



December 9, 2022

John C. Whitney, P.E., Town Supervisor
Town of Grand Island Town Board
c/o Robert H. Westfall, P.E. - Town Engineer
2255 Baseline Road
Grand Island, NY 14072

Subject: Long Road Distribution Facility
Peer Review - Stormwater
ICE Project No. 22-1019

Dear Supervisor Whitney and Councilmembers:

As requested, Invictus Civil Engineering, P.C. has completed its Technical Review of the Stormwater portion of the submitted documents for the proposed Long Road Distribution Facility, Grand Island, NY. The review included the July 28, 2022 SWPPP Report and September 2022 Civil Plan Set prepared by Passero Associates, 242 West Main Street, Suite 100, Rochester, NY 14614.

Attached please find the compiled list of review comments. Please contact me should you have any questions.

Sincerely,

Richard J. Haight, P.E.
President - Invictus Civil Engineering, P.C.



Long Road Distribution Facility

Stormwater (SWPPP and Grading/Drainage Plans) - Peer Review Comments

Site Development Plans for Long Road Distribution Facility, Town of Grand Island, Erie County, New York, dated September 2022

1. C 111 – Wetland & Creek Impact Plan

- a) The Mitigation Measures Table on Sheet C 110 Cover indicates the creation of 2.33+/- acres of Floodplain Wetlands and to see Sheet C 111. Any Wetlands being created on site should be labeled on Sheet C 111 and an approved design by USACOE should be provided.
- b) A retaining wall is shown along the NYSDEC Wetland M Buffer. No detail is provided within the plan set for the retaining wall. The constructability of the wall without impact to the 100' Buffer is questionable. Approval from the NYSDEC for disturbance within the Buffer should be provided if disturbance within the Buffer is required during construction of the wall.
- c) Grading within the NYSDEC Wetland T Buffer is indicated at the southwest corner of the site. Approval from the NYSDEC for disturbance within the Buffer should be provided, or the grading should be accomplished outside of the Buffer Area.

2. C 120 – Existing Conditions & Demo Plan

- a) Clearing is indicated within the NYSDEC Wetland M, R, T and U Buffer areas. Either the clearing should be pulled back beyond the Buffer limits or approval for disturbance within the Buffer Areas should be provided from the NYSDEC.

3. EX-1 Existing Drainage Map

- a) EDA 2 contains the property at 2770 Long Road, which is downstream of Analysis Point 2. The contributing area downstream of Analysis Point 2 should either be removed from EDA 2 and added to EDA 3 and Analysis Point 3, or Analysis Point 2 should be located at the northwest corner of EDA 2 along Long Road.

4. GI-1 Green Infrastructure Map

- a) The table indicates that Catchment #10 contributes to both Bio-retention and a Deep Pool. The design indicates that the Catchment only contributes to Bio-retention.

5. C 131 – Site Plan

- a) The Southeast Site Entrance plan indicates Retaining Walls on both sides of the Access Drive (Commerce Parkway). No details have been provided for the walls and culvert installation.



6. C 132 – Offsite Traffic Mitigation Plan

- a) Roadway Widening is indicated along Long Road and Grand Island Boulevard. No Grading and Drainage design is provided to accommodate the widening.

7. C 141 – Utility Plan

- a) There is no culvert shown under the Access Drive (Commerce Parkway) at its intersection with Bedell Road. It is unclear how drainage along Bedell Road will be accommodated and where the flow from the southern portion of the Access Drive will discharge. Please clarify.
- b) The 36" culvert under the Access Drive (Commerce Parkway) to carry the Collector Creek is indicated as being installed at a 0.00% slope. The pipe should be installed, at a minimum, to match the overall slope of the Collector Creek. The pipe should also be installed with a 4" bury. Capacity analysis should be provided to verify the capacity of the pipe to accommodate the contributing drainage area for a 100-year storm event.
- c) The discharge pipe for the Southeast Pond is shown at a 0.10% slope. Constructability at that slope is questionable. HGL and EGL information should be provided to verify capacity and functionality of the system under 10-year and 100-year storm events.
- d) Several structures have constructability issues.
 - i) **General Comment:** For Catch Basins, pipes should be set such that the top of pipe O.D. is a minimum of 1.4' below the grate elevation, unless the grate is cast in the structure. In such cases the top of pipe O.D. should be a minimum of 1.0' below the grate elevation. Appropriate details should be provided.
 - ii) **General Comment:** For Storm Manholes, pipes should be set such that the top of pipe O.D. is below the cone section of the manhole. If a Flat Top manhole is to be utilized, it should be specified on the plans. The minimum distance from Rim to top of pipe O.D. would be 1.58'.
 - iii) **General Comment:** Pipes within pavement areas should be set such that the top of pipe O.D. is below the pavement section.
 - iv) Note the following:
 - (1) DA-2.2 – (3'x3' CB) - Top of 24" outlet pipe is only 0.43' below grate.
 - (2) DQ-4 – (4' Dia. MH) - 1.84' from top of pipe to rim. * The need for this structure is questioned as it is a direct discharge from CB (DQ-2) to the forebay.
 - (3) DQ-2 (2'x2' CB) - 0.94' from top of pipe to grate.
 - (4) DF-1 (4' Dia. MH) - 1.32' from top of pipe to rim.
- e) Bio-Retention Area 5 underdrain daylights to the Southeast Pond at 578.90, below the Normal Water Surface Elevation (NWSE) of 579.00.
- f) There is no separate discharge structure from Bio-Retention Area 4 to the Southeast Pond, only the underdrain and spillway. Provide verification that this is the intended design and supporting hydraulic analysis. **General Comment:** It is recommended that all spillways be grouted rock riprap.

8. C 142 – Utility Plan

- a) **General Comment:** 21" HDPE pipe is indicated on the plans for storm discharge. 21" HDPE is not a standard nominal size and availability is a question. 24" HDPE would typically be the next nominal size available above 18" HDPE pipe.
- b) Several Structures have constructability issues:
 - i) DC-6 (2'x2' CB) - 1.2' from top of pipe to grate. (Pavement Section 1.5')
 - ii) DC-5 (2'x2' CB) - 0.79' from top of pipe to grate. (Pavement Section 1.5')
 - iii) DC-4 (4' Dia. MH) - 1.04' from top of pipe to grate. (Pavement Section 1.5') Symbol on plan indicates a CB, but structure is labeled as a manhole.
 - iv) DB-3 (2'x2' CB) - 0.89' from top of pipe to grate. (Pavement Section 1.5')
 - v) DB-2 (2'x2' CB) - 0.86' from top of pipe to grate. (Pavement Section 1.5')
 - vi) DB-1 (2'x2' CB) 0.86' from top of pipe to grate. (Pavement Section 1.5') Outlet pipe is 30" and will not fit in structure.
 - vii) DF-4 (2'x2' CB) 0.96' from top of pipe to grate. (Pavement Section 1.5')
 - viii) DF-3 (2'x2' CB) 1.22' from top of pipe to grate. (Pavement Section 1.5') Outlet pipe is 24" and will not fit in structure.
- c) There is no separate discharge structure from Bio-Retention Area 3 to the Southeast Pond, only the underdrain and spillway. Provide verification that this is the intended design and supporting hydraulic analysis.

9. C 143 – Utility Plan

- a) Several Structures have constructability issues:
 - i) DI-6.3; 6.2; & 6.1 (4' Dia. MH's) – 36" pipe requires 5' manholes.
 - ii) DG-7; DG-6; DG-5; DG-4 (4' Dia. MH's) – 30" pipe plus roof leader connection requires 5' manholes
 - iii) DG-7 (4' Dia. MH) – 1.21 top of pipe to rim. (Pavement Section 1.5')
 - iv) DI-10 (2'x2' CB) – 1.2' top of pipe to grate. (Pavement Section 1.5')
 - v) DI-9 (4' Dia. MH) – 1.14' top of pipe to grate. (Pavement Section 1.5') Symbol on plans is a CB.
 - vi) DI-8 (4' Dia. MH) - Symbol on plans is a CB.
 - vii) DI-7 (4' Dia. MH) – 0.72' top of pipe to grate. (Pavement Section 1.5') Symbol on plans is a CB.
 - viii) DC-5.1 (4' Dia. MH) – 1.39' top of pipe to grate. (Pavement Section 1.5') Symbol on plans is a CB.
 - ix) DB-4 (2'x2' CB) – 1.3' top of pipe to grate. (Pavement Section 1.5')

10. C 144 – Utility Plan

- a) Bio-Retention Area 1 underdrain daylights to North Pond at 570.00. N.W.S.E. = 572.00. Underdrain is submerged, allowing the pond to back feed the underdrain system.
- b) Bio-Retention Area 2 underdrain daylights to North Pond at 570.30. N.W.S.E. = 572.00. Underdrain is submerged, allowing the pond to back feed the underdrain system.
- c) Bio-Retention Area 2 Outlet Structure (DX-1) discharges to North Pond at End Section DX-0 with a submerged invert of 571.00, (N.W.S.E.=572.00) creating a tailwater effect. Hydraulic analysis should indicate the conditions.
- d) Pipe from DI-1 to Bio-Retention Area 2 Forebay is shown as an 18" pipe; however, the pipes leading to it are 36".
- e) Several Structures have constructability issues:
 - i) DU-3 (2'x2' CB) – 0.83' top of pipe to grate.
 - ii) DI-2; DI-3; DI-4; DI-5 and DI-6 are all shown as 2'x2' CB's. They are not large enough to accommodate the 36" pipe.
 - iii) DH-1 (2'x2' CB) not large enough to accommodate 30" pipe.
 - iv) DI-1 (4' Dia. MH) – needs to be a 5' manhole to accommodate a 36" pipe. * The need for this structure is questioned as it is a direct discharge from CB (DI-2) to the forebay.
 - v) DI-5 – 1.24' top of pipe to grate.
 - vi) DI-6 – 0.44' top of pipe to grate.
- f) DI-0.1 End Section – Angled across slope rather than into pool for Forebay. Discharge should be realigned directly to pool.

11. C 145 – Utility Plan

- a) Please verify cover for 36" culvert pipe under the Access Drive at Long Road.
- b) Several Structures have constructability issues:
 - i) DJ-1 (4' Dia. MH) – Top of 10" pipe is above the rim elevation of the structure.
 - ii) DP-1 & DP-2 (4' Dia. MH's) and DP-3 (2'x2' CB) – Structures not large enough to accommodate the 30" pipes. Revise sizes accordingly.
 - iii) DP-2 – 0.45' top of pipe to rim.
 - iv) DP-3 – 0.85' top of pipe to rim.
- c) Bio-retention Area 10 surface elevation is 568.00. The underdrain connects to the outlet structure at 565.34. Taking into account the underdrain system, this does not allow for the minimum required 2.5' of soil media in the bio-retention area.
- d) A 45L.F. 36" HDPE pipe at 0.25% slope is shown as the culvert under the Access Drive to carry the flow within the Relocated Feeder Creek. Capacity analysis should be provided to verify the pipe is sized adequately to carry the flow from a 100-year storm event.

12. C 146 – Utility Plan

- a) DK-1 (4' Dia. MH) - The need for this structure is questioned as it is a direct discharge from CB (DK-2) to the Bio-Retention Area 9 forebay.
- b) Several Structures have constructability issues:
 - i) DK-2; DK-3; DK-4; DK-5; DK-6 and DK-7 (2'x2' CB's) – Structures are not large enough to accommodate the 30" pipe.
 - ii) DK-8 (4' Dia. MH) – Verify Structure is large enough to accommodate the 30" pipes.
 - iii) DL-2.2.1 (2'x2' CB) – 0.67' top of pipe to rim.
 - iv) DL-5 (2'x2' CB) – 0.91' top of pipe to rim.
- c) The Leakoff from Access Drive to Forebay to Bio-Retention Area 8 should be ripped.
- d) The underdrain discharge pipes from Bio-Retention Areas 7 and 8 should be labeled.
- e) DL-1 (4' Dia. MH) - The need for this structure is questioned as it is a direct discharge from CB (DL-2) to the Bio-Retention Area 8 forebay.
- f) DM-1 (4' Dia. MH) - The need for this structure is questioned as it is a direct discharge from CB (DM-2) to the Bio-Retention Area 7 forebay.
- g) There is no separate discharge structure from Bio-Retention Area 8 to the Relocated Feeder Creek, only the underdrain and spillway. Provide verification that this is the intended design and supporting hydraulic analysis.
- h) Bio-retention Area 7 underdrain discharges to the Relocated Feeder Creek at invert 577.80, below the Relocated Creek elevation at that location of 578.70+/-.
- i) Bio-retention Area 8 underdrain discharges to the Relocated Feeder Creek at invert 577.30, below the Relocated Creek elevation at that location of 577.50+/-.

13. C 147 – Utility Plan

- a) DO-5 (2'x2' CB) – 1.15' top of pipe to rim
- b) DO-1 (4' Dia. MH) - The need for this structure is questioned as it is a direct discharge from CB (DO-2) to the Bio-Retention Area 7 forebay.

14. C 148 – Utility Plan

- a) Several Structures have constructability issues:
 - i) DG-3 (4' Dia. MH) – Verify the structure is large enough to accommodate the 30" pipes.
 - ii) DG-1 and DG-2 (2'x2' CB's) – Structures not large enough to accommodate the 36" pipes.
 - iii) DG-2 – 0.88 top of pipe to grate.
 - iv) DG-1 – 1.3' top of pipe to grate.
 - v) DG-0.4 (2'x2' CB) – 1.14' top of pipe to grate. (1.5' Pavement Section.)
 - vi) DG-0.5 (2'x2' CB) – 0.89' top of pipe to grate. (1.5' Pavement Section.)
- b) Label Roof Leader Connection from SE corner of building. Provide a structure rather than a blind connection to the 36" pipe.
- c) DG-0.2 (5' Dia. MH) – why is structure 5' when it only services 18" pipes?

- d) There is no separate discharge structure from Bio-Retention Area 7 to the Relocated Feeder Creek, only the underdrain and spillway. Provide verification that this is the intended design and supporting hydraulic analysis.
- e) There is no separate discharge structure from Bio-Retention Area 6 to the Southwest Pond, only the underdrain and spillway. Provide verification that this is the intended design and supporting hydraulic analysis.
- f) Bio-Retention Area 6 underdrain daylights to the Southwest Pond at 578.70 below the Normal Water Surface Elevation (NWSE) of 580.00. Underdrain is submerged, allowing the pond to back feed the underdrain system.

15. C 150 – Grading & Erosion Control Plan

- a) Provide check dams in relocated feeder creek and perimeter swale at every one foot (1') drop in elevation.
- b) Provide inlet protection at surface storm inlet structures.
- c) Rock outlet protection must be sized and located at all storm pipe discharge points.
- d) Provide a Detail for the retaining wall proposed for along the relocated feeder creek and indicate how erosion control will be provided.
- e) Provide concrete washout location(s) on plan(s). Add washout symbol to Legend.
- f) Provide rolled erosion control on all slopes 3:1 or steeper.
- g) Provide sediment control along base of all slopes 3:1 or steeper.
- h) The N.W.S.E. of the ponds should be at the top of the aquatic bench.

16. C 151 – Grading & Erosion Control Plan

- a) The clearing limits (Sheet C 121) will need to be extended to the south to allow grading such that the south spillway of the Southeast Pond to discharge to the Collector Creek to the south.
- b) The N.W.S.E. of the Southeast Pond should be at the top of the Aquatic Bench.

17. C 180/181 Landscaping Plans

- a) There is no legend for the plantings or instructions on planting the bio-retention areas other than leaders to bio-retention areas 1 and 6 indicating ERNMX126 Seed Mix Typ. Planting legends, quantities, procedures, application rates and maintenance should be provided.

18. C 243 – Details

- a) The Drop Inlet Manhole is a Sanitary Manhole, not a Storm Manhole.
- b) ½" Steel Orifice Plate w/ Opening Detail:
 - i) Structure Table references structures not indicated on the plans.
 - ii) Will the outlets be cast or core drilled in the structures or will the orifice plate(s) be used?
- c) Storm Drain Receiver / Precast Storm Manhole Detail:
 - i) The Note on the Detail references Waterford Park.



19. C280 – Details

- a) Stream Detail indicates a Riparian Seed Mix and a reference to a Note. No Note is provided.
- b) Details should be provided for each Bio-Retention Area underdrain system, i.e. pipe length, slope, material, etc.
- c) Cross sections should be provided for all of the Stormwater Ponds, including the western unnamed pond. Planting plans for the Aquatic Benches should also be included.
- d) Clarification on the bio-retention area plantings and landscaping should be provided.
- e) The seed mix for all permanently vegetated areas should be provided.

July 27, 2022 SWPPP Prepared by Passero Associates

1. Section 3.1 – Existing Drainage Area 2 (& EX-1 Existing Drainage Map):

- a) EDA 2 contains the property at 2770 Long Road, which is downstream of Analysis Point 2. The contributing area downstream of Analysis Point 2 should either be removed from EDA 2 and added to EDA 3 and Analysis Point 3, or Analysis Point 2 should be located at the northwest corner of EDA 2 along Long Road. (Repeat of Plan Comment 3)

2. Section 7.0 – Construction Erosion Control Practices & Inspections

- a) Please include information relative to two (2) site inspections every seven (7) calendar days for sites receiving authorization in accordance with Part II.D.3 and Part IV.C.2.b. of the SPDES General Permit.
- b) The Truck Washdown area should not be utilized for Concrete Washout. That is a separate control which should be added to the SWPPP.

3. Appendix A: SWPPP Practices Procedures and Certifications

- a) Under Stormwater Management – It is indicated that the stormwater management pond will provide stormwater quality and siltation control during the construction process. If this is the case, then the stormwater management ponds should be over dug to account for siltation. However, the paragraph continues to say that the siltation basins will be cleaned of all construction debris, then filled and stabilized. Please correct any confusion between stormwater management ponds and temporary siltation basins. If siltation basins are to be utilized, then they need to be added to the plans. Bio-retention areas are not to be utilized as siltation basins.
- b) Under Post Construction Stormwater Management/Maintenance Procedures – The Town of Henrietta is referenced under bullet point 4, rather than Grand Island.
- c) Under Maintenance/Inspection Procedures – please add reference “As required by the SPDES Permit No. GP-0-20-001”

4. Appendix J: Hydrograph Calculations

- a) The Watershed Model indicates the contributing areas to the North, Southeast and Southwest ponds, along with the Bio-Retention Areas 7 and 8 (2E and 2F in the Model); however, the other forebays and bio-retention areas are not modeled. All stormwater features should be modeled for the 1, 10 and 100-year storm events.
- b) Pond Reports are only provided for the Deep Water Ponds, not the bio-retention areas. Pond reports should be provided for all stormwater storage features.
- c) Pond Report – Pond No. 1 – North Pond
 - i) Weir A indicates a Crest Length of 12' and Elevation 574.53. The outlet structure is called out as a 2'x2' structure on Sheet C 144 and a 3'x3' structure on Sheet C 150, with a rim elevation of 574.50 on both. The crest length and elevation should be revised to the accurate size and elevation.
 - ii) What does Weir B – Crest Length 0.5' and Elevation 574.00 refer to?
- d) Pond Report – Pond No. 2 – Southeast Pond
 - i) The pipe size for Culvert A is shown as 12"; however, the plans call for a 24" outlet pipe.
 - ii) The 6" orifice is indicated at Elevation 580.20; however, the plans call for an outlet elevation of 580.00. Revise calculations/plans, accordingly.
- e) Pond Report – Pond No. 3 – Southwest Pond
 - i) The pipe size for Culvert A is shown as 18"; however, the plans call for a 24" outlet pipe.
 - ii) The Report indicates a 10' spillway at Elevation 584.20; however, the plans (C 151) call for an outlet elevation of 584.00. Revise calculations/plans, accordingly.

5. Appendix K: Water Quality Calculations

- a) The Total Water Quality Volume Calculation worksheet indicates a Total Contributing Area of 85.67 acres and a Total Contributing Impervious Area of 62.09 acres to Bio-Retention; however, the Runoff Reduction Volume & Treated Volume worksheet indicates a Contributing Area of only 39.47 acres and a Contributing Impervious Area of only 26.69 acres to Bio-Retention. Please clarify.
- b) Section 5.2 of the SWPPP refers to the use of Wet Ponds; however, the Runoff Reduction Volume & Treated Volume worksheet indicates no WQv treated in the Wet Pond (P-2) and 1820228 cu.ft. within the Pocket Pond (P-5) line item. The site design indicates that Wet Ponds will be utilized. Please clarify.
- c) Bio-retention Worksheets:
 - i) The Minimum Filter Area sizing calculations use 0.50' for the Average Height of Ponding. A value of **0.25'** should be used as the Average Height.
 - ii) Bio-retention Areas 1-6 and 9 all discharge to the Wet Ponds, which provide WQv in the permanent pool, yet the bio-retention areas have all been sized to meet the full WQv for the contributing area rather than the RRv sizing requirement. Please clarify.
 - iii) Misc.

- (1) Forebays are being utilized as Pre-treatment prior to the bio-retention areas. The forebays must provide 25% of the computed WQv. Please provide calculations verifying the forebays are sized appropriately for the contributing areas.
- (2) The NYSDEC Stormwater Management Design Manual indicates in Chapter 6, Section 6.4 Stormwater Filtering Systems, which includes Bio-retention, that filtering systems should not be designed to provide stormwater detention (Qp) or channel protection (Cpv) except under extremely unusual conditions. Filtering practices shall generally be combined with a separate facility to provide those controls. The majority of the bio-retention areas meet this requirement by combining with Wet Ponds to provide the detention. However, Section 6.4.2 Conveyance indicates that if runoff is delivered by a storm drain pipe or is along the main conveyance system, the filtering practice shall be designed off-line and that a flow regulator (or flow splitter diversion structure) shall be supplied to divert the WQv to the filtering practice, and allow larger flows to bypass the practice. This is not the case with the proposed stormwater management design, as all flows pass through the bio-retention areas prior to discharge. Please address.

6. Appendix O: Notice of Intent

- a) The Owner/Operator referenced throughout the plans and SWPPP is Grand Island Commerce Center, with Tim Weber as the Contact; however, Acquest Companies and Tim Weber are listed as the Owner/Operator and Contact person on the N.O.I. The N.O.I. should be consistent with the SWPPP and plans.
- b) The Federal Tax ID No. should be added to the N.O.I.
- c) Estimated Start and End Dates should be added to the N.O.I. (Question 8)
- d) Question 9 – A Wetland is referenced as the nearest surface waterbody and was identified under 9b by Regulatory Mapping; however, Stream/Creek On Site is checked under 9a, rather than a Wetland. Please clarify or correct.
- e) Question 14 – Checked off as No for disturbing soils within a State Regulated Wetland or the protected 100 foot adjacent area. As indicated above, some clearing and grading is indicated on the plans within the 100 foot adjacent area. Either the disturbance must be clear of the adjacent area or approval from the NYSDEC must be obtained.
- f) Question 24 – There does not appear to be a date that the SWPPP Preparer signed the Certification. This should be added.
- g) Question 29 – The Runoff Reduction Techniques and Standard Stormwater Management Practices Contributing Impervious Areas to the Bio-Retention is not consistent with the information in Appendix K (as referenced above) and also refers to the use of Pocket Ponds rather than Wet Ponds.
- h) Question 38 – A long term Operation and Maintenance Plan for the stormwater management practices should be developed and be the responsibility of the Owner/Operator. Note: the NYSDEC Maintenance Guidance for Stormwater Management Practices is included in Appendix R: Maintenance/Construction Inspection Reports within the Project SWPPP.
- i) Question 41 – It has been checked off that the Project does not require a US Army Corps of Engineers Wetland Permit; however, the Project will be impacting 1.36 acres of Federal



Wetlands (as indicated on Sheet C 111 Wetland and Creek Impact Plan) which will be required to be mitigated under Permit.

- j) Question 42 – The No box is checked. The project is subject to the requirements of a regulated, traditional land use control MS4, therefore, the Yes box should be checked.
- k) The Owner/Operator Certification is not signed and dated.

7. Appendix T: Storm Sewer Sizing Calculations

- a) The pipe capacities appear to be based on size and slope of the pipes only and do not account for headwater or tailwater effects within the pipe runs. HGL and EGL information should be provided for each of the storm sewer systems to verify capacity and functionality of the systems under 10-year and 100-year storm events.
- b) Pipe run from DA-1 to DA-0 shows no flow. Please update.
- c) Pipe run from DB-4 to DB-3 is nearing capacity. Consider increasing the pipe size or slope to help ensure structure will not surcharge under larger storm events.
- d) Pipe run from DC-5.1 to DC-5 is shown as a 15" pipe on the plans. Please update.
- e) Pipe run from DC-1 to DC-0 is nearing capacity. Consider increasing the pipe size or slope to help ensure structure will not surcharge under larger storm events.
- f) Roof leader piping from DG-7 ROOF to DG-3 ROOF are all sized the same despite roof leader connections as the system progresses. Initial pipe sizing may be reduced; however, DG-4 ROOF to DG-3 ROOF is nearing capacity. Consider increasing the pipe size or slope to help ensure structure will not surcharge under larger storm events.
- g) Pipe run from DG-3 ROOF to DG-2 is labeled as 0.10% slope on the plans. Please update.
- h) Pipe run from DG-0.2 to DG-0.1 is at capacity. Consider increasing the pipe size or slope to help ensure structure will not surcharge under larger storm events.
- i) Pipe runs from DH-6 ROOF to DH-0 are all well below capacity. Pipe sizing may be reduced.
- j) Pipe run DI-10 to DI-9 is nearing capacity. Consider increasing the pipe size or slope to help ensure structure will not surcharge under larger storm events.
- k) Pipe run DI-0.3 to DI-0.2 shows no flow. Please update.
- l) Pipe run DL-4 to DL-3 is nearing capacity. Consider increasing the pipe size or slope to help ensure structure will not surcharge under larger storm events.
- m) Pipe run DO-2 to DO-1 is nearing capacity and should be increased in size to match pipe run DO-1 to DO-0.