Hydraulic Report Data Sheets Based on NAVD 1988 Datum

Route	I-290 South	P or D #	P-91-443-06
Section		PTB #	141 Item 2
County	DuPage		
Exist SN	1363+00		
Prop SN	1363+50		

General Information

1. Name of the Stream: Devon Avenue Tributary

2. Location of the Structure: SE ¼ of the NW ¼ of Section 6 , Township 40N, Range 11E of the 3rd P.M.

3. Hydraulic Report Prepared By: ☒ Consultant Christopher B. Burke Engineering, Ltd. ☐ District

4. Hydraulic Report Approval Authority: ☐ District – Post PDF of HR to BBS Hydraulics SharePoint Server ☐ BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics

Site Design Data

5. Drainage Area (sq. mi.): ±0.017

6. Highway Classification: ☐ Rural ☒ Urban ☐ Other ☐ Principal Arterial ☒ Minor Arterial ☐ Collector ☐ Local

7. Design Frequency: ☐ 30 yr ☒ 50 Yr. ☐ Other

8. Number of Waterway Information Tables (WIT): 1
If more than one, explain:

Hydrologic & Hydraulic Analysis

9. Hydrology Modeling (check all that apply): ☐ USGS/Stream Stats ☐ FIS ☐ Gage Data ☒ Other FEQ Model

10. Hydraulic Modeling (check all that apply):
a. Method: ☐ HEC-RAS ☐ WSPRO ☒ Other FEQ Model
b. Manning's "n" values determined as per IDOT DM CH.5? ☒ Yes ☐ No
If no, explain:
c. Source of Starting WSE: Salt Creek
d. Non- IDOT encroachments in Survey? ☒ Yes ☐ No
If yes, are they accounted for? ☒ Yes ☐ No
e. Does the Tailwater Control? ☐ Yes ☒ No
If yes, list:

f. Were the Expansion/Contraction cones properly addressed? ☒ Yes ☐ No ☐ N/A
If No or N/A, explain:

g. What Expansion and Contraction Rates were used? Expansion: 4 (X:1)
Contraction 2 (X:1)

IDNR – OWR Floodway Permit

11. Is area experiencing urbanization or expected to urbanize within 10 years? ☒ Yes ☐ No

12. Are there any sensitive flood receptors located upstream within possible backwater influence? ☐ Yes ☒ No
If yes, list and describe critical upstream flood damageable properties and their elevations.

13. Is there any History of Flooding or Overtopping problems? ☐ Yes ☒ No
Sources of Observed Highwater:

14. Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated Public Body of Water? ☐ Yes ☒ No

15. Required IDNR - OWR Permit type:
☐ Individual ☐ SWP #2 ☐ SWP #12 ☐ Floodway
☒ None ☐ Other

Proposed Structure Data (NAVD 1988 Datum)

16. Project Scope (check all that apply):
a. ☒ Complete Replacement
b. ☐ Superstructure Replacement
c: ☐ Superstructure Widening; Length of Pier Extension in the water:
U/S D/S
d. ☐ Bridge ☒Culvert
e. ☐ New Alignment
f. Work Planned Below Q_{100} HWE? ☒ Yes ☐ No
g. ☐ Profile Raise

17. If a bridge is proposed, supply:
Flow line elevation (ft):
Preliminary low beam elevation (ft):
Width of deck (ft):
Total length from face to face of abutment (ft)
Abutment type:
Skew (degrees):
Number of spans:

18. If a culvert is proposed, supply:
Type and size: 4'X3' RCBC
Upstream invert elevation (ft): 704.80
Downstream invert elevation (ft): 704.0
Length (ft): 340
Entrance type:
Skew (degrees): 0
Note: Upstream and downstream elevations should reflect the elevations before the 3" drop is applied

19. If a three-sided structure is proposed, supply:
Flow line elevation (ft):
Span (ft):
Height (ft):
Skew (degrees):
Length (ft):
Number of spans:

20. a. Is the IDOT Clearance Policy Met? ☐ Yes ☐ No ☒ NA Value (ft):
b. Is the IDOT Freeboard Policy Met? ☐ Yes ☐ No ☒ NA Value (ft): 3.61

21. Type of streambed soil : ☐ Clay ☐ Silt ☐ Sand ☒ Loam ☐

22. Scour/ Migration Problems: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Ice Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Debris Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Countermeasures Proposed:

Existing Structure Data (NAVD 1988 Datum)

		Structure U/S	Subject Structure	Structure D/S
23.	Distance from proposed structure: (ft.)	N/A	N/A	180
24.	Type of structure:	N/A	42" RCP (I-290 South)	42" RCP (I-290 Ramp)
25.	Low beam elevation:	N/A	709.7 ft	706.54 ft
26.	Flow line elevation:	N/A	706.2 ft	703.04 ft
27.	Maximum known high water elevation:	N/A	N/A	N/A
28.	Date of maximum high water:	October 1954	October 1954	October 1954
29.	Cause (backwater, headwater, etc.):		Unknown	
30.	Does structure carry entire design flood flow?	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
	If not, state area of additional waterway opening: (ft^2)			
31.	Type and size of existing overflow structures:			
32.	Has adverse scour occurred under or adjacent to the structure?	No	No	No
33.	Classify type of scour and/or aggradation / degradation:			

Required Additional Data

34. Deviations from the General Procedures presented in IDOT DM CH. 2, CH.6, and CH.7:

35. Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area:

36. Site Inspection made by: Gerald L. Robinson, P.E., CFM Date: 11/5/2010

Remarks:

37. Prepared by: Emily Anderson, PE, CFM Date 6/14/2012

Signed (QA/QC): Chinliang Wang Date 6/14/2012

Illinois Department of Transportation

Hydraulic Report Data Sheets Based on NAVD 1988 Datum

Route	IL Route 53 South	P or D #	P-91-443-06
Section		PTB #	141 Item 2
County	DuPage		
Exist SN	244+00 on Rohlwing Road		
Prop SN	244+00		

General Information

1. Name of the Stream: Devon Avenue Tributary

2. Location of the Structure: SE ¼ of the NW ¼ of Section 6 , Township 40N, Range 11E of the 3rd P.M.

3. Hydraulic Report Prepared By: ☒ Consultant Christopher B. Burke Engineering, Ltd. ☐ District

4. Hydraulic Report Approval Authority: ☐ District – Post PDF of HR to BBS Hydraulics SharePoint Server ☐ BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics

Site Design Data

5. Drainage Area (sq. mi.): ±0.17

6. Highway Classification:
   - ☐ Rural
   - ☒ Urban
   - ☐ Other
   - ☐ Principal Arterial
   - ☒ Minor Arterial
   - ☐ Collector
   - ☐ Local

7. Design Frequency: ☐ 30 yr ☒ 50 Yr. ☐ Other

8. Number of Waterway Information Tables (WIT): 1
   If more than one, explain:

Hydrologic & Hydraulic Analysis

9. Hydrology Modeling (check all that apply): ☐ USGS/Stream Stats ☐ FIS ☐ Gage Data ☒ Other FEQ Model

10. Hydraulic Modeling (check all that apply):
    a. Method: ☐ HEC-RAS ☐ WSPRO ☒ Other FEQ Model
    b. Manning's "n" values determined as per IDOT DM CH.5? ☒ Yes ☐ No
       If no, explain:
    c. Source of Starting WSE: Salt Creek
    d. Non- IDOT encroachments in Survey? ☒ Yes ☐ No
       If yes, are they accounted for? ☒ Yes ☐ No
    e. Does the Tailwater Control? ☐ Yes ☒ No
       If yes, list:
    f. Were the Expansion/Contraction cones properly addressed? ☒ Yes ☐ No ☐ N/A
       If No or N/A, explain:

g. What Expansion and Contraction Rates were used? Expansion: 4 (X:1)
Contraction 2 (X:1)

IDNR – OWR Floodway Permit

11. Is area experiencing urbanization or expected to urbanize within 10 years? ☒ Yes ☐ No

12. Are there any sensitive flood receptors located upstream within possible backwater influence? ☐ Yes ☒ No
If yes, list and describe critical upstream flood damageable properties and their elevations.

13. Is there any History of Flooding or Overtopping problems? ☐ Yes ☒ No
Sources of Observed Highwater:

14. Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated Public Body of Water? ☐ Yes ☒ No

15. Required IDNR - OWR Permit type:
☐ Individual ☐ SWP #2 ☐ SWP #12 ☐ Floodway
☒ None ☐ Other

Proposed Structure Data (NAVD 1988 Datum)

16. Project Scope (check all that apply):
a. ☐ Complete Replacement
b. ☐ Superstructure Replacement
c: ☐ Superstructure Widening; Length of Pier Extension in the water:
U/S D/S
d. ☐ Bridge ☒Culvert
e. ☐ New Alignment
f. Work Planned Below Q_{100} HWE? ☒ Yes ☐ No
g. ☐ Profile Raise

17. If a bridge is proposed, supply:
Flow line elevation (ft): Abutment type:
Preliminary low beam elevation (ft): Skew (degrees):
Width of deck (ft): Number of spans:
Total length from face to face of abutment (ft)

18. If a culvert is proposed, supply:
Type and size: 3-60"X38"RCEP Length (ft): 114
Upstream invert elevation (ft): 710.87 Entrance type:
Downstream invert elevation (ft): 709.59 Skew (degrees): 0
Note: Upstream and downstream elevations should reflect the elevations before the 3" drop is applied

19. If a three-sided structure is proposed, supply:
Flow line elevation (ft): Skew (degrees):
Span (ft): Length (ft):
Height (ft): Number of spans:

20. a. Is the IDOT Clearance Policy Met? ☐ Yes ☐ No ☒ NA Value (ft):
b. Is the IDOT Freeboard Policy Met? ☐ Yes ☐ No ☒ NA Value (ft): 2.06

21. Type of streambed soil : ☐ Clay ☐ Silt ☐ Sand ☒ Loam ☐

22. Scour/ Migration Problems: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Ice Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Debris Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Countermeasures Proposed:

Existing Structure Data (NAVD 1988 Datum)

		Structure U/S	Subject Structure	Structure D/S
23.	Distance from proposed structure: (ft.)	N/A	N/A	50
24.	Type of structure:	N/A	2-60"X38" RCEP (IL-53)	4' RCP (Norwood Ave)
25.	Low beam elevation:	N/A	713.97 ft	713.92 ft
26.	Flow line elevation:	N/A	710.80 ft	709.92 ft
27.	Maximum known high water elevation:	N/A	N/A	N/A
28.	Date of maximum high water:	October 1954	October 1954	October 1954
29.	Cause (backwater, headwater, etc.):		Unknown	
30.	Does structure carry entire design flood flow?	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
	If not, state area of additional waterway opening: (ft^2)			
31.	Type and size of existing overflow structures:			
32.	Has adverse scour occurred under or adjacent to the structure?	No	No	No
33.	Classify type of scour and/or aggradation / degradation:			

Required Additional Data

34. Deviations from the General Procedures presented in IDOT DM CH. 2, CH.6, and CH.7:

35. Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area:

36. Site Inspection made by: Gerald L. Robinson, P.E., CFM Date: 11/5/2010

Remarks:

37. Prepared by: Emily Anderson, PE, CFM Date 6/14/2012

Signed (QA/QC): Christiana Wang Date 6/14/12

Illinois Department of Transportation

Hydraulic Report Data Sheets
Based on NAVD 1988 Datum

Route	Norwood Avenue	P or D #	P-91-443-06
Section		PTB #	141 Item 2
County	DuPage		
Exist SN	16+00		
Prop SN	16+00		

General Information

1. Name of the Stream: Devon Avenue Tributary

2. Location of the Structure: SE ¼ of the NW ¼ of Section 6 , Township 40N, Range 11E of the 3rd P.M.

3. Hydraulic Report Prepared By: ☒ Consultant Christopher B. Burke Engineering, Ltd. ☐ District

4. Hydraulic Report Approval Authority: ☐ District – Post PDF of HR to BBS Hydraulics SharePoint Server ☐ BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics

Site Design Data

5. Drainage Area (sq. mi.): ±0.17

6. Highway Classification: ☐ Rural ☒ Urban ☐ Other ☐ Principal Arterial ☒ Minor Arterial ☐ Collector ☐ Local

7. Design Frequency: ☐ 30 yr ☒ 50 Yr. ☐ Other

8. Number of Waterway Information Tables (WIT): 1
If more than one, explain:

Hydrologic & Hydraulic Analysis

9. Hydrology Modeling (check all that apply): ☐ USGS/Stream Stats ☐ FIS ☐ Gage Data ☒ Other FEQ Model

10. Hydraulic Modeling (check all that apply):
a. Method: ☐ HEC-RAS ☐ WSPRO ☒ Other FEQ Model
b. Manning's "n" values determined as per IDOT DM CH.5? ☒ Yes ☐ No
If no, explain:
c. Source of Starting WSE: Salt Creek
d. Non- IDOT encroachments in Survey? ☒ Yes ☐ No
If yes, are they accounted for? ☒ Yes ☐ No
e. Does the Tailwater Control? ☐ Yes ☒ No
If yes, list:

f. Were the Expansion/Contraction cones properly addressed? ☒ Yes ☐ No ☐ N/A
If No or N/A, explain:

g. What Expansion and Contraction Rates were used? Expansion: 4 (X:1)
Contraction 2 (X:1)

IDNR – OWR Floodway Permit

11. Is area experiencing urbanization or expected to urbanize within 10 years? ☒ Yes ☐ No

12. Are there any sensitive flood receptors located upstream within possible backwater influence? ☐ Yes ☒ No
If yes, list and describe critical upstream flood damageable properties and their elevations.

13. Is there any History of Flooding or Overtopping problems? ☒ Yes ☐ No
Sources of Observed Highwater:

14. Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated Public Body of Water? ☐ Yes ☒ No

15. Required IDNR - OWR Permit type:
☐ Individual ☐ SWP #2 ☐ SWP #12 ☐ Floodway
☒ None ☐ Other

Proposed Structure Data (NAVD 1988 Datum)

16. Project Scope (check all that apply):
a. ☒ Complete Replacement
b. ☐ Superstructure Replacement
c: ☐ Superstructure Widening; Length of Pier Extension in the water:
U/S D/S
d. ☐ Bridge ☒Culvert
e. ☐ New Alignment
f. Work Planned Below Q_{100} HWE? ☒ Yes ☐ No
g. ☐ Profile Raise

17. If a bridge is proposed, supply:
Flow line elevation (ft): Abutment type:
Preliminary low beam elevation (ft): Skew (degrees):
Width of deck (ft): Number of spans:
Total length from face to face of abutment (ft)

18. If a culvert is proposed, supply:
Type and size: 5'X3' RCBC Length (ft): 970
Upstream invert elevation (ft): 709.92 Entrance type:
Downstream invert elevation (ft): 708.00 Skew (degrees): 0
Note: Upstream and downstream elevations should reflect the elevations before the 3" drop is applied

19. If a three-sided structure is proposed, supply:
Flow line elevation (ft): Skew (degrees):
Span (ft): Length (ft):
Height (ft): Number of spans:

20. a. Is the IDOT Clearance Policy Met? ☐ Yes ☐ No ☒ NA Value (ft):
b. Is the IDOT Freeboard Policy Met? ☐ Yes ☐ No ☒ NA Value (ft): 3.80

21. Type of streambed soil : ☐ Clay ☐ Silt ☐ Sand ☒ Loam ☐

22. Scour/ Migration Problems: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Ice Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Debris Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Countermeasures Proposed:

Existing Structure Data (NAVD 1988 Datum)

		Structure U/S	Subject Structure	Structure D/S
23.	Distance from proposed structure: (ft.)	50	N/A	280
24.	Type of structure:	2-60"X38" RCEP (IL-53)	4' RCP (Norwood Ave)	4' RCP Culvert Access Road
25.	Low beam elevation:	713.97 ft	713.92 ft	713.67 ft
26.	Flow line elevation:	710.80 ft	709.92 ft	709.67 ft
27.	Maximum known high water elevation:	N/A	N/A	N/A
28.	Date of maximum high water:	October 1954	October 1954	October 1954
29.	Cause (backwater, headwater, etc.):			
30.	Does structure carry entire design flood flow?	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
	If not, state area of additional waterway opening: (ft^2)			
31.	Type and size of existing overflow structures:			
32.	Has adverse scour occurred under or adjacent to the structure?	No	No	No
33.	Classify type of scour and/or aggradation / degradation:			

Required Additional Data

34. Deviations from the General Procedures presented in IDOT DM CH. 2, CH.6, and CH.7:

35. Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area:

36. Site Inspection made by: Gerald L. Robinson, P.E., CFM Date: 11/5/2010

Remarks:

37. Prepared by: Emily Anderson, PE, CFM Date 6/14/2012

Signed (QA/QC): Christiana Wang Date 6/14/2012

Illinois Department of Transportation

Hydraulic Report Data Sheets
Based on NAVD 1988 Datum

Route	EOH East (Ex)	P or D #	P-91-443-06
Section		PTB #	141 Item 2
County	DuPage		
Exist SN	990+00		
Prop SN			

General Information

1. Name of the Stream: Devon Avenue Tributary

2. Location of the Structure: SE ¼ of the NW ¼ of Section 6 , Township 40N, Range 11E of the 3rd P.M.

3. Hydraulic Report Prepared By: ☒ Consultant Christopher B. Burke Engineering, Ltd. ☐ District

4. Hydraulic Report Approval Authority: ☐ District – Post PDF of HR to BBS Hydraulics SharePoint Server ☐ BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics

Site Design Data

5. Drainage Area (sq. mi.): ±0.35

6. Highway Classification: ☐ Rural ☒ Urban ☐ Other ☒ Principal Arterial ☐ Minor Arterial ☐ Collector ☐ Local

7. Design Frequency: ☐ 30 yr ☒ 50 Yr. ☐ Other

8. Number of Waterway Information Tables (WIT): 1
If more than one, explain:

Hydrologic & Hydraulic Analysis

9. Hydrology Modeling (check all that apply): ☐ USGS/Stream Stats ☐ FIS ☐ Gage Data ☒ Other FEQ Model

10. Hydraulic Modeling (check all that apply):
a. Method: ☐ HEC-RAS ☐ WSPRO ☒ Other FEQ Model
b. Manning's "n" values determined as per IDOT DM CH.5? ☒ Yes ☐ No
If no, explain:
c. Source of Starting WSE: Salt Creek
d. Non- IDOT encroachments in Survey? ☒ Yes ☐ No
If yes, are they accounted for? ☒ Yes ☐ No
e. Does the Tailwater Control? ☐ Yes ☒ No
If yes, list:

f. Were the Expansion/Contraction cones properly addressed? ☒ Yes ☐ No ☐ N/A
If No or N/A, explain:

g. What Expansion and Contraction Rates were used? Expansion: 4 (X:1)
Contraction 2 (X:1)

IDNR – OWR Floodway Permit

11. Is area experiencing urbanization or expected to urbanize within 10 years? ☒ Yes ☐ No

12. Are there any sensitive flood receptors located upstream within possible backwater influence? ☐ Yes ☒ No
If yes, list and describe critical upstream flood damageable properties and their elevations.

13. Is there any History of Flooding or Overtopping problems? ☐ Yes ☒ No
Sources of Observed Highwater:

14. Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated Public Body of Water? ☐ Yes ☒ No

15. Required IDNR - OWR Permit type:
☐ Individual ☐ SWP #2 ☐ SWP #12 ☐ Floodway
☒ None ☐ Other

Proposed Structure Data (NAVD 1988 Datum)

16. Project Scope (check all that apply):
a. ☐ Complete Replacement
b. ☐ Superstructure Replacement
c: ☐ Superstructure Widening; Length of Pier Extension in the water:
U/S D/S
d. ☐ Bridge ☐ Culvert
e. ☐ New Alignment
f. Work Planned Below Q_{100} HWE? ☐ Yes ☐ No
g. ☐ Profile Raise

17. If a bridge is proposed, supply:
Flow line elevation (ft): Abutment type:
Preliminary low beam elevation (ft): Skew (degrees):
Width of deck (ft): Number of spans:
Total length from face to face of abutment (ft)

18. If a culvert is proposed, supply:
Type and size: Length (ft):
Upstream invert elevation (ft): Entrance type:
Downstream invert elevation (ft): Skew (degrees):
Note: Upstream and downstream elevations should reflect the elevations before the 3" drop is applied

19. If a three-sided structure is proposed, supply:
Flow line elevation (ft): Skew (degrees):
Span (ft): Length (ft):
Height (ft): Number of spans:

20. a. Is the IDOT Clearance Policy Met? ☐ Yes ☐ No ☒ NA Value (ft): No proposed
b. Is the IDOT Freeboard Policy Met? ☐ Yes ☐ No ☒ NA Value (ft): structure

21. Type of streambed soil : ☐ Clay ☐ Silt ☐ Sand ☒ Loam ☐

22. Scour/ Migration Problems: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Ice Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Debris Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Countermeasures Proposed:

Existing Structure Data (NAVD 1988 Datum)

		Structure U/S	Subject Structure	Structure D/S
23.	Distance from proposed structure: (ft.)	50 ft	N/A	150 ft
24.	Type of structure:	60" CMP (Unnamed)	2-4.5' RCPC (EOH-East)	2-4.5' RCPC (West bound Thorndale Ramp)
25.	Low beam elevation:	713.81 ft	712.97 ft	710.96 ft
26.	Flow line elevation:	708.81 ft	708.47 ft	706.46 ft
27.	Maximum known high water elevation:	N/A	N/A	N/A
28.	Date of maximum high water:	October 1954	October 1954	October 1954
29.	Cause (backwater, headwater, etc.):		Unknown	
30.	Does structure carry entire design flood flow?	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
	If not, state area of additional waterway opening: (ft^2)			
31.	Type and size of existing overflow structures:			
32.	Has adverse scour occurred under or adjacent to the structure?	No	No	No
33.	Classify type of scour and/or aggradation / degradation:			

Required Additional Data

34. Deviations from the General Procedures presented in IDOT DM CH. 2, CH.6, and CH.7:

35. Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area:

36. Site Inspection made by: Gerald L. Robinson, P.E., CFM Date: 11/5/2010

Remarks:

37. Prepared by: Emily Anderson, PE, CFM Date 6/14/2012

Signed (QA/QC): Chinliang Wang Date 6/14/2012

Illinois Department of Transportation

Hydraulic Report Data Sheets
Based on NAVD 1988 Datum

Route	EO Expressway East Ramp (Ex)	P or D #	P-91-443-06
Section		PTB #	141 Item 2
County	DuPage		
Exist SN	990+00		
Prop SN			

General Information

1. Name of the Stream: Devon Avenue Tributary

2. Location of the Structure: SE ¼ of the NW ¼ of Section 6 , Township 40N, Range 11E of the 3rd P.M.

3. Hydraulic Report Prepared By: ☒ Consultant ☐ District — Christopher B. Burke Engineering, Ltd.

4. Hydraulic Report Approval Authority:
   - ☐ District – Post PDF of HR to BBS Hydraulics SharePoint Server
   - ☐ BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics

Site Design Data

5. Drainage Area (sq. mi.): ±0.4

6. Highway Classification:
   - ☐ Rural
   - ☒ Urban
   - ☐ Other
   - ☐ Principal Arterial
   - ☐ Minor Arterial
   - ☐ Collector
   - ☒ Local

7. Design Frequency: ☐ 30 yr ☒ 50 Yr. ☐ Other

8. Number of Waterway Information Tables (WIT): 1
   If more than one, explain:

Hydrologic & Hydraulic Analysis

9. Hydrology Modeling (check all that apply): ☐ USGS/Stream Stats ☐ FIS ☐ Gage Data ☒ Other FEQ Model

10. Hydraulic Modeling (check all that apply):
    a. Method: ☐ HEC-RAS ☐ WSPRO ☒ Other FEQ Model
    b. Manning's "n" values determined as per IDOT DM CH.5? ☒ Yes ☐ No
       If no, explain:
    c. Source of Starting WSE: Salt Creek
    d. Non- IDOT encroachments in Survey? ☒ Yes ☐ No
       If yes, are they accounted for? ☒ Yes ☐ No
    e. Does the Tailwater Control? ☐ Yes ☒ No
       If yes, list:
    f. Were the Expansion/Contraction cones properly addressed? ☒ Yes ☐ No ☐ N/A
       If No or N/A, explain:

g. What Expansion and Contraction Rates were used? Expansion: 4 (X:1)
Contraction 2 (X:1)

IDNR – OWR Floodway Permit

11. Is area experiencing urbanization or expected to urbanize within 10 years? ☒ Yes ☐ No

12. Are there any sensitive flood receptors located upstream within possible backwater influence? ☐ Yes ☒ No
If yes, list and describe critical upstream flood damageable properties and their elevations.

13. Is there any History of Flooding or Overtopping problems? ☐ Yes ☒ No
Sources of Observed Highwater:

14. Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated Public Body of Water? ☐ Yes ☒ No

15. Required IDNR - OWR Permit type:
☐ Individual ☐ SWP #2 ☐ SWP #12 ☐ Floodway
☒ None ☐ Other

Proposed Structure Data (NAVD 1988 Datum)

16. Project Scope (check all that apply):
a. ☐ Complete Replacement
b. ☐ Superstructure Replacement
c: ☐ Superstructure Widening; Length of Pier Extension in the water:
U/S D/S
d. ☐ Bridge ☐ Culvert
e. ☐ New Alignment
f. Work Planned Below Q_{100} HWE? ☐ Yes ☐ No
g. ☐ Profile Raise

17. If a bridge is proposed, supply:
Flow line elevation (ft):
Preliminary low beam elevation (ft):
Width of deck (ft):
Total length from face to face of abutment (ft)
Abutment type:
Skew (degrees):
Number of spans:

18. If a culvert is proposed, supply:
Type and size:
Upstream invert elevation (ft):
Downstream invert elevation (ft):
Length (ft):
Entrance type:
Skew (degrees):
Note: Upstream and downstream elevations should reflect the elevations before the 3" drop is applied

19. If a three-sided structure is proposed, supply:
Flow line elevation (ft):
Span (ft):
Height (ft):
Skew (degrees):
Length (ft):
Number of spans:

20. a. Is the IDOT Clearance Policy Met? ☐ Yes ☐ No ☒ NA Value (ft): No proposed
b. Is the IDOT Freeboard Policy Met? ☐ Yes ☐ No ☒ NA Value (ft): structure

21. Type of streambed soil : ☐ Clay ☐ Silt ☐ Sand ☒ Loam ☐

22. Scour/ Migration Problems: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Ice Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Debris Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Countermeasures Proposed:

Existing Structure Data (NAVD 1988 Datum)

		Structure U/S	Subject Structure	Structure D/S
23.	Distance from proposed structure: (ft.)	50	N/A	N/A
24.	Type of structure:	2 - 4.5' RCPC (EOH-East)	2 - 4.5' RCPC (Westbound Thorndale Ramp)	9.5' x 3.64' RCBC (I-290)
25.	Low beam elevation:	712.97 ft	710.96 ft	695.03 ft
26.	Flow line elevation:	708.47 ft	706.46 ft	691.39 ft
27.	Maximum known high water elevation:	N/A	N/A	N/A
28.	Date of maximum high water:	October 1954	October 1954	October 1954
29.	Cause (backwater, headwater, etc.):		Unknown	
30.	Does structure carry entire design flood flow?	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
	If not, state area of additional waterway opening: (ft^2)			
31.	Type and size of existing overflow structures:			
32.	Has adverse scour occurred under or adjacent to the structure?	No	No	No
33.	Classify type of scour and/or aggradation / degradation:			

Required Additional Data

34. Deviations from the General Procedures presented in IDOT DM CH. 2, CH.6, and CH.7:

35. Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area:

36. Site Inspection made by: Gerald L. Robinson, P.E., CFM Date: 11/5/2010

Remarks:

37. Prepared by: Emily Anderson, PE, CFM Date 6/14/2012

Signed (QA/QC): Chinliang Wang Date 6/14/2012

Illinois Department of Transportation

Hydraulic Report Data Sheets
Based on NAVD 1988 Datum

Route	EOH West	P or D #	P-91-443-06
Section		PTB #	141 Item 2
County	DuPage		
Exist SN	982+50		
Prop SN	982+50		

General Information

1. Name of the Stream: Devon Avenue Tributary

2. Location of the Structure: SE ¼ of the NW ¼ of Section 6 , Township 40N, Range 11E of the 3rd P.M.

3. Hydraulic Report Prepared By: ☒ Consultant Christopher B. Burke Engineering, Ltd. ☐ District

4. Hydraulic Report Approval Authority: ☐ District – Post PDF of HR to BBS Hydraulics SharePoint Server ☐ BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics

Site Design Data

5. Drainage Area (sq. mi.): ±0.25

6. Highway Classification: ☐ Rural ☒ Urban ☐ Other ☒ Principal Arterial ☐ Minor Arterial ☐ Collector ☐ Local

7. Design Frequency: ☐ 30 yr ☒ 50 Yr. ☐ Other

8. Number of Waterway Information Tables (WIT): 2
   If more than one, explain:

Hydrologic & Hydraulic Analysis

9. Hydrology Modeling (check all that apply): ☐ USGS/Stream Stats ☐ FIS ☐ Gage Data ☒ Other FEQ Model

10. Hydraulic Modeling (check all that apply):
    a. Method: ☐ HEC-RAS ☐ WSPRO ☒ Other FEQ Model
    b. Manning's "n" values determined as per IDOT DM CH.5? ☒ Yes ☐ No
       If no, explain:
    c. Source of Starting WSE: Salt Creek
    d. Non- IDOT encroachments in Survey? ☒ Yes ☐ No
       If yes, are they accounted for? ☒ Yes ☐ No
    e. Does the Tailwater Control? ☐ Yes ☒ No
       If yes, list:
    f. Were the Expansion/Contraction cones properly addressed? ☒ Yes ☐ No ☐ N/A
       If No or N/A, explain:

g. What Expansion and Contraction Rates were used? Expansion: 4 (X:1)
Contraction 2 (X:1)

IDNR – OWR Floodway Permit

11. Is area experiencing urbanization or expected to urbanize within 10 years? ☒ Yes ☐ No

12. Are there any sensitive flood receptors located upstream within possible backwater influence? ☐ Yes ☒ No
If yes, list and describe critical upstream flood damageable properties and their elevations.

13. Is there any History of Flooding or Overtopping problems? ☐ Yes ☒ No
Sources of Observed Highwater:

14. Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated Public Body of Water? ☐ Yes ☒ No

15. Required IDNR - OWR Permit type:
☐ Individual ☐ SWP #2 ☐ SWP #12 ☐ Floodway
☒ None ☐ Other

Proposed Structure Data (NAVD 1988 Datum)

16. Project Scope (check all that apply):
a. ☒ Complete Replacement
b. ☐ Superstructure Replacement
c: ☐ Superstructure Widening; Length of Pier Extension in the water:
U/S D/S
d. ☐ Bridge ☒Culvert
e. ☒ New Alignment
f. Work Planned Below Q_{100} HWE? ☒ Yes ☐ No
g. ☐ Profile Raise

17. If a bridge is proposed, supply:
Flow line elevation (ft): Abutment type:
Preliminary low beam elevation (ft): Skew (degrees):
Width of deck (ft): Number of spans:
Total length from face to face of abutment (ft)

18. If a culvert is proposed, supply:
Type and size: 6'X3' RCBC Length (ft): 525
Upstream invert elevation (ft): 708.0 Entrance type:
Downstream invert elevation (ft): 704.0 Skew (degrees): 0
Note: Upstream and downstream elevations should reflect the elevations before the 3" drop is applied

19. If a three-sided structure is proposed, supply:
Flow line elevation (ft): Skew (degrees):
Span (ft): Length (ft):
Height (ft): Number of spans:

20. a. Is the IDOT Clearance Policy Met? ☐ Yes ☐ No ☒ NA Value (ft):
b. Is the IDOT Freeboard Policy Met? ☐ Yes ☐ No ☒ NA Value (ft): 7.14

21. Type of streambed soil : ☐ Clay ☐ Silt ☐ Sand ☒ Loam ☐

22. Scour/ Migration Problems: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Ice Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Debris Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Countermeasures Proposed:

Existing Structure Data (NAVD 1988 Datum)

		Structure U/S	Subject Structure	Structure D/S
23.	Distance from proposed structure: (ft.)	1,100 ft	N/A	450 ft
24.	Type of structure:	4' RCP Culvert Access Road	4' RCP Culvert EOH-West	2-2' RCP Acces Road
25.	Low beam elevation:	713.67 ft	711.48 ft	704.86 ft
26.	Flow line elevation:	709.67 ft	707.48 ft	702.86 ft
27.	Maximum known high water elevation:	N/A	N/A	N/A
28.	Date of maximum high water:	October 1954	October 1954	October 1954
29.	Cause (backwater, headwater, etc.):		Unknown	
30.	Does structure carry entire design flood flow?	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
	If not, state area of additional waterway opening: (ft^2)			
31.	Type and size of existing overflow structures:			
32.	Has adverse scour occurred under or adjacent to the structure?	No	No	No
33.	Classify type of scour and/or aggradation / degradation:			

Required Additional Data

34. Deviations from the General Procedures presented in IDOT DM CH. 2, CH.6, and CH.7:

35. Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area:

36. Site Inspection made by: Gerald L. Robinson, P.E., CFM Date: 11/5/2010

Remarks:

37. Prepared by: Emily Anderson, PE, CFM Date 6/14/2012

Signed (QA/QC): Chinliang Wang Date 6/14/2012

Illinois Department of Transportation

Hydraulic Report Data Sheets
Based on NAVD 1988 Datum

Route	IL Route 53 North	P or D #	P-91-443-06
Section		PTB #	141 Item 2
County	DuPage		
Exist SN			
Prop SN	256+00 on Rohlwing Road		

General Information

1. Name of the Stream: Devon Avenue Tributary

2. Location of the Structure: SE ¼ of the NW ¼ of Section 6 , Township 40N, Range 11E of the 3rd P.M.

3. Hydraulic Report Prepared By: ☒ Consultant Christopher B. Burke Engineering, Ltd. ☐ District

4. Hydraulic Report Approval Authority: ☐ District – Post PDF of HR to BBS Hydraulics SharePoint Server ☐ BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics

Site Design Data

5. Drainage Area (sq. mi.): ±0.098

6. Highway Classification: ☐ Rural ☒ Urban ☐ Other ☒ Principal Arterial ☐ Minor Arterial ☐ Collector ☐ Local

7. Design Frequency: ☐ 30 yr ☒ 50 Yr. ☐ Other

8. Number of Waterway Information Tables (WIT): 1
If more than one, explain:

Hydrologic & Hydraulic Analysis

9. Hydrology Modeling (check all that apply): ☐ USGS/Stream Stats ☐ FIS ☐ Gage Data ☒ Other FEQ Model

10. Hydraulic Modeling (check all that apply):
a. Method: ☐ HEC-RAS ☐ WSPRO ☒ Other FEQ Model
b. Manning's "n" values determined as per IDOT DM CH.5? ☒ Yes ☐ No
If no, explain:
c. Source of Starting WSE: Salt Creek
d. Non- IDOT encroachments in Survey? ☒ Yes ☐ No
If yes, are they accounted for? ☒ Yes ☐ No
e. Does the Tailwater Control? ☐ Yes ☒ No
If yes, list:

f. Were the Expansion/Contraction cones properly addressed? ☒ Yes ☐ No ☐ N/A
If No or N/A, explain:

g. What Expansion and Contraction Rates were used? Expansion: 4 (X:1)
Contraction 2 (X:1)

IDNR – OWR Floodway Permit

11. Is area experiencing urbanization or expected to urbanize within 10 years? ☒ Yes ☐ No

12. Are there any sensitive flood receptors located upstream within possible backwater influence? ☐ Yes ☒ No
If yes, list and describe critical upstream flood damageable properties and their elevations.

13. Is there any History of Flooding or Overtopping problems? ☐ Yes ☒ No
Sources of Observed Highwater:

14. Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated Public Body of Water? ☐ Yes ☒ No

15. Required IDNR - OWR Permit type:
☐ Individual ☐ SWP #2 ☐ SWP #12 ☐ Floodway
☒ None ☐ Other

Proposed Structure Data (NAVD 1988 Datum)

16. Project Scope (check all that apply):
a. ☒ Complete Replacement
b. ☐ Superstructure Replacement
c: ☐ Superstructure Widening; Length of Pier Extension in the water:
U/S D/S
d. ☐ Bridge ☒Culvert
e. ☒ New Alignment
f. Work Planned Below Q_{100} HWE? ☒ Yes ☐ No
g. ☐ Profile Raise

17. If a bridge is proposed, supply:
Flow line elevation (ft):
Preliminary low beam elevation (ft):
Width of deck (ft):
Total length from face to face of abutment (ft)
Abutment type:
Skew (degrees):
Number of spans:

18. If a culvert is proposed, supply:
Type and size: 4'X4' RCBC
Upstream invert elevation (ft): 707.2
Downstream invert elevation (ft): 706.5
Length (ft): 650
Entrance type:
Skew (degrees): 0
Note: Upstream and downstream elevations should reflect the elevations before the 3" drop is applied

19. If a three-sided structure is proposed, supply:
Flow line elevation (ft):
Span (ft):
Height (ft):
Skew (degrees):
Length (ft):
Number of spans:

20. a. Is the IDOT Clearance Policy Met? ☐ Yes ☐ No ☒ NA Value (ft):
b. Is the IDOT Freeboard Policy Met? ☐ Yes ☐ No ☒ NA Value (ft): 4.89

21. Type of streambed soil : ☐ Clay ☐ Silt ☐ Sand ☒ Loam ☐

22. Scour/ Migration Problems: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Ice Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Debris Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Countermeasures Proposed:

Existing Structure Data (NAVD 1988 Datum)

		Structure U/S	Subject Structure	Structure D/S
23.	Distance from proposed structure: (ft.)	N/A	N/A	N/A
24.	Type of structure:	N/A	N/A	N/A
25.	Low beam elevation:	N/A	N/A	N/A
26.	Flow line elevation:	N/A	N/A	N/A
27.	Maximum known high water elevation:	N/A	N/A	N/A
28.	Date of maximum high water:	N/A	N/A	N/A
29.	Cause (backwater, headwater, etc.):	N/A	N/A	N/A
30.	Does structure carry entire design flood flow?	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
	If not, state area of additional waterway opening: (ft^2)			
31.	Type and size of existing overflow structures:	N/A	N/A	N/A
32.	Has adverse scour occurred under or adjacent to the structure?	N/A	N/A	N/A
33.	Classify type of scour and/or aggradation / degradation:	N/A	N/A	N/A

Required Additional Data

34. Deviations from the General Procedures presented in IDOT DM CH. 2, CH.6, and CH.7:

35. Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area:

36. Site Inspection made by: Gerald L. Robinson, P.E., CFM Date: 11/5/2010

Remarks:

37. Prepared by: Emily Anderson, PE, CFM Date 6/14/2012

Signed (QA/QC): Chinliang Wang Date 6/14/2012

Illinois Department of Transportation

Hydraulic Report Data Sheets Based on NAVD 1988 Datum

Route	Ramp G1 (Pond 2, D6-NW)	P or D #	P-91-443-06
Section		PTB #	141 Item 2
County	DuPage		
Exist SN			
Prop SN	121+50		

General Information

1. Name of the Stream: Devon Avenue Tributary

2. Location of the Structure: SE ¼ of the NW ¼ of Section 6 , Township 40N, Range 11E of the 3rd P.M.

3. Hydraulic Report Prepared By: ☒ Consultant ☐ District — Christopher B. Burke Engineering, Ltd.

4. Hydraulic Report Approval Authority:
   - ☐ District – Post PDF of HR to BBS Hydraulics SharePoint Server
   - ☐ BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics

Site Design Data

5. Drainage Area (sq. mi.): ±0.39

6. Highway Classification:
   - ☐ Rural
   - ☒ Urban
   - ☐ Other
   - ☒ Principal Arterial
   - ☐ Minor Arterial
   - ☐ Collector
   - ☐ Local

7. Design Frequency: ☐ 30 yr ☒ 50 Yr. ☐ Other

8. Number of Waterway Information Tables (WIT): 1
   If more than one, explain:

Hydrologic & Hydraulic Analysis

9. Hydrology Modeling (check all that apply): ☐ USGS/Stream Stats ☐ FIS ☐ Gage Data ☒ Other FEQ Model

10. Hydraulic Modeling (check all that apply):
    a. Method: ☐ HEC-RAS ☐ WSPRO ☒ Other FEQ Model
    b. Manning's "n" values determined as per IDOT DM CH.5? ☒ Yes ☐ No
       If no, explain:
    c. Source of Starting WSE: Salt Creek
    d. Non- IDOT encroachments in Survey? ☐ Yes ☒ No
       If yes, are they accounted for? ☐ Yes ☐ No
    e. Does the Tailwater Control? ☐ Yes ☒ No
       If yes, list:
    f. Were the Expansion/Contraction cones properly addressed? ☒ Yes ☐ No ☐ N/A
       If No or N/A, explain:

g. What Expansion and Contraction Rates were used? Expansion: 4 (X:1)
Contraction 2 (X:1)

IDNR – OWR Floodway Permit

11. Is area experiencing urbanization or expected to urbanize within 10 years? ☒ Yes ☐ No

12. Are there any sensitive flood receptors located upstream within possible backwater influence? ☐ Yes ☒ No
If yes, list and describe critical upstream flood damageable properties and their elevations.

13. Is there any History of Flooding or Overtopping problems? ☐ Yes ☒ No
Sources of Observed Highwater:

14. Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated Public Body of Water? ☐ Yes ☒ No

15. Required IDNR - OWR Permit type:
☐ Individual ☐ SWP #2 ☐ SWP #12 ☐ Floodway
☒ None ☐ Other

Proposed Structure Data (NAVD 1988 Datum)

16. Project Scope (check all that apply):
a. ☒ Complete Replacement
b. ☐ Superstructure Replacement
c: ☐ Superstructure Widening; Length of Pier Extension in the water:
U/S D/S
d. ☐ Bridge ☒Culvert
e. ☒ New Alignment
f. Work Planned Below Q_{100} HWE? ☒ Yes ☐ No
g. ☐ Profile Raise

17. If a bridge is proposed, supply:
Flow line elevation (ft): Abutment type:
Preliminary low beam elevation (ft): Skew (degrees):
Width of deck (ft): Number of spans:
Total length from face to face of abutment (ft)

18. If a culvert is proposed, supply:
Type and size: 3'X3' RCBC Length (ft): 510
Upstream invert elevation (ft): 701.0 Entrance type:
Downstream invert elevation (ft): 691.2 Skew (degrees): 0
Note: Upstream and downstream elevations should reflect the elevations before the 3" drop is applied

19. If a three-sided structure is proposed, supply:
Flow line elevation (ft): Skew (degrees):
Span (ft): Length (ft):
Height (ft): Number of spans:

20. a. Is the IDOT Clearance Policy Met? ☐ Yes ☐ No ☒ NA Value (ft):
b. Is the IDOT Freeboard Policy Met? ☒ Yes ☐ No ☐ NA Value (ft): 7.72 (100 yr)

21. Type of streambed soil : ☐ Clay ☐ Silt ☐ Sand ☒ Loam ☐

22. Scour/ Migration Problems: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Ice Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Debris Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Countermeasures Proposed:

Existing Structure Data (NAVD 1988 Datum)

		Structure U/S	Subject Structure	Structure D/S
23.	Distance from proposed structure: (ft.)	N/A	N/A	N/A
24.	Type of structure:	N/A	N/A	N/A
25.	Low beam elevation:	N/A	N/A	N/A
26.	Flow line elevation:	N/A	N/A	N/A
27.	Maximum known high water elevation:	N/A	N/A	N/A
28.	Date of maximum high water:	N/A	N/A	N/A
29.	Cause (backwater, headwater, etc.):	N/A	N/A	N/A
30.	Does structure carry entire design flood flow?	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
	If not, state area of additional waterway opening: (ft^2)			
31.	Type and size of existing overflow structures:	N/A	N/A	N/A
32.	Has adverse scour occurred under or adjacent to the structure?	N/A	N/A	N/A
33.	Classify type of scour and/or aggradation / degradation:	N/A	N/A	N/A

Required Additional Data

34. Deviations from the General Procedures presented in IDOT DM CH. 2, CH.6, and CH.7:

35. Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area:

36. Site Inspection made by: Gerald L. Robinson, P.E., CFM Date: 11/5/2010

Remarks:

37. Prepared by: Emily Anderson, P.E., CFM Date 6/14/2012

Signed (QA/QC): _____ Date _____

Illinois Department of Transportation

Hydraulic Report Data Sheets
Based on NAVD 1988 Datum

Route	Ramp G1, G2 (Dep2, FEQ Node F554)	P or D #	P-91-443-06
Section		PTB #	141 Item 2
County	DuPage		
Exist SN			
Prop SN	219+00 of Ramp G2		

General Information

1. Name of the Stream: Devon Avenue Tributary

2. Location of the Structure: SE ¼ of the NW ¼ of Section 6 , Township 40N, Range 11E of the 3rd P.M.

3. Hydraulic Report Prepared By: ☒ Consultant Christopher B. Burke Engineering, Ltd. ☐ District

4. Hydraulic Report Approval Authority: ☐ District – Post PDF of HR to BBS Hydraulics SharePoint Server ☐ BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics

Site Design Data

5. Drainage Area (sq. mi.): ±0.50

6. Highway Classification: ☐ Rural ☒ Urban ☐ Other ☒ Principal Arterial ☐ Minor Arterial ☐ Collector ☐ Local

7. Design Frequency: ☐ 30 yr ☒ 50 Yr. ☐ Other

8. Number of Waterway Information Tables (WIT): 1
If more than one, explain:

Hydrologic & Hydraulic Analysis

9. Hydrology Modeling (check all that apply): ☐ USGS/Stream Stats ☐ FIS ☐ Gage Data ☒ Other FEQ Model

10. Hydraulic Modeling (check all that apply):
a. Method: ☐ HEC-RAS ☐ WSPRO ☒ Other FEQ Model
b. Manning's "n" values determined as per IDOT DM CH.5? ☒ Yes ☐ No
If no, explain:
c. Source of Starting WSE: Salt Creek
d. Non- IDOT encroachments in Survey? ☒ Yes ☐ No
If yes, are they accounted for? ☒ Yes ☐ No
e. Does the Tailwater Control? ☐ Yes ☒ No
If yes, list:

f. Were the Expansion/Contraction cones properly addressed? ☒ Yes ☐ No ☐ N/A
If No or N/A, explain:

g. What Expansion and Contraction Rates were used? Expansion: 4 (X:1)
Contraction 2 (X:1)

IDNR – OWR Floodway Permit

11. Is area experiencing urbanization or expected to urbanize within 10 years? ☒ Yes ☐ No

12. Are there any sensitive flood receptors located upstream within possible backwater influence? ☐ Yes ☒ No
If yes, list and describe critical upstream flood damageable properties and their elevations.

13. Is there any History of Flooding or Overtopping problems? ☐ Yes ☒ No
Sources of Observed Highwater:

14. Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated Public Body of Water? ☐ Yes ☒ No

15. Required IDNR - OWR Permit type:
☐ Individual ☐ SWP #2 ☐ SWP #12 ☐ Floodway
☒ None ☐ Other

Proposed Structure Data (NAVD 1988 Datum)

16. Project Scope (check all that apply):
a. ☒ Complete Replacement
b. ☐ Superstructure Replacement
c: ☐ Superstructure Widening; Length of Pier Extension in the water:
U/S D/S
d. ☐ Bridge ☒Culvert
e. ☒ New Alignment
f. Work Planned Below Q_{100} HWE? ☒ Yes ☐ No
g. ☐ Profile Raise

17. If a bridge is proposed, supply:
Flow line elevation (ft):
Preliminary low beam elevation (ft):
Width of deck (ft):
Total length from face to face of abutment (ft)
Abutment type:
Skew (degrees):
Number of spans:

18. If a culvert is proposed, supply:
Type and size: 4'X3' RCBC
Upstream invert elevation (ft): 692.0
Downstream invert elevation (ft): 691.2
Length (ft): 180
Entrance type:
Skew (degrees): 0
Note: Upstream and downstream elevations should reflect the elevations before the 3" drop is applied

19. If a three-sided structure is proposed, supply:
Flow line elevation (ft):
Span (ft):
Height (ft):
Skew (degrees):
Length (ft):
Number of spans:

20. a. Is the IDOT Clearance Policy Met? ☐ Yes ☐ No ☒ NA Value (ft):
b. Is the IDOT Freeboard Policy Met? ☐ Yes ☐ No ☒ NA Value (ft): 1.85

21. Type of streambed soil : ☐ Clay ☐ Silt ☐ Sand ☒ Loam ☐

22. Scour/ Migration Problems: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Ice Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Debris Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Countermeasures Proposed:

Existing Structure Data (NAVD 1988 Datum)

		Structure U/S	Subject Structure	Structure D/S
23.	Distance from proposed structure: (ft.)	N/A	N/A	N/A
24.	Type of structure:	N/A	N/A	N/A
25.	Low beam elevation:	N/A	N/A	N/A
26.	Flow line elevation:	N/A	N/A	N/A
27.	Maximum known high water elevation:	N/A	N/A	N/A
28.	Date of maximum high water:	N/A	N/A	N/A
29.	Cause (backwater, headwater, etc.):	N/A	N/A	N/A
30.	Does structure carry entire design flood flow?	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
	If not, state area of additional waterway opening: (ft^2)			
31.	Type and size of existing overflow structures:	N/A	N/A	N/A
32.	Has adverse scour occurred under or adjacent to the structure?	N/A	N/A	N/A
33.	Classify type of scour and/or aggradation / degradation:	N/A	N/A	N/A

Required Additional Data

34. Deviations from the General Procedures presented in IDOT DM CH. 2, CH.6, and CH.7:

35. Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area:

36. Site Inspection made by: Gerald L. Robinson, P.E., CFM Date: 11/5/2010

Remarks:

37. Prepared by: Emily Anderson, PE, CFM Date 6/14/2012

Signed (QA/QC): Chinliang Wang Date 6/14/2012

Illinois Department of Transportation

Hydraulic Report Data Sheets Based on NAVD 1988 Datum

Route	Ramp G3 (Pond 5, FEQ Node F312)	P or D #	P-91-443-06
Section		PTB #	141 Item 2
County	DuPage		
Exist SN			
Prop SN	1305+50		

General Information

1. Name of the Stream: Devon Avenue Tributary

2. Location of the Structure: SE ¼ of the NW ¼ of Section 6 , Township 40N, Range 11E of the 3rd P.M.

3. Hydraulic Report Prepared By: ☒ Consultant ☐ District — Christopher B. Burke Engineering, Ltd.

4. Hydraulic Report Approval Authority:
   - ☐ District – Post PDF of HR to BBS Hydraulics SharePoint Server
   - ☐ BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics

Site Design Data

5. Drainage Area (sq. mi.): ±0.04

6. Highway Classification:
   - ☐ Rural
   - ☒ Urban
   - ☐ Other
   - ☒ Principal Arterial
   - ☐ Minor Arterial
   - ☐ Collector
   - ☐ Local

7. Design Frequency: ☐ 30 yr ☒ 50 Yr. ☐ Other _____

8. Number of Waterway Information Tables (WIT): 1
   If more than one, explain:

Hydrologic & Hydraulic Analysis

9. Hydrology Modeling (check all that apply): ☐ USGS/Stream Stats ☐ FIS ☐ Gage Data ☒ Other FEQ Model

10. Hydraulic Modeling (check all that apply):
    a. Method: ☐ HEC-RAS ☐ WSPRO ☒ Other FEQ Model
    b. Manning's "n" values determined as per IDOT DM CH.5? ☒ Yes ☐ No
       If no, explain:
    c. Source of Starting WSE: Salt Creek
    d. Non- IDOT encroachments in Survey? ☒ Yes ☐ No
       If yes, are they accounted for? ☒ Yes ☐ No
    e. Does the Tailwater Control? ☐ Yes ☒ No
       If yes, list:
    f. Were the Expansion/Contraction cones properly addressed? ☒ Yes ☐ No ☐ N/A
       If No or N/A, explain:

g. What Expansion and Contraction Rates were used? Expansion: 4 (X:1)
Contraction 2 (X:1)

IDNR – OWR Floodway Permit

11. Is area experiencing urbanization or expected to urbanize within 10 years? ☒ Yes ☐ No

12. Are there any sensitive flood receptors located upstream within possible backwater influence? ☐ Yes ☒ No
If yes, list and describe critical upstream flood damageable properties and their elevations.

13. Is there any History of Flooding or Overtopping problems? ☐ Yes ☒ No
Sources of Observed Highwater:

14. Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated Public Body of Water? ☐ Yes ☒ No

15. Required IDNR - OWR Permit type:
☐ Individual ☐ SWP #2 ☐ SWP #12 ☐ Floodway
☒ None ☐ Other

Proposed Structure Data (NAVD 1988 Datum)

16. Project Scope (check all that apply):
a. ☒ Complete Replacement
b. ☐ Superstructure Replacement
c: ☐ Superstructure Widening; Length of Pier Extension in the water:
U/S D/S
d. ☐ Bridge ☒Culvert
e. ☒ New Alignment
f. Work Planned Below Q_{100} HWE? ☒ Yes ☐ No
g. ☐ Profile Raise

17. If a bridge is proposed, supply:
Flow line elevation (ft):
Preliminary low beam elevation (ft):
Width of deck (ft):
Total length from face to face of abutment (ft)
Abutment type:
Skew (degrees):
Number of spans:

18. If a culvert is proposed, supply:
Type and size: 24" RCP with 6" Orif
Upstream invert elevation (ft): 700.0
Downstream invert elevation (ft): 699.1
Length (ft): 200
Entrance type:
Skew (degrees): 0
Note: Upstream and downstream elevations should reflect the elevations before the 3" drop is applied

19. If a three-sided structure is proposed, supply:
Flow line elevation (ft):
Span (ft):
Height (ft):
Skew (degrees):
Length (ft):
Number of spans:

20. a. Is the IDOT Clearance Policy Met? ☐ Yes ☐ No ☒ NA Value (ft):
b. Is the IDOT Freeboard Policy Met? ☒ Yes ☐ No ☐ NA Value (ft): 4.10 (100 yr)

21. Type of streambed soil : ☐ Clay ☐ Silt ☐ Sand ☒ Loam ☐

22. Scour/ Migration Problems: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Ice Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Debris Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Countermeasures Proposed:

Existing Structure Data (NAVD 1988 Datum)

		Structure U/S	Subject Structure	Structure D/S
23.	Distance from proposed structure: (ft.)	180	N/A	50
24.	Type of structure:	42" RCP (I-290 South)	42" RCP (I-290 North Bound Ramp)	12" RCP Western Park Blvd (south)
25.	Low beam elevation:	709.7 ft	706.54 ft	698.66
26.	Flow line elevation:	706.2 ft	703.04 ft	697.66
27.	Maximum known high water elevation:	N/A	N/A	N/A
28.	Date of maximum high water:	October 1954	October 1954	October 1954
29.	Cause (backwater, headwater, etc.):	Unknown		
30.	Does structure carry entire design flood flow?	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
	If not, state area of additional waterway opening: (ft^2)			
31.	Type and size of existing overflow structures:			
32.	Has adverse scour occurred under or adjacent to the structure?	No	No	No
33.	Classify type of scour and/or aggradation / degradation:			

Required Additional Data

34. Deviations from the General Procedures presented in IDOT DM CH. 2, CH.6, and CH.7:

35. Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area:

36. Site Inspection made by: Gerald L. Robinson, P.E., CFM Date: 11/5/2010

Remarks:

37. Prepared by: Emily Anderson, PE, CFM Date 6/14/2012

Signed (QA/QC): [illegible] Date 6/14/2012

Illinois Department of Transportation

Hydraulic Report Data Sheets Based on NAVD 1988 Datum

Route	Ramp G5 (Pond 1-D6-W, FEQ Node F502)	P or D #	P-91-443-06
Section		PTB #	141 Item 2
County	DuPage		
Exist SN			
Prop SN	549+00		

General Information

1. Name of the Stream: Devon Avenue Tributary

2. Location of the Structure: SE ¼ of the NW ¼ of Section 6 , Township 40N, Range 11E of the 3rd P.M.

3. Hydraulic Report Prepared By: ☒ Consultant Christopher B. Burke Engineering, Ltd. ☐ District

4. Hydraulic Report Approval Authority: ☐ District – Post PDF of HR to BBS Hydraulics SharePoint Server ☐ BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics

Site Design Data

5. Drainage Area (sq. mi.): ±0.38

6. Highway Classification: ☐ Rural ☒ Urban ☐ Other ☒ Principal Arterial ☐ Minor Arterial ☐ Collector ☐ Local

7. Design Frequency: ☐ 30 yr ☒ 50 Yr. ☐ Other

8. Number of Waterway Information Tables (WIT): 1
If more than one, explain:

Hydrologic & Hydraulic Analysis

9. Hydrology Modeling (check all that apply): ☐ USGS/Stream Stats ☐ FIS ☐ Gage Data ☒ Other FEQ Model

10. Hydraulic Modeling (check all that apply):
a. Method: ☐ HEC-RAS ☐ WSPRO ☒ Other FEQ Model
b. Manning's "n" values determined as per IDOT DM CH.5? ☒ Yes ☐ No
If no, explain:
c. Source of Starting WSE: Salt Creek
d. Non- IDOT encroachments in Survey? ☒ Yes ☐ No
If yes, are they accounted for? ☒ Yes ☐ No
e. Does the Tailwater Control? ☐ Yes ☒ No
If yes, list:

f. Were the Expansion/Contraction cones properly addressed? ☒ Yes ☐ No ☐ N/A
If No or N/A, explain:

g. What Expansion and Contraction Rates were used? Expansion: 4 (X:1)
Contraction 2 (X:1)

IDNR – OWR Floodway Permit

11. Is area experiencing urbanization or expected to urbanize within 10 years? ☒ Yes ☐ No

12. Are there any sensitive flood receptors located upstream within possible backwater influence? ☐ Yes ☒ No
If yes, list and describe critical upstream flood damageable properties and their elevations.

13. Is there any History of Flooding or Overtopping problems? ☐ Yes ☒ No
Sources of Observed Highwater:

14. Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated Public Body of Water? ☐ Yes ☒ No

15. Required IDNR - OWR Permit type:
☐ Individual ☐ SWP #2 ☐ SWP #12 ☐ Floodway
☒ None ☐ Other

Proposed Structure Data (NAVD 1988 Datum)

16. Project Scope (check all that apply):
a. ☒ Complete Replacement
b. ☐ Superstructure Replacement
c: ☐ Superstructure Widening; Length of Pier Extension in the water:
U/S D/S
d. ☐ Bridge ☒Culvert
e. ☒ New Alignment
f. Work Planned Below Q_{100} HWE? ☒ Yes ☐ No
g. ☐ Profile Raise

17. If a bridge is proposed, supply:
Flow line elevation (ft): Abutment type:
Preliminary low beam elevation (ft): Skew (degrees):
Width of deck (ft): Number of spans:
Total length from face to face of abutment (ft)

18. If a culvert is proposed, supply:
Type and size: 5'X3' RCBC Length (ft): 230
Upstream invert elevation (ft): 703 Entrance type:
Downstream invert elevation (ft): 702.0 Skew (degrees): 0
Note: Upstream and downstream elevations should reflect the elevations before the 3" drop is applied

19. If a three-sided structure is proposed, supply:
Flow line elevation (ft): Skew (degrees):
Span (ft): Length (ft):
Height (ft): Number of spans:

20. a. Is the IDOT Clearance Policy Met? ☐ Yes ☐ No ☒ NA Value (ft):
b. Is the IDOT Freeboard Policy Met? ☒ Yes ☐ No ☐ NA Value (ft): 5.67 (100 yr)

21. Type of streambed soil : ☐ Clay ☐ Silt ☐ Sand ☒ Loam ☐

22. Scour/ Migration Problems: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Ice Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Debris Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Countermeasures Proposed:

Existing Structure Data (NAVD 1988 Datum)

		Structure U/S	Subject Structure	Structure D/S
23.	Distance from proposed structure: (ft.)	N/A	N/A	N/A
24.	Type of structure:	N/A	N/A	N/A
25.	Low beam elevation:	N/A	N/A	N/A
26.	Flow line elevation:	N/A	N/A	N/A
27.	Maximum known high water elevation:	N/A	N/A	N/A
28.	Date of maximum high water:	N/A	N/A	N/A
29.	Cause (backwater, headwater, etc.):	N/A	N/A	N/A
30.	Does structure carry entire design flood flow?	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
	If not, state area of additional waterway opening: (ft^2)			
31.	Type and size of existing overflow structures:	N/A	N/A	N/A
32.	Has adverse scour occurred under or adjacent to the structure?	N/A	N/A	N/A
33.	Classify type of scour and/or aggradation / degradation:	N/A	N/A	N/A

Required Additional Data

34. Deviations from the General Procedures presented in IDOT DM CH. 2, CH.6, and CH.7:

35. Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area:

36. Site Inspection made by: Gerald L. Robinson, P.E., CFM Date: 11/5/2010

Remarks:

37. Prepared by: Emily Anderson, PE, CFM Date 6/14/2012

Signed (QA/QC): Chinliang Wang Date 6/14/2012

Illinois Department of Transportation

Hydraulic Report Data Sheets Based on NAVD 1988 Datum

Route	Ramp G6, K4 (FEQ Node F314))	P or D #	P-91-443-06
Section		PTB #	141 Item 2
County	DuPage		
Exist SN			
Prop SN			

General Information

1. Name of the Stream: Devon Avenue Tributary

2. Location of the Structure: SE ¼ of the NW ¼ of Section 6 , Township 40N, Range 11E of the 3rd P.M.

3. Hydraulic Report Prepared By: ☒ Consultant ☐ District — Christopher B. Burke Engineering, Ltd.

4. Hydraulic Report Approval Authority:
   ☐ District – Post PDF of HR to BBS Hydraulics SharePoint Server
   ☐ BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics

Site Design Data

5. Drainage Area (sq. mi.): ±0.044

6. Highway Classification:
   ☐ Rural ☒ Urban ☐ Other
   ☒ Principal Arterial ☐ Minor Arterial ☐ Collector ☐ Local

7. Design Frequency: ☐ 30 yr ☒ 50 Yr. ☐ Other

8. Number of Waterway Information Tables (WIT): 1
   If more than one, explain:

Hydrologic & Hydraulic Analysis

9. Hydrology Modeling (check all that apply): ☐ USGS/Stream Stats ☐ FIS ☐ Gage Data ☒ Other FEQ Model

10. Hydraulic Modeling (check all that apply):
    a. Method: ☐ HEC-RAS ☐ WSPRO ☒ Other FEQ Model
    b. Manning's "n" values determined as per IDOT DM CH.5? ☒ Yes ☐ No
       If no, explain:
    c. Source of Starting WSE: Salt Creek
    d. Non- IDOT encroachments in Survey? ☒ Yes ☐ No
       If yes, are they accounted for? ☒ Yes ☐ No
    e. Does the Tailwater Control? ☐ Yes ☒ No
       If yes, list:
    f. Were the Expansion/Contraction cones properly addressed? ☒ Yes ☐ No ☐ N/A
       If No or N/A, explain:

g. What Expansion and Contraction Rates were used? Expansion: 4 (X:1)
Contraction 2 (X:1)

IDNR – OWR Floodway Permit

11. Is area experiencing urbanization or expected to urbanize within 10 years? ☒ Yes ☐ No

12. Are there any sensitive flood receptors located upstream within possible backwater influence? ☐ Yes ☒ No
If yes, list and describe critical upstream flood damageable properties and their elevations.

13. Is there any History of Flooding or Overtopping problems? ☐ Yes ☒ No
Sources of Observed Highwater:

14. Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated Public Body of Water? ☐ Yes ☒ No

15. Required IDNR - OWR Permit type:
☐ Individual ☐ SWP #2 ☐ SWP #12 ☐ Floodway
☒ None ☐ Other

Proposed Structure Data (NAVD 1988 Datum)

16. Project Scope (check all that apply):
a. ☒ Complete Replacement
b. ☐ Superstructure Replacement
c: ☐ Superstructure Widening; Length of Pier Extension in the water:
U/S D/S
d. ☐ Bridge ☒Culvert
e. ☒ New Alignment
f. Work Planned Below Q_{100} HWE? ☒ Yes ☐ No
g. ☐ Profile Raise

17. If a bridge is proposed, supply:
Flow line elevation (ft):
Preliminary low beam elevation (ft):
Width of deck (ft):
Total length from face to face of abutment (ft)
Abutment type:
Skew (degrees):
Number of spans:

18. If a culvert is proposed, supply:
Type and size: 24" RCP
Upstream invert elevation (ft): 699.10
Downstream invert elevation (ft): 697.06
Length (ft): 160
Entrance type:
Skew (degrees): 0
Note: Upstream and downstream elevations should reflect the elevations before the 3" drop is applied

19. If a three-sided structure is proposed, supply:
Flow line elevation (ft):
Span (ft):
Height (ft):
Skew (degrees):
Length (ft):
Number of spans:

20. a. Is the IDOT Clearance Policy Met? ☐ Yes ☐ No ☒ NA Value (ft):
b. Is the IDOT Freeboard Policy Met? ☐ Yes ☐ No ☒ NA Value (ft): 15.96

21. Type of streambed soil : ☐ Clay ☐ Silt ☐ Sand ☒ Loam ☐

22. Scour/ Migration Problems: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Ice Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Debris Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Countermeasures Proposed:

Existing Structure Data (NAVD 1988 Datum)

	Structure U/S	Subject Structure	Structure D/S
23. Distance from proposed structure: (ft.)	50	N/A	1450
24. Type of structure:	42" RCP (I-290 North Bound Ramp)	12" RCP (Eastern Park Blvd - South)	24" RCP
25. Low beam elevation:	706.54 ft	698.66	667.53
26. Flow line elevation:	703.04 ft	697.66	665.53
27. Maximum known high water elevation:	N/A	N/A	N/A
28. Date of maximum high water:	October 1954	October 1954	October 1954
29. Cause (backwater, headwater, etc.):		Unknown	
30. Does structure carry entire design flood flow?	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
If not, state area of additional waterway opening: (ft^2)			
31. Type and size of existing overflow structures:			
32. Has adverse scour occurred under or adjacent to the structure?	No	No	No
33. Classify type of scour and/or aggradation / degradation:			

Required Additional Data

34. Deviations from the General Procedures presented in IDOT DM CH. 2, CH.6, and CH.7:

35. Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area:

36. Site Inspection made by: Gerald L. Robinson, P.E., CFM Date: 11/5/2010

Remarks:

37. Prepared by: Emily Anderson, PE, CFM Date 6/14/2012

Signed (QA/QC): Chunliang Wang Date 6/14/2012

Illinois Department of Transportation

Hydraulic Report Data Sheets Based on NAVD 1988 Datum

Route	Ramp G7 (Pond 4-D6-E, FEQ Node F508)	P or D #	P-91-443-06
Section		PTB #	141 Item 2
County	DuPage		
Exist SN			
Prop SN	737+00		

General Information

1. Name of the Stream: Devon Avenue Tributary

2. Location of the Structure: SE ¼ of the NW ¼ of Section 6 , Township 40N, Range 11E of the 3rd P.M.

3. Hydraulic Report Prepared By: ☒ Consultant ☐ District — Christopher B. Burke Engineering, Ltd.

4. Hydraulic Report Approval Authority:
   ☐ District – Post PDF of HR to BBS Hydraulics SharePoint Server
   ☐ BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics

Site Design Data

5. Drainage Area (sq. mi.): ±0.27

6. Highway Classification:
   ☐ Rural ☒ Urban ☐ Other
   ☒ Principal Arterial ☐ Minor Arterial ☐ Collector ☐ Local

7. Design Frequency: ☐ 30 yr ☒ 50 Yr. ☐ Other

8. Number of Waterway Information Tables (WIT): 1
   If more than one, explain:

Hydrologic & Hydraulic Analysis

9. Hydrology Modeling (check all that apply): ☐ USGS/Stream Stats ☐ FIS ☐ Gage Data ☒ Other FEQ Model

10. Hydraulic Modeling (check all that apply):
    a. Method: ☐ HEC-RAS ☐ WSPRO ☒ Other FEQ Model
    b. Manning's "n" values determined as per IDOT DM CH.5? ☒ Yes ☐ No
       If no, explain:
    c. Source of Starting WSE: Salt Creek
    d. Non- IDOT encroachments in Survey? ☒ Yes ☐ No
       If yes, are they accounted for? ☒ Yes ☐ No
    e. Does the Tailwater Control? ☐ Yes ☒ No
       If yes, list:
    f. Were the Expansion/Contraction cones properly addressed? ☒ Yes ☐ No ☐ N/A
       If No or N/A, explain:

g. What Expansion and Contraction Rates were used? Expansion: 4 (X:1)
Contraction 2 (X:1)

IDNR – OWR Floodway Permit

11. Is area experiencing urbanization or expected to urbanize within 10 years? ☒ Yes ☐ No

12. Are there any sensitive flood receptors located upstream within possible backwater influence? ☐ Yes ☒ No
If yes, list and describe critical upstream flood damageable properties and their elevations.

13. Is there any History of Flooding or Overtopping problems? ☐ Yes ☒ No
Sources of Observed Highwater:

14. Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated Public Body of Water? ☐ Yes ☒ No

15. Required IDNR - OWR Permit type:
☐ Individual ☐ SWP #2 ☐ SWP #12 ☐ Floodway
☒ None ☐ Other

Proposed Structure Data (NAVD 1988 Datum)

16. Project Scope (check all that apply):
a. ☒ Complete Replacement
b. ☐ Superstructure Replacement
c: ☐ Superstructure Widening; Length of Pier Extension in the water:
U/S D/S
d. ☐ Bridge ☒Culvert
e. ☒ New Alignment
f. Work Planned Below Q_{100} HWE? ☒ Yes ☐ No
g. ☐ Profile Raise

17. If a bridge is proposed, supply:
Flow line elevation (ft):
Preliminary low beam elevation (ft):
Width of deck (ft):
Total length from face to face of abutment (ft)
Abutment type:
Skew (degrees):
Number of spans:

18. If a culvert is proposed, supply:
Type and size: 6'X3' RCBC
Upstream invert elevation (ft): 692.5
Downstream invert elevation (ft): 691.2
Length (ft): 120
Entrance type:
Skew (degrees): 0
Note: Upstream and downstream elevations should reflect the elevations before the 3" drop is applied

19. If a three-sided structure is proposed, supply:
Flow line elevation (ft):
Span (ft):
Height (ft):
Skew (degrees):
Length (ft):
Number of spans:

20. a. Is the IDOT Clearance Policy Met? ☐ Yes ☐ No ☒ NA Value (ft):
b. Is the IDOT Freeboard Policy Met? ☐ Yes ☐ No ☒ NA Value (ft): 3.65

21. Type of streambed soil : ☐ Clay ☐ Silt ☐ Sand ☒ Loam ☐

22. Scour/ Migration Problems: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Ice Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Debris Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Countermeasures Proposed:

Existing Structure Data (NAVD 1988 Datum)

		Structure U/S	Subject Structure	Structure D/S
23.	Distance from proposed structure: (ft.)	N/A	N/A	N/A
24.	Type of structure:	N/A	N/A	N/A
25.	Low beam elevation:	N/A	N/A	N/A
26.	Flow line elevation:	N/A	N/A	N/A
27.	Maximum known high water elevation:	N/A	N/A	N/A
28.	Date of maximum high water:	N/A	N/A	N/A
29.	Cause (backwater, headwater, etc.):	N/A	N/A	N/A
30.	Does structure carry entire design flood flow?	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
	If not, state area of additional waterway opening: (ft^2)			
31.	Type and size of existing overflow structures:	N/A	N/A	N/A
32.	Has adverse scour occurred under or adjacent to the structure?	N/A	N/A	N/A
33.	Classify type of scour and/or aggradation / degradation:	N/A	N/A	N/A

Required Additional Data

34. Deviations from the General Procedures presented in IDOT DM CH. 2, CH.6, and CH.7:

35. Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area:

36. Site Inspection made by: Gerald L. Robinson, P.E., CFM Date: 11/5/2010

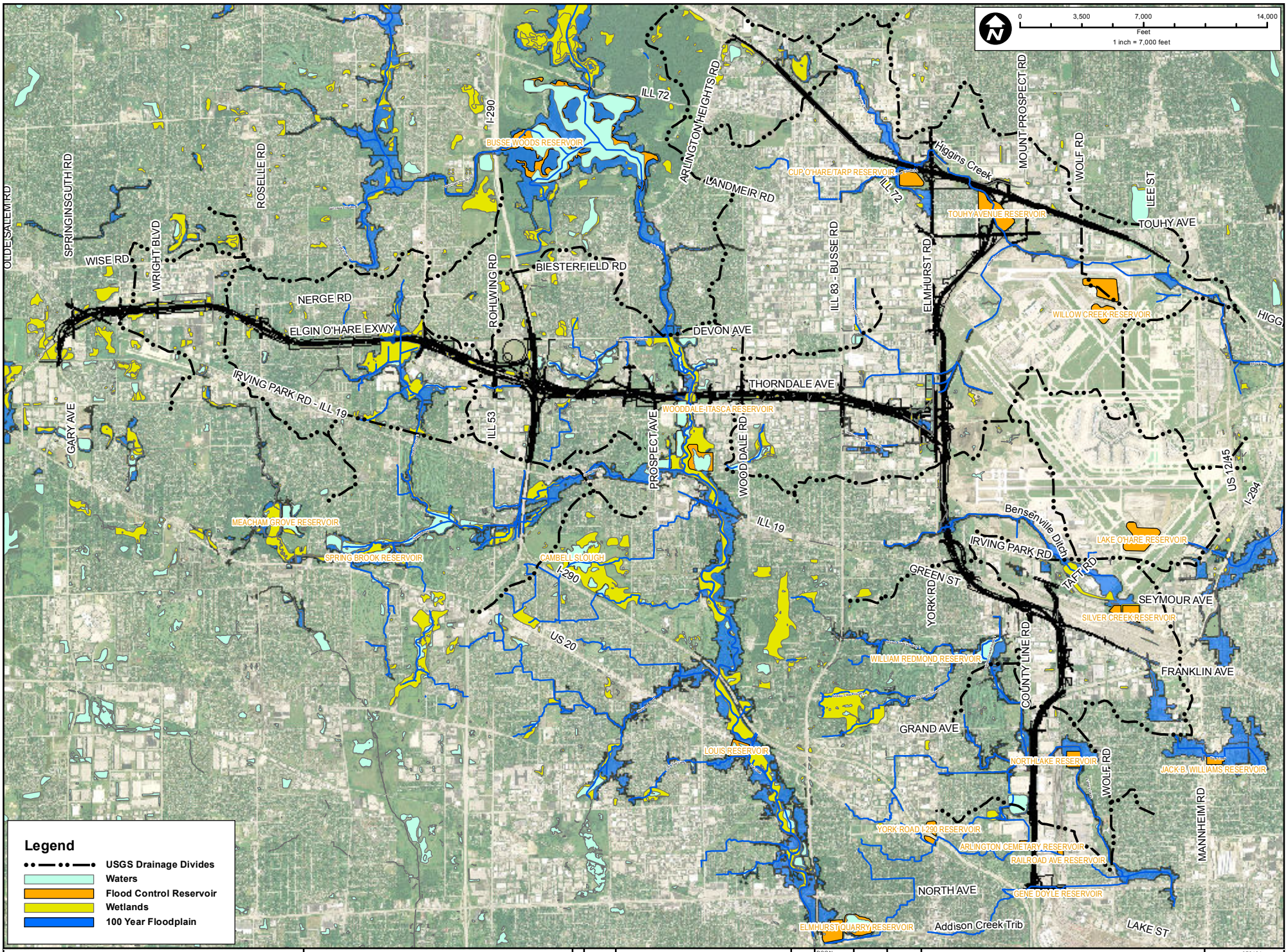
Remarks:

37. Prepared by: Emily Anderson, PE, CRM Date 6/14/2012

Signed (QA/QC): Chinliang Wang Date 6/14/2012

SECTION 3

GENERAL PROJECT LOCATION MAP
USGS HYDROLOGIC INVESTIGATIONS ATLAS
FLOOD INSURANCE RATE MAP
FLOOD INSURANCE STUDY INFORMATION



CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

CLIENT:
ILLINOIS DEPARTMENT OF TRANSPORTAION

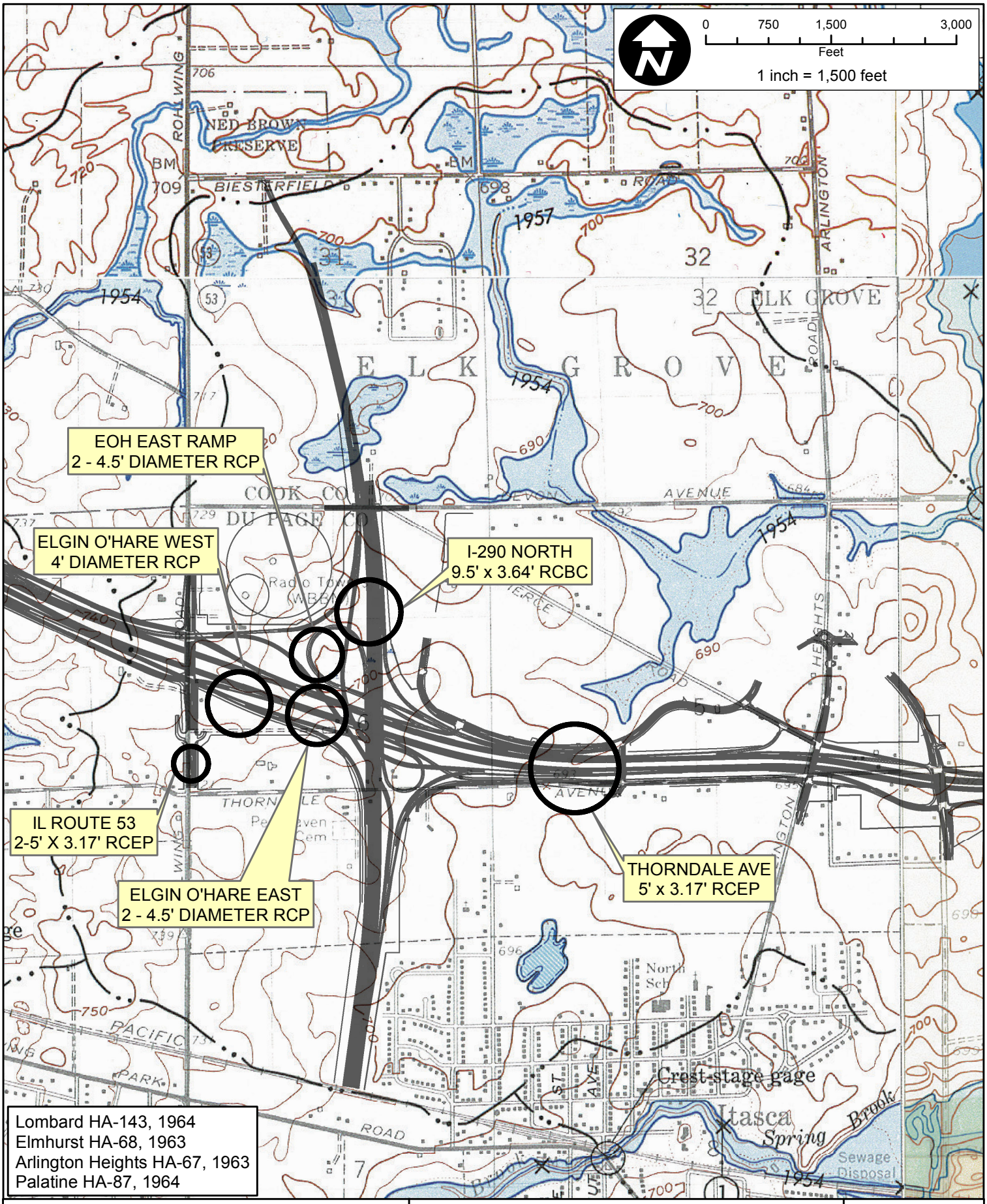
NO.	DATE	NATURE OF REVISION	CHKD.

FILE NAME: Drainage Exhibit Revised 8.5X11
PATH: N:\doc\070404\GIS\Exhibits\Drainage Exhibit Revised 8.5X11.mxd

DSGN.	
DWN:	DWALTERS
CHKD.	
SCALE:	1:7,000'
MODEL:	ArcGIS 10
PLOT DATE	5/25/2012

TITLE:
ELGIN O'HARE - WEST BYPASS GENERAL PROJECT LOCATION MAP

PROJ. NO. 070404
DATE:
SHEET 0 OF 0
DRAWING NO.
EXH 1



CLIENT:

ILLINOIS DEPARTMENT OF TRANSPORTATION

TITLE:

ELGIN O'HARE - WEST BYPASS
DEVON AVENUE TRIBUTARY
USGS HYDRULIC INVESTIGATIONS ATLAS

PROJ. NO.	070404
DATE:	11-01-2010
SHEET	0 OF 0
DRAWING NO.	**EXH 3.2**

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (847) 823-0500

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DWN.			GIS USER	MHAYES
CHKD.			PLOT DATE	
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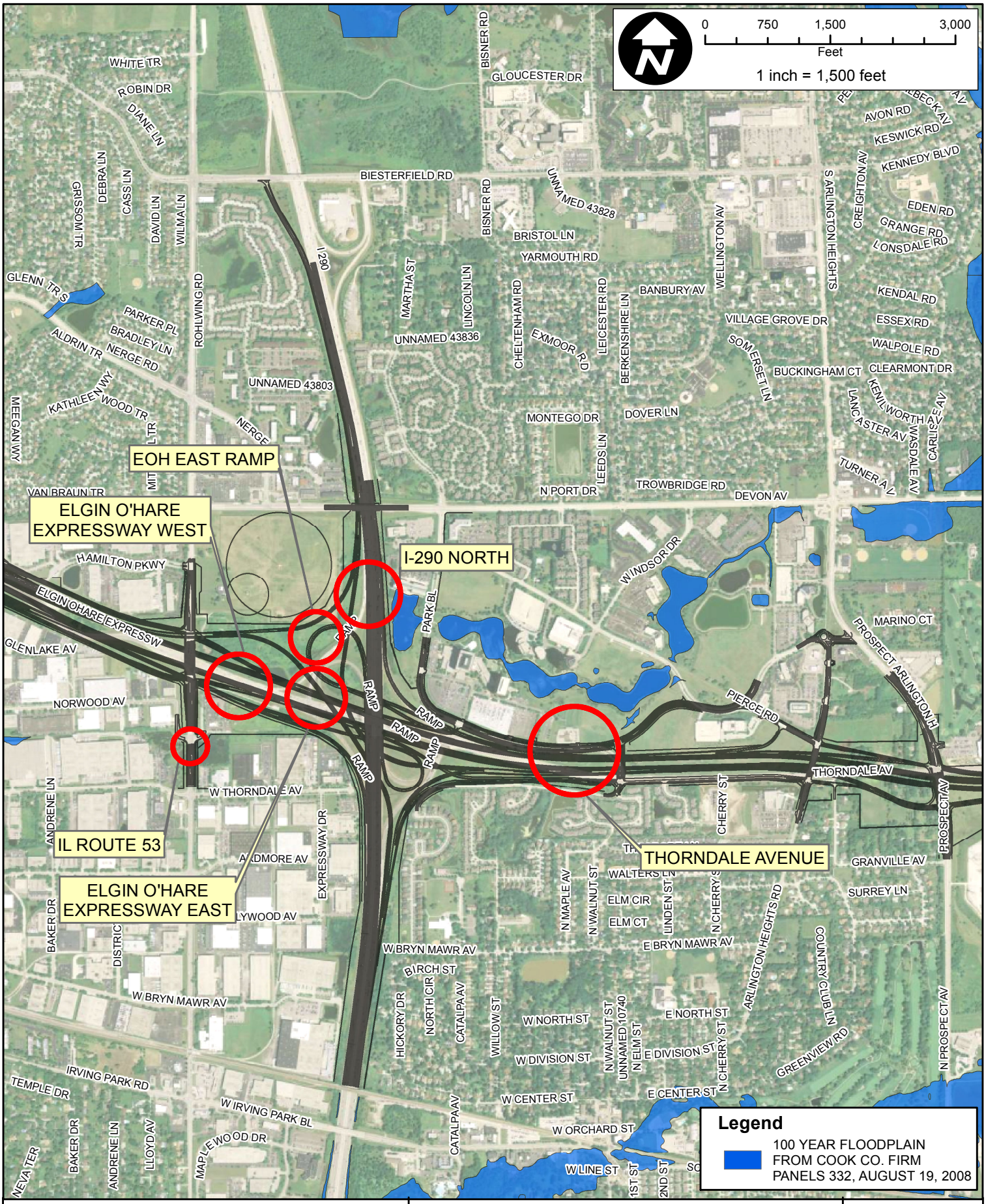

CLIENT:

ILLINOIS DEPARTMENT OF TRANSPORTATION

TITLE: **ELGIN O'HARE - WEST BYPASS DEVON AVENUE TRIBUTARY FLOOD INSURANCE RATE MAP**

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DATE:	11-01-2010
SHEET	0 OF 0
DRAWING NO.	**EXH 3.3**

CHRISTOPHER B. BURKE ENGINEERING, LTD.
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CHKD.			PLOT DATE	
FILE:				

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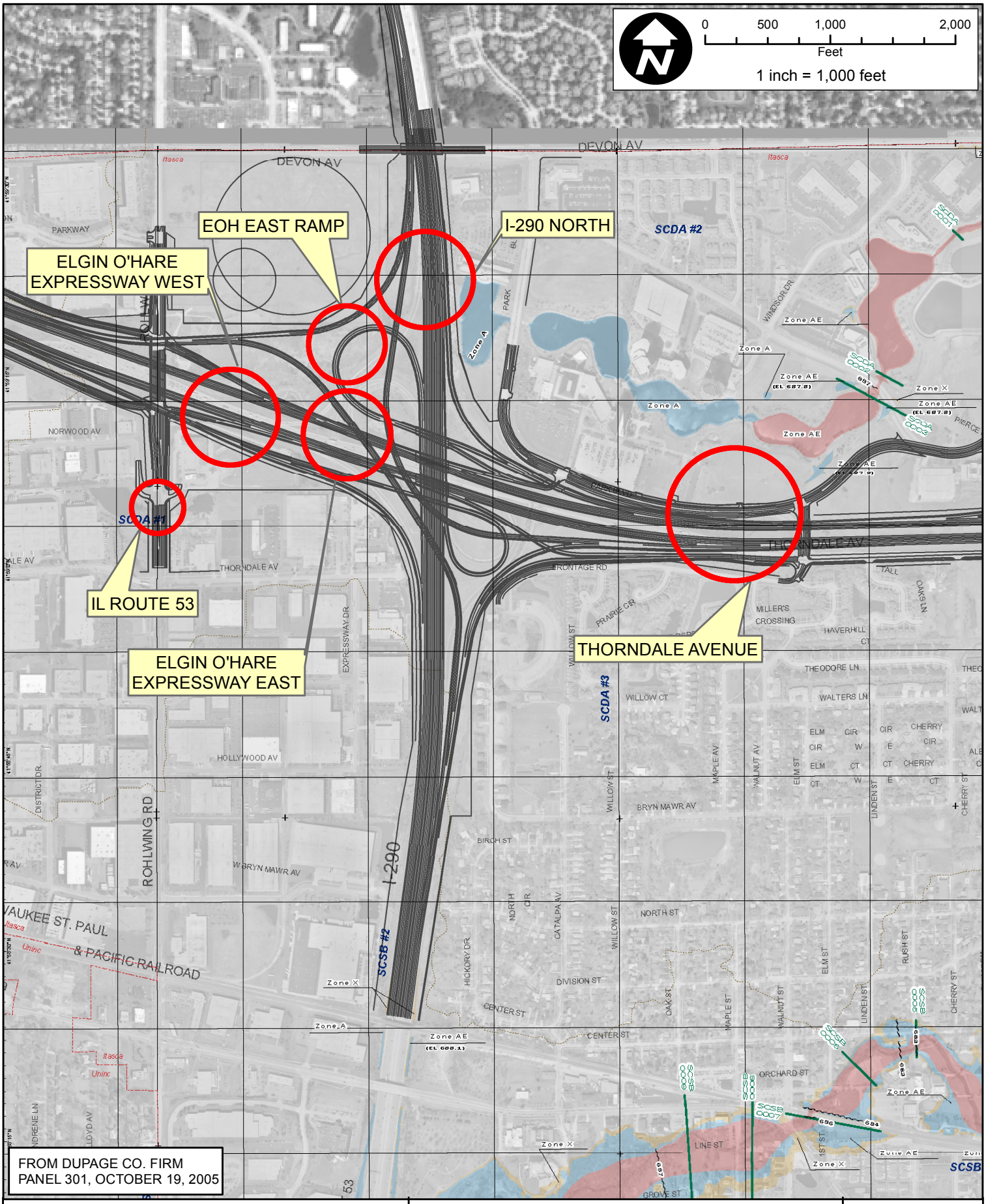

CLIENT:

ILLINOIS DEPARTMENT OF TRANSPORTATION

TITLE:

ELGIN O'HARE - WEST BYPASS
DEVON AVENUE TRIBUTARY
DUPAGE CO. REGULATORY FLOOD MAP

PROJ. NO.	070404
DATE:	11-01-2010
SHEET	0 OF 0
DRAWING NO.	**EXH 3.4**

CHRISTOPHER B. BURKE ENGINEERING, LTD.
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DWN.			GIS USER	MHAYES
CHKD.			PLOT DATE	
FILE:				

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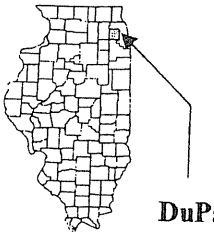
FLOOD INSURANCE STUDY

A Report of Flood Hazards in

DUPAGE COUNTY, ILLINOIS

AND INCORPORATED AREAS



DuPage County

VOLUME 2 OF 4

Community Name	Community Number
Addison, Village of	170198
Bloomingdale, Village of	170201
Carol Stream, Village of	170202
Clarendon Hills, Village of	170203
Darien, City of	170750
Downers Grove, Village of	170204
DuPage County (Unincorporated Areas)	170197
Elmhurst, City of	170205
Glendale Heights, Village of	170206
Glen Ellyn, Village of	170207
Itasca, Village of	170210
Lemont, Village of	170117

Community Name	Community Number
Lisle, Village of	170211
Lombard, Village of	170212
Oak Brook, Village of	170214
Oakbrook Terrace, City of	170215
Villa Park, Village of	170217
Warrenville, City of	170218
West Chicago, City of	170219
Westmont, Village of	170220
Wheaton, City of	170221
Willowbrook, Village of	170222
Winfield, Village of	170223
Wood Dale, City of	170224
Woodridge, Village of	170737

CTP Cooperating Technical Partners

Data for Disaster Resistance

DECEMBER 16, 2004

Federal Emergency Management Agency
State of Illinois

Flood Insurance Study Number
17043CV002A

3.5.3 Devon Avenue Tributary (SCDA)

3.5.3.1 Tributary Description

Devon Avenue Tributary is a 1968-acre watershed that is tributary to Salt Creek in DuPage County. The communities that contribute watershed area, within DuPage County, to Devon Avenue Tributary are Itasca and unincorporated DuPage County. The watershed characteristics are changing as development expands in the area. Within DuPage County, the primary land use surrounding the watercourse is commercial, with residential sectors in the upper reaches of the watershed.

Devon Avenue Tributary begins in a detention area on the west side of I-355, just north of the northwest cloverleaf at the intersection of I-355 and Thorndale Avenue. Flow proceeds to the east, under I-355 and immediately enters a corporate pond. Flow continues to the east passing under Park Boulevard, entering a series of linked corporate ponds just behind the Wyndham Resort Hotel. The stream passes through each pond's weir structure, flows under Pierce Road and changes bearing to the northeast. On the south side of Devon Avenue, the stream runs a parallel route through ditches and corporate ponds. Devon Avenue Tributary passes underneath Arlington Heights Road and smaller crossings, always staying on the south side ditch of Devon Avenue. Devon Avenue Tributary enters the Salt Creek Country Club and confluences with Main Stem Salt Creek.

3.5.3.2 Hydrologic Analysis

Hydrologic analyses were carried out to establish the peak discharge-frequency relationship for Devon Avenue Tributary.

For Devon Avenue Tributary a gauging station on Salt Creek located about 20 miles downstream of Itasca was one source of data for defining discharge-frequency relationships. This gage has been operated since 1945. Values of the 10-, 50-, and 100-year peak discharges were obtained from a log-Pearson Type III distribution of annual peak flow data (U.S. Water Resources Council Hydrologic Committee, 1976). However, much channel work has been performed on Salt Creek and rapid urbanization of the watershed has occurred during the operation period of the stream gages, especially in the past 10 years. The effect of these changes has not been adequately recorded. Water from large floods has overflowed into a quarry about 10 miles upstream of the gage. Therefore, peak discharge-drainage area relationships were developed from a combination of historic flood data and unit hydrograph rainfall-runoff relationships. Flood routing was done with the "SCS-TR-20 Project Formulation Computer Program" (U.S. Department of Agriculture, 1974). Linear regression analysis was used to determine the 10-, 50-, and 100-year peak discharges as a function of the drainage area at any given cross section. The 500-year peak discharge was determined by a log-log extrapolation of peak discharges

computed for frequencies up to 100 years. The peak discharges obtained were substantiated by regional flood flow equations for northeastern Illinois.

A summary of the drainage area-peak discharge relationships for the portions of the streams studied by detailed methods is shown in Table SCDA.1.

Table SCDA.1 - Devon Avenue Tributary Summary of Discharges					
Summary of Discharges					
Flooding Source And Location	Drainage Area (mi^2)	Peak Discharges (cfs)			
		10-yr	50-yr	100-yr	500-yr
DEVON AVENUE TRIBUTARY					
At lower corporate limit for the Village of Itasca	1.20	130	200	240	320
Approximately 100 feet upstream of Pierce Road	0.80	105	165	200	270

3.5.3.3 Hydraulic Analysis

Cross-section data for Devon Avenue Tributary were obtained from field surveys by the Illinois Division of Water Resources supplemented with field surveys by a contractor for the SCS. In some cases, these cross sections were extended using topographic maps with a 2-foot contour interval (Floodplain Topographic Maps, 1973).

Water-surface profiles for Devon Avenue Tributary, and Meacham Creek were developed using the SCS "WSP-2 Water-Surface Profile Computer Program" (U.S. Department of Agriculture, 1974). Profiles were determined for the 10-, 50-, 100-, and 500-year floods for all flooding sources.

Starting elevations for Devon Avenue Tributary, and Meacham Creek were taken from previously published data (Des Plaines River Steering Committee, 1975).

Valley and channel roughness coefficients for Devon Avenue Tributary were determined from field observations, USGS' "Water Supply Paper 1849" (U.S. Department of the Interior, 1967), and the SCS' "Guide for Selecting Roughness Coefficients" (U.S. Department of Agriculture, 1963). Please refer to Table SCDA.2 for further information.

Table SCDA.2 - Devon Avenue Tributary Manning's "n" Values		
Manning's "n" Values		
Stream	Channel "n"	Overbank "n"
Devon Avenue Tributary	0.045-0.065	0.065-0.085

3.5.3.4 Flood Boundaries

To reference the flood boundaries for Devon Avenue Tributary, see Map Panels: 0203, 0301 and 0302.

3.5.3.5 Floodways

Encroachment into areas subject to inundation by floodwaters having hazardous velocities aggravates the risk of flood damage, and heightens potential flood hazards by further increasing velocities. A listing of stream velocities at selected cross sections is provided in Table 11, "Floodway Data." To reduce the risk of property damage in areas where the stream velocities are high, the community may wish to restrict development in areas outside the floodway.

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Devon Avenue Tributary (SCDA)								
SCDA0001	3,800[1]	435[2]	739	0.3	685.5	685.5	685.6	0.1
SCDA0002	5,000[1]	228[2]	388	0.5	685.7	685.7	685.8	0.1
SCDA0003	5,200[1]	302[2]	180	1.1	687.8	687.8	687.9	0.1

[1] In feet above Salt Creek

[2] Actual floodway width cannot be shown on FIRM due to redelineation of floodplain

TABLE 11

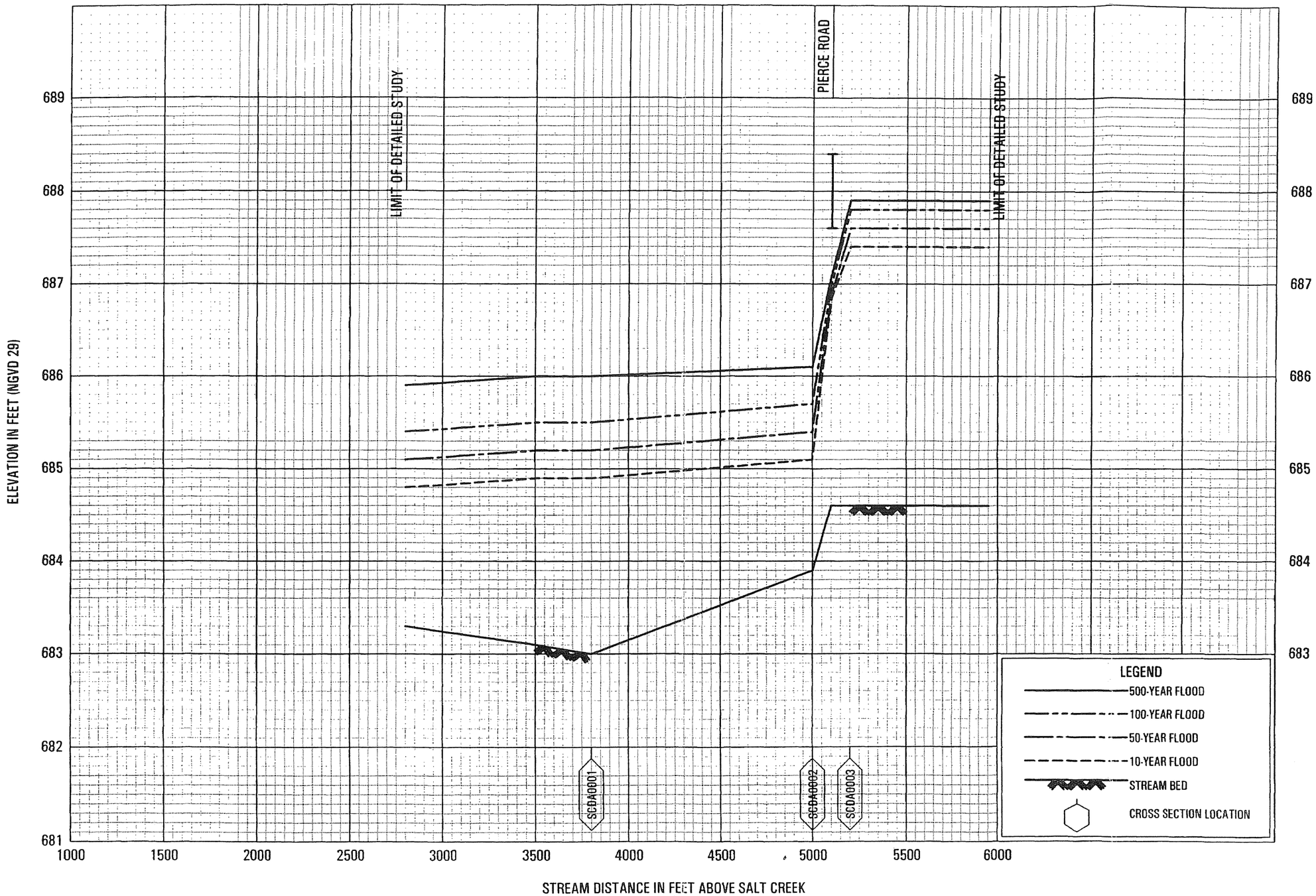
FEDERAL EMERGENCY MANAGEMENT AGENCY

DUPAGE COUNTY

AND INCORPORATED AREAS

FLOODWAY DATA

DEVON AVENUE TRIBUTARY (SCDA)



FLOOD PROFILES

DEVON AVENUE TRIBUTARY (SCDA)

FEDERAL EMERGENCY MANAGEMENT AGENCY

DUPAGE COUNTY, IL

AND INCORPORATED AREAS

SECTION 4

SITE PHOTOGRAPHS

Thorndale Avenue Downstream Face

Thorndale Avenue Downstream Channel

Thorndale Avenue Upstream Face

Thorndale Avenue Upstream Channel

Illinois Route 290 Downstream Face

Illinois Route 290 Downstream Channel

Illinois Route 290 Upstream Face

Illinois Route 290 Upstream Channel

I-290 Ramp Downstream Face

I-290 Ramp Downstream Channel

I-290 Ramp Upstream Face

I-290 Ramp Upstream Channel

Elgin O'Hare Expressway (East) Downstream Face

Elgin O'Hare Expressway (East) Downstream Channel

Elgin O'Hare Expressway (East) Upstream Face

Elgin O'Hare Expressway (East) Upstream Channel

Elgin O'Hare Expressway (West) Downstream Face

Elgin O'Hare Expressway (West) Downstream Channel

Elgin O'Hare Expressway (West) Upstream Face

Elgin O'Hare Expressway (West) Upstream Channel

Illinois Route 53 Downstream Channel

Illinois Route 53 Upstream Face

Illinois Route 53 Upstream Channel