

**STORMWATER MANAGEMENT ANALYSIS AND REPORT
FOR
ASHWOOD HEIGHTS UNIT 2
NAPERVILLE, ILLINOIS**

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**STORMWATER MANAGEMENT ANALYSIS AND REPORT
FOR
ASHWOOD HEIGHTS UNIT 2
NAPERVILLE, ILLINOIS**

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- C. WILL COUNTY SOILS MAP
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- H. PROPOSED CONDITION CATCHMENT EXHIBIT
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STORMWATER MANAGEMENT ANALYSIS AND REPORT
FOR
ASHWOOD HEIGHTS UNIT 2
NAPERVILLE, ILLINOIS

I. PROJECT DESCRIPTION

Lot 23 in Ashwood Heights was platted by the Pulte Home Corporation in 2014 as a future church site along the east side of Nannyberry Street, just north of 103rd Street in Naperville, Illinois encompassing approximately 4.04± acres (see Exhibit A). Lot 23 was then purchased by the Roman Catholic Diocese of Joliet Trust (Owners) which Trust has now entered into an agreement with Silverthorne Development Company to sell the property for a re-subdivision into nine (9) single-family lots. That Project has been preliminarily reviewed by City staff in a virtual Concept Meeting held on November 2, 2021 in which meeting staff gave tentative approval and direction to proceed with a Preliminary / Final Plat of Subdivision and Final Site Development Plan design.

II. SPECIAL MANAGEMENT AREAS

Special Management Areas were carefully assessed in the Design and Permitting Phase for Ashwood Heights when the following conclusions were reached.

Floodplain/Floodway - FEMA FIRM Panel 17197C0030E (*Sept. 6, 1995*) shows there is no existing floodplain mapped on the project site. As illustrated on the FIRM Panel in Exhibit B, the subject land is located at the northwest corner of 103rd Street and 248th Street in the City of Naperville.

Wetlands – According to the US Fish and Wildlife Service National Wetlands Inventory Map (Exhibit D), there are no wetlands located within the project site. The Phase 1 improvements included the construction of a stormwater management facility (SMF) which utilized wetland

bottoms/native plantings in accordance with the Greenway Plan to enhance the water quality of the runoff through the development.

III. EXISTING “WITHOUT-PROJECT” CONDITIONS

A. GENERAL

The subject Lot 23 (see Exhibit A) was regraded to capture and contain stormwater runoff and direct that runoff to storm sewers along Nannyberry Street for conveyance to the Stormwater Management Facility. Record Drawings and Record Stage vs. Storage relationships for those facilities were prepared and submitted by CEMCON, Ltd. to the City upon which facilities were then approved and accepted for operation. Those facilities are now maintained by the Ashwood Heights HOA and include a native vegetated wetland bottom as a PCBMP. The site has otherwise been vegetatively stabilized with a grass cover. A composite coefficient of runoff CN = 86 (50% impervious, see Worksheet 2 of Report for Ashwood Heights, Exhibit E) was assumed for the 4.04± acres of Lot 23 for which a commensurate volume of stormwater storage was provided in the Ashwood Heights stormwater management systems. Previously, the predominant soils on the site were as shown on Exhibit C, but those soils have now been disturbed.

B. PROPOSED HYDROLOGIC CONDITION

In the Proposed Condition the coefficient of runoff was calculated to be 80.8 (Exhibit F) so the volume of runoff generated by Unit 2 will be less than that formerly designed for Unit 1.

IV. PROPOSED CONDITION STORMWATER RUNOFF CONTAINMENT, COLLECTION AND CONVEYANCE SYSTEM

While stormwater detention for Lot 23 has already been provided in Ashwood Heights in the previously constructed facilities approved by the City of Naperville, the specific containment, collection and conveyance system measures and devices that must be incorporated into the grading and drainage system improvements for Unit 2 must now include (a) a system of containment berms along the expanded by 20-foot 248th Street ROW and the 103rd Street frontages to capture and contain runoff; (b) swales to direct that runoff to storm inlet structures

in the rear yards of the single family lots; and (c) a system of storm sewers to convey by sub-surface means that runoff to the SWMF (see Exhibit G). The aggregate catchment areas of the Ashwood Heights Subdivision will be reduced by 0.26± acres by the dedication of the 248th Street ROW (3.78 acres vs. 4.04 acres).

V. STORM SEWER CONVEYANCE SYSTEM

Along with the Containment and Collection Systems mentioned above, the stormwater conveyance systems have been designed in accordance with the City and County standards and general good engineering practice. In that regard, the storm sewers were designed in accordance with StormCAD modeling methodology to convey the 10-Year critical duration storm event under gravity flow conditions (see Exhibit H for Proposed Condition Catchment and Exhibit I for Proposed Condition 10-Year StormCAD Analysis). There is one (1) principal catchment in Unit 2 that encompasses 3.44± acres, the runoff from which will be conveyed in a proposed network of 12-, 15- and 18-inch storm sewers up to the point of connection to the existing Unit 1 storm sewer at a low point on Nannyberry Street. The continuing existing 18-inch and 21-inch storm sewers extend to the storm detention facility on Outlot A.

The Unit 1 design included a designated overland flood route beyond the low point on Nannyberry Street to convey 100-Year runoff to the SWMF. The conveyance capacity of that flood route was previously analyzed in the Ashwood Heights Stormwater Management Analysis and Report. Due to the change in land use in Unit 2, it has become necessary to convey the 100-Year storm runoff from the Unit 2 area through the storm sewer. StormCAD analysis results (Exhibit J) indicate that the proposed storm sewer has sufficient capacity, as does the existing storm sewer extending to the SWMF. The previously constructed side yard overland flood route between Lots 16 and 17 in Unit 1 will remain and allows Unit 1 flows and any larger rain events to be conveyed overland to the SWMF.

VI. GREENWAY CORRIDOR DESIGN

As part of the agreement for the entire 248th Assemblage, a “Greenway Plan” was to be incorporated into the Ashwood Heights Project. The intent of the “Greenway Plan” was to

incorporate water quality oriented improvements in order to benefit the watershed as a whole. Two (2) of the design goals of the “Greenway Plan” were to infiltrate the first half (1/2) inch of runoff from developed impervious areas within the naturalized areas within the stormwater facilities (six (6) inches below the normal water level), and to implement the use of wetland plantings and native grasses to promote nutrient removal from the stormwater runoff and water bodies. To meet these requirements, several design features were incorporated into the Ashwood Heights Project. The proposed stormwater facilities were designed as a combination of open-water and wetland areas so that runoff would enter the facility in the open-water areas with a retention time sufficient to drop the sediment load and then drain through the wetland areas to provide additional water quality treatment. The volume in the deeper open-water areas was designed to provide for volume below the gravity outlet and an expansive area available for evapotranspiration. Unit 2 will be tributary to that facility which will satisfy the PCBMP requirements.

VII. SOIL EROSION AND SEDIMENTATION CONTROL PLAN

As illustrated on the Site Development Plans, soil erosion and sediment control measures and devices are proposed to protect downstream properties and Special Management Areas from adverse effects of soil erosion and sedimentation. The proposed erosion and sediment control measures and devices include:

- Stabilized construction entrance
- Storm sewer inlets protected with sediment trapping/filter control devices (Inlet Filter Inserts)
- Silt fencing installed around the perimeter of the site
- Vegetative restoration of containment berms
- Temporary stockpile with perimeter silt fence

VIII. STORMWATER MANAGEMENT SYSTEM MONITORING AND MAINTENANCE PLAN

The Ashwood Heights H.O.A. has been charged with the task of monitoring and maintaining the native vegetated Stormwater Management Facilities to which Unit 2 will be tributary. The Developer has contacted the H.O.A. and is seeking to be incorporated into the H.O.A. excluding provisions of architectural controls that may have been applicable to the Pulte Home

Corporation Building Standards but are not compatible with the custom home designs proposed by Developer. These matters will further unfold as the Project works its way through the Review and Permitting process.

IX. PERFORMANCE SECURITY

In accordance with the Ordinance an Engineer’s Opinion of Probable Construction Cost for the Stormwater Facilities has been prepared and is presented in Exhibit K which is summarized below for the Earthwork & Grading Improvements, the Storm Sewer & Drainage Improvements and the SWPP Plan Implementation.

I.	S.W.P.P. Plan Implementation	\$	15,645.00
II.	Earthwork and Grading	\$	33,900.00
III.	Storm Sewer and Drainage	\$	67,088.00
	Total Improvements	\$	116,633.00

X. SUMMARY AND CONCLUSION

The Grading and Drainage Systems in Ashwood Heights Unit 2 for the nine (9) home sites to be platted have been designed in accordance with the City of Naperville’s version of the Will County Stormwater Ordinance. It is my opinion that, when constructed in accordance with these Final Site Development Plans and Specifications for Unit 2, the Project will be capable of containing, collecting and conveying stormwater runoff to the previously constructed and approved Stormwater Management Facilities in a manner consistent with City Design Standards and Ordinances.

H:\904408\REPORTS\2022-03-25 Revised Final SWM Report.docx

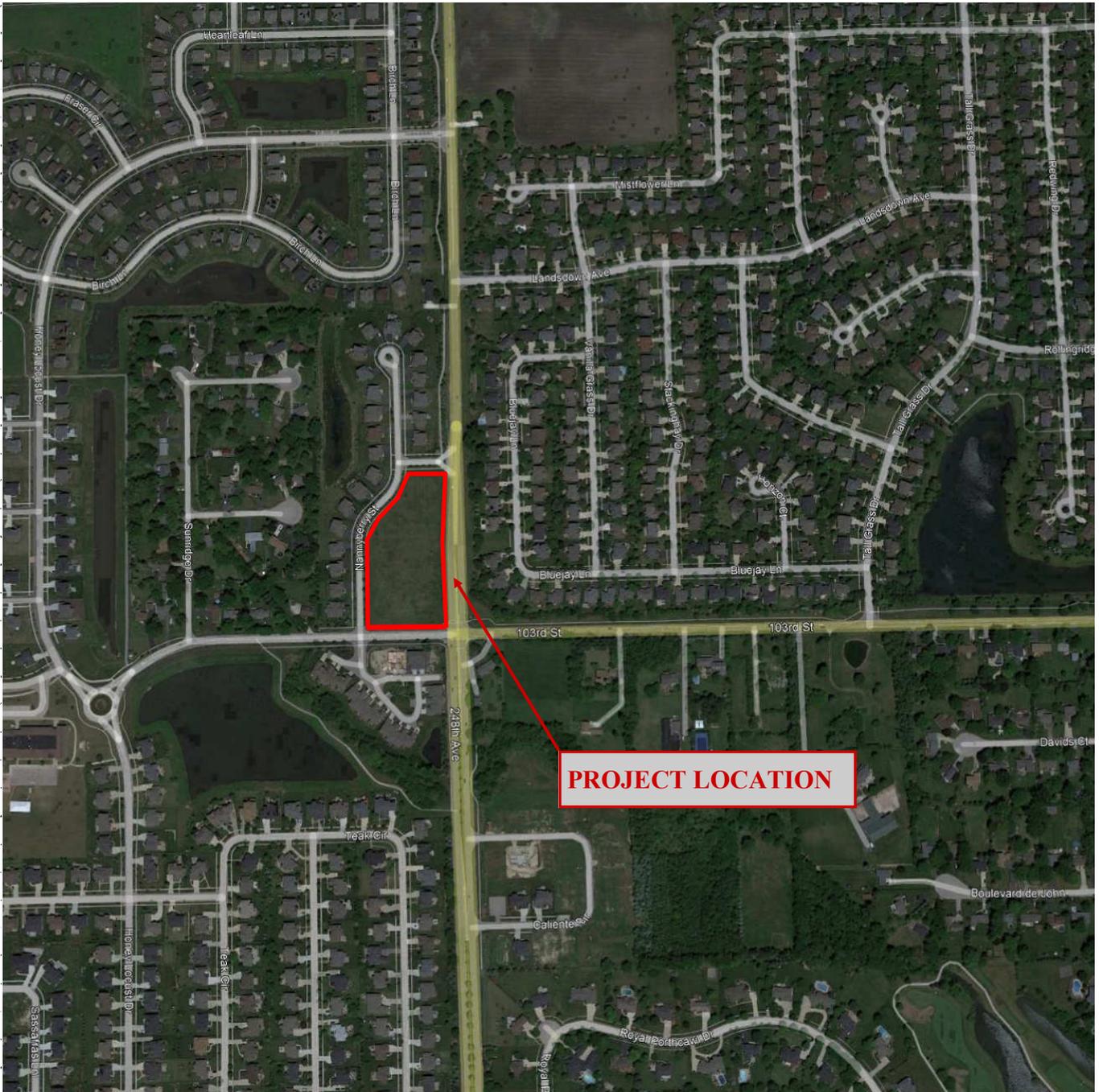
EXHIBIT A

LOCATION MAP

ASHWOOD HEIGHTS—PHASE 2

T37N, R9E, SEC. 8

NORMANTOWN QUADRANGLE



PROJECT LOCATION



CEMCON, Ltd.

DRAWN BY:

KMM

1/17/22

CHECKED BY:

APPROVED:

SCALE: N.T.S.

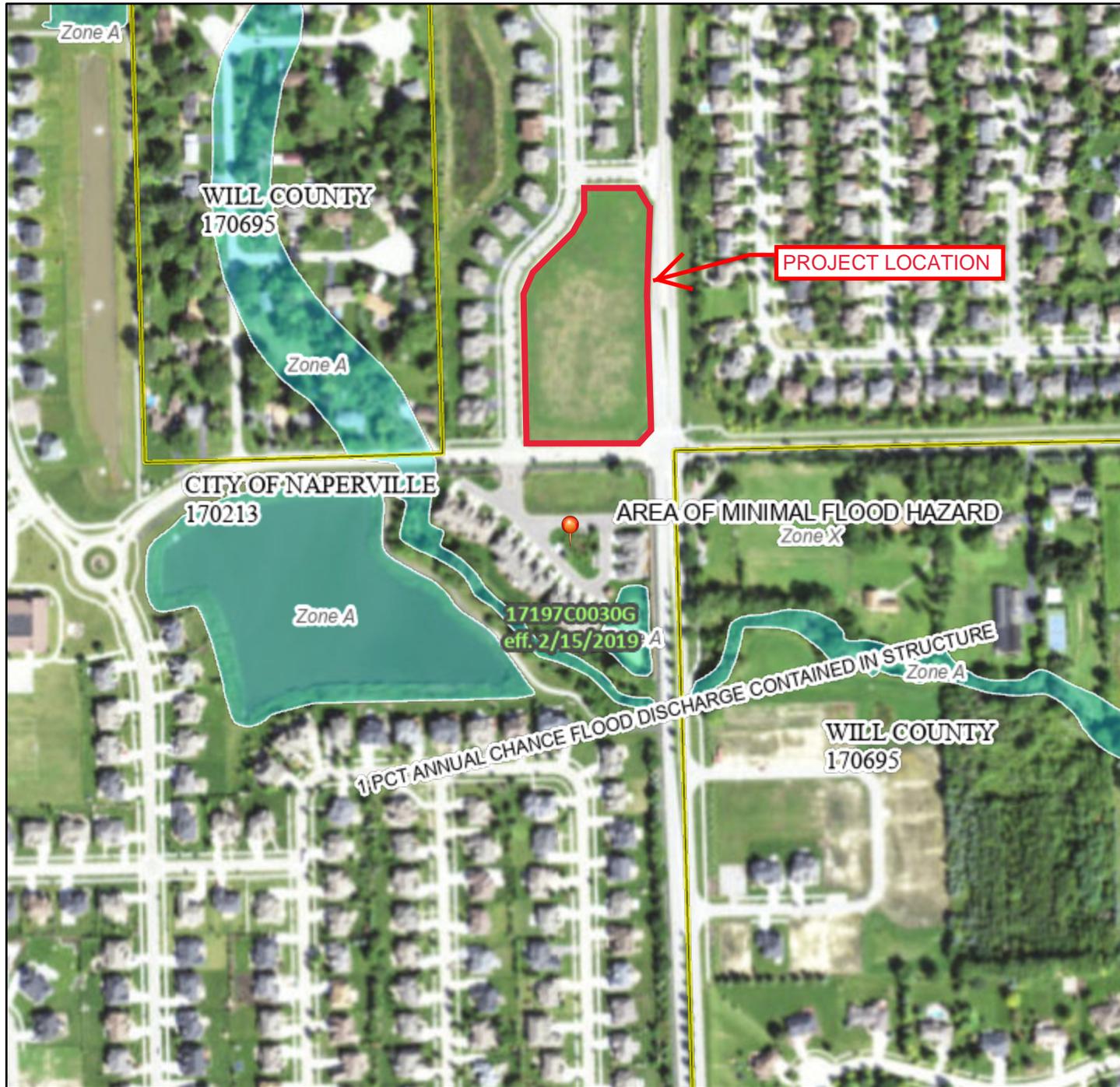
EXHIBIT B

FLOOD INSURANCE RATE MAP PANEL

National Flood Hazard Layer FIRMette



88°13'51"W 41°41'53"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>	With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
	Regulatory Floodway	

OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
	Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
	Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
	Area with Flood Risk due to Levee <i>Zone D</i>

OTHER AREAS	NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
	Effective LOMRs
	Area of Undetermined Flood Hazard <i>Zone D</i>

GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall

OTHER FEATURES	20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
	17.5 Coastal Transect
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature

MAP PANELS	Digital Data Available
	No Digital Data Available
	Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

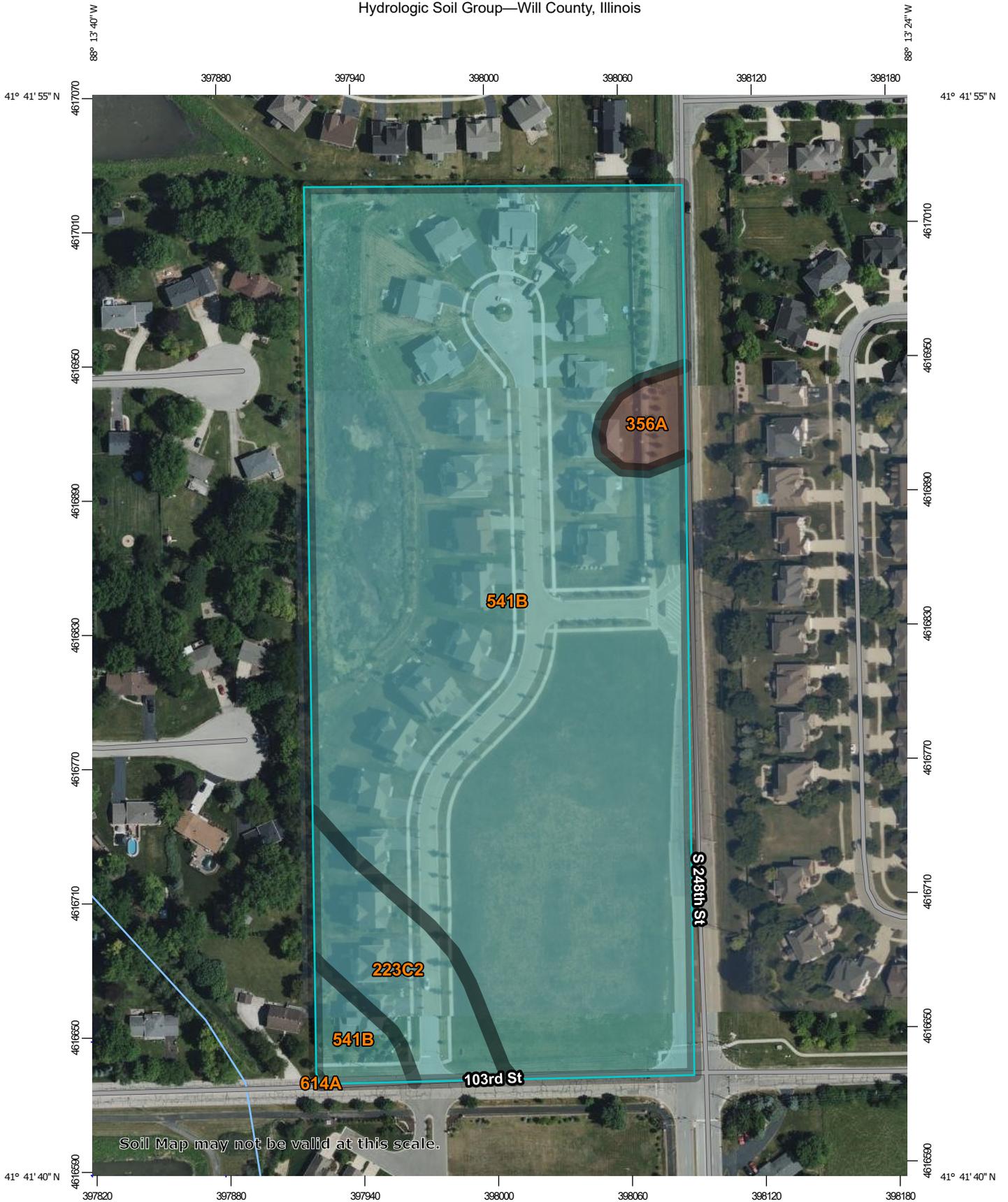
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **1/13/2022 at 10:31 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

EXHIBIT C

WILL COUNTY SOILS MAP

Hydrologic Soil Group—Will County, Illinois



Soil Map may not be valid at this scale.

Map Scale: 1:2,350 if printed on A portrait (8.5" x 11") sheet.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Will County, Illinois
 Survey Area Data: Version 16, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 3, 2019—Jul 3, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
223C2	Varna silt loam, 4 to 6 percent slopes, eroded	C	1.2	7.1%
356A	Elpaso silty clay loam, 0 to 2 percent slopes	B/D	0.3	2.0%
541B	Graymont silt loam, 2 to 5 percent slopes	C	15.3	90.8%
614A	Chenoa silty clay loam, 0 to 2 percent slopes	C/D	0.0	0.0%
Totals for Area of Interest			16.8	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

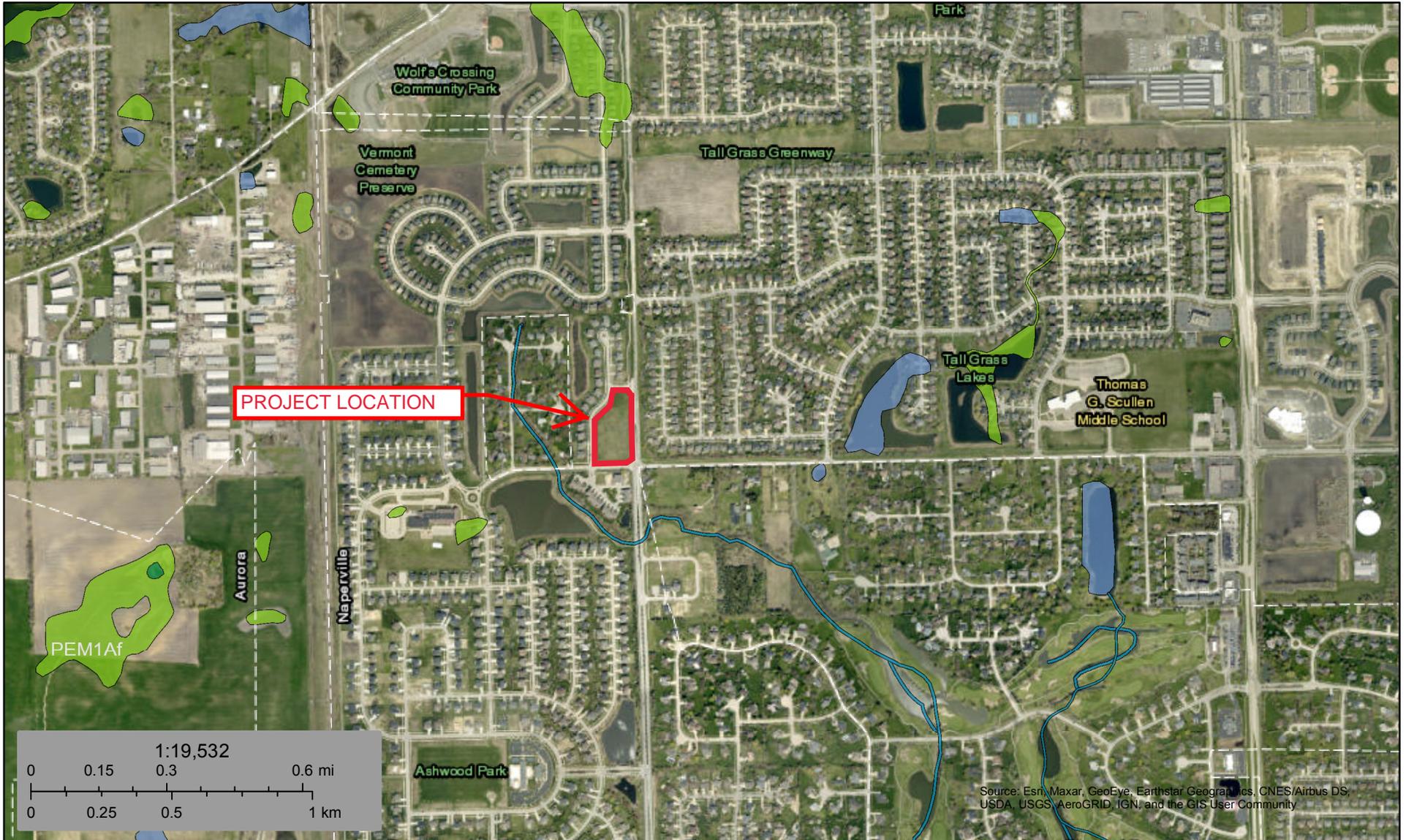
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

EXHIBIT D

NATIONAL WETLANDS INVENTORY MAP



January 13, 2022

Wetlands

- | | | |
|--------------------------------|-----------------------------------|----------|
| Estuarine and Marine Deepwater | Freshwater Emergent Wetland | Lake |
| Estuarine and Marine Wetland | Freshwater Forested/Shrub Wetland | Other |
| | Freshwater Pond | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

EXHIBIT E

UNIT 1 RCN CALCULATION – LOT 23

Worksheet 2: Runoff Curve Number and Runoff

Project ASHWOOD HEIGHTS By KMM Date 7/15/2014
 Location Subarea 001 Checked _____ Date _____

Circle one: Present Developed

1. Runoff curve number (CN)

Soil Name and Hydrologic Group	Cover Description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ^{1/}			Area X_ acres mi2 %	Product of CN x Area
		Table 2-2	Fig. 2-3	Fig. 2-4		
C	Stormwater Management Facility (NWL)	98			0.99	97.02
C	Stormwater Management Facility (NWL-HWL)	71			1.11	78.81
C	Residential Development - 1/4 Ac. Lots	83			8.07	669.81
C	Open Space	74			0.65	48.1
C	Church Site (50% Impervious)	86			3.60	309.6
Totals =					14.42	1203.340

1/ Use only one CN source per line.

$$\text{CN (weighted)} = \frac{\text{Total Product}}{\text{Total Area}} = \frac{1203.340}{14.420} = 83.449$$

Use CN = 83.4

2. Runoff

Frequency yr
 Rainfall in
 Runoff, Q in
 (Use P and CN with table 2-1, fig. 2-1, or eqs. 2-3 and 2-4.)

Storm #1	Storm #2	Storm #3

EXHIBIT F

PROPOSED CONDITION

RCN CALCULATION

Worksheet 2: Runoff Curve Number and Runoff

Project ASHWOOD HEIGHTS - PHASE 2 By KMM Date 1/6/2022
 Location PHASE 2 AREA TRIBUTARY TO EXISTING SWMF Checked _____ Date _____

Circle one: Present Developed

1. Runoff curve number (CN)

Soil Name and Hydrologic Group	Cover Description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ^{1/}			Area _X_ acres _mi2 _%	Product of CN x Area
		Table 2-2	Fig. 2-3	Fig. 2-4		
C	Pavement/Buildings	98			0.98	96.04
C	Open Space - Yards/Berm	74			2.46	182.04
Totals =					3.44	278.080

1/ Use only one CN source per line.

$$\text{CN (weighted)} = \frac{\text{Total Product}}{\text{Total Area}} = \frac{278.080}{3.440} = \underline{80.837}$$

Use CN = 80.8

2. Runoff

Frequency yr
 Rainfall in
 Runoff, Q in
 (Use P and CN with table 2-1, fig. 2-1, or eqs. 2-3 and 2-4.)

Storm #1	Storm #2	Storm #3

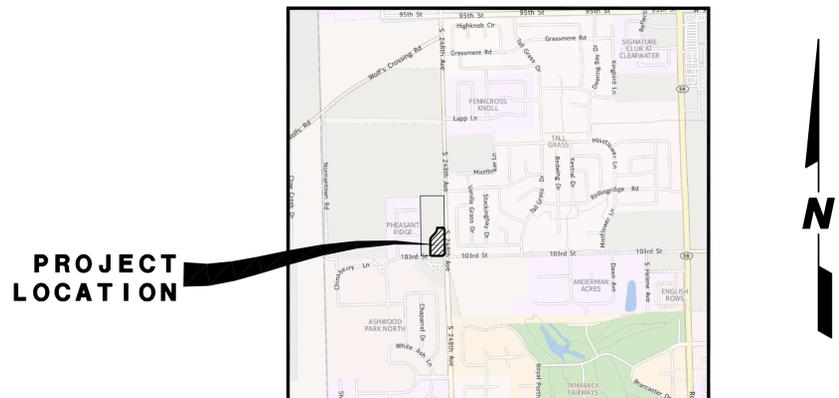
EXHIBIT G

FINAL SITE DEVELOPMENT PLANS

(SEE SEPARATE ATTACHMENT)

FINAL SITE DEVELOPMENT PLANS FOR **ASHWOOD HEIGHTS - PHASE 2** NAPERVILLE, ILLINOIS WATERMAIN - SANITARY SEWER - STREET - STREET LIGHTING AND DRAINAGE IMPROVEMENTS

EXISTING	PROPOSED	DESCRIPTION
		MANHOLE
		CATCH BASIN
		INLET
		CLEANOUT
		SLOPE INLET BOX
		HEADWALL
		END SECTION
		STORM SEWER
		SANITARY SEWER
		WATERMAIN
		VALVE & BOX
		WATER VALVE IN VAULT
		FIRE HYDRANT
		CONTOURS
(ELEV)	ELEV	ELEVATIONS
		STREET LIGHT
		WATERMAIN PROTECTION
		MANHOLE OR INLET FILTER INSERT
		TRIANGULAR SILT DIKE
		SILT FENCE DITCH CHECK
		RIP-RAP
		OVERFLOW ROUTE



LOCATION MAP

BENCH MARKS

ELEVATION REFERENCE MARK:
 RM 111-CITY OF NAPERVILLE SURVEY MONUMENT STATION NO. 1501- BERNSTEN SURVEY MONUMENT LOCATED AT THE SOUTHWEST CORNER OF KINGBIRD LANE & GRASSMERE ROAD; 65' WEST OF KINGBIRD LANE EDGE PAVEMENT & 5 FEET SOUTH OF GRASSMERE ROAD EDGE PAVEMENT.
 ELEVATION: 691.72 (NAVD 88)

CONTROL POINTS:
 CP #108: FOUND '+' IN CONCRETE WALK AT THE NORTHWEST CORNER OF 103RD STREET AND 248TH STREET APPROXIMATELY 64 FEET WEST OF THE CENTERLINE OF 248TH STREET AND 46 FEET NORTH OF THE CENTERLINE OF 103RD STREET.
 NORTHING: 1831474.34
 EASTING: 1013873.42
 ELEVATION: 690.09 NAVD 88

CP #110: FOUND '+' ON NORTH END OF THE CURBED ISLAND ON SOUTH SIDE OF 103RD STREET AT THE ENTRANCE DRIVE TO ASHWOOD PARK NORTH TOWNSHIP.
 NORTHING: 1831379.81
 EASTING: 1013527.53
 ELEVATION: 685.15 NAVD 88

INDEX OF SHEETS

Sheet Number	Sheet Title
01	TITLE
△ 02-03	CONSTRUCTION SPECIFICATIONS - GENERAL NOTES
△ 04	STREET PAVEMENT DESIGN AND DETAILS
△ 05	MASTER UTILITY PLAN AND LIGHTING DETAILS
△ 06	SOIL EROSION AND SEDIMENTATION CONTROL PLAN
△ 07	SOIL EROSION AND SEDIMENTATION CONTROL DETAILS
08	STORMWATER POLLUTION PREVENTION PLAN
△ 09-10	DRAINAGE AND GRADING PLANS
△ 11	PLAN AND PROFILE: VIBURNUM COURT
△ 12	PLAN AND PROFILE: SIDEYARD WATERMAIN
△ 13	PLAN AND PROFILE: NANNYBERRY STREET SERVICES
14	SANITARY SEWER AND WATERMAIN CONSTRUCTION DETAILS
15	DRAINAGE STRUCTURE DETAILS

PROFESSIONAL ENGINEER'S CERTIFICATION

STATE OF ILLINOIS) SS.
 COUNTY OF DU PAGE)

I, RANDALL W. BUS, A LICENSED PROFESSIONAL ENGINEER OF ILLINOIS, HEREBY CERTIFY THAT THIS TECHNICAL SUBMISSION WAS PREPARED ON BEHALF OF SILVERTHORNE DEVELOPMENT COMPANY, BY CEMCON, LTD. UNDER MY PERSONAL DIRECTION. THIS TECHNICAL SUBMISSION IS INTENDED TO BE USED AS AN INTEGRAL PART OF AND IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND CONTRACT DOCUMENTS.

DATED THIS 25TH DAY OF MARCH, A.D., 2022.

Randall W. Bus
 RANDALL W. BUS
 62-32381
 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

ILLINOIS LICENSED PROFESSIONAL ENGINEER NO. 062-032381
 MY LICENSE EXPIRES ON NOVEMBER 30, 2023

PROFESSIONAL DESIGN FIRM LICENSE NUMBER 184-002937
 EXPIRES APRIL 30, 2023

NOTE: UNLESS THIS DOCUMENT BEARS THE ORIGINAL SIGNATURE AND IMPRESSED SEAL OF THE DESIGN PROFESSIONAL ENGINEER, IT IS NOT A VALID TECHNICAL SUBMISSION.

FOR UNDERGROUND UTILITY LOCATIONS, CALL J.U.L.I.E. TOLL FREE TEL. 1-800-892-0123 or 811

DATE: _____
 RELEASED FOR PLAN REVIEW AND PERMIT PROCESSING ONLY.
 IF USED FOR BIDDING PURPOSES, THOSE PARTIES CONCERNED SHALL BE ADVISED THAT REVISIONS MAY BE REQUIRED PRIOR TO PLAN APPROVAL.
 NOT ISSUED FOR CONSTRUCTION UNTIL APPROVED BY THE CITY OF NAPERVILLE AND PERMITTED AS REQUIRED.

NAPERVILLE PROJECT #22-1000002
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PREPARED FOR:
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R E V I S I O N S					
NO.	DATE	SHEETS	NO.	DATE	SHEETS
△	03-25-22/JGC	1, 2, 4-7, 9-13 (SECOND SUBMITTAL)			

JOB NO. 904.408
 COMPLETION DATE :
 JANUARY 12, 2022
 SHEET 1 OF 15

ASHWOOD HEIGHTS - PHASE 2 - FINAL ENGINEERING - 904.408 - REV. 01: 03-25-22/JGC

CONSTRUCTION SPECIFICATIONS – GENERAL NOTES

**CITY OF NAPERVILLE
General Notes**

- THE OWNER OR HIS/HER/THEIR REPRESENTATIVE IS RESPONSIBLE TO OBTAIN ANY AND ALL PERMITS REQUIRED BY APPLICABLE GOVERNMENTAL AGENCIES.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF NAPERVILLE DESIGN MANUAL AND STANDARD SPECIFICATIONS (CURRENT EDITION) AND WITH THE ILLINOIS DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" (CURRENT EDITION).
- ALL CONTRACTORS DOING WORK IN THE PUBLIC RIGHT-OF-WAY MUST BE LICENSED (WHEN APPLICABLE) TO MAKE PUBLIC IMPROVEMENTS WITHIN THE NAPERVILLE CORPORATE LIMITS.
- THE CONTRACTOR/DEVELOPER ASSUMES ALL RESPONSIBILITY AND LIABILITY FOR ANY ACTION RESULTING FROM THEIR WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
- THE CONTRACTOR/DEVELOPER SHALL INDEMNIFY AND HOLD HARMLESS THE CITY OF NAPERVILLE.
- PRIOR TO COMMENCEMENT OF ANY OFF-SITE CONSTRUCTION, THE CONTRACTOR SHALL SECURE WRITTEN AUTHORIZATION THAT ALL OFF-SITE EASEMENTS HAVE BEEN SECURED AND THAT PERMISSION HAS BEEN GRANTED TO ENTER ONTO PRIVATE PROPERTY.
- THE CONTRACTOR AND THEIR ON-SITE REPRESENTATIVES WILL BE REQUIRED TO ATTEND A PRE-CONSTRUCTION MEETING WITH THE CITY OF NAPERVILLE PRIOR TO ANY WORK BEING STARTED. A PRE-CONSTRUCTION MEETING WILL NOT BE SCHEDULED UNTIL THE PROJECT HAS BEEN APPROVED BY THE CITY OF NAPERVILLE DEVELOPMENT REVIEW TEAM AND THE REQUIRED SURETY HAS BEEN POSTED.
- A MINIMUM OF 48 HOURS NOTICE SHALL BE GIVEN TO THE CITY OF NAPERVILLE TED BUSINESS GROUP (630-420-6082) PRIOR TO STARTING WORK OR RESTARTING WORK AFTER SOME ABSENCE OF WORK FOR ANY REASON.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ADEQUATELY IDENTIFY AND LOCATE ALL EXISTING UTILITIES PRIOR TO EXCAVATION. BEFORE STARTING CONSTRUCTION, THE CONTRACTOR SHALL CONTACT JULIE FOR THE LOCATION OF ANY AND ALL UTILITIES. THE TOLL-FREE NUMBER IS 800-892-0123. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ANY PRIVATE FACILITIES OR NON-JULIE MEMBER FACILITIES.
- THE CONTRACTOR CAN SCHEDULE ALL NECESSARY SITE INSPECTIONS WITH THE CITY OF NAPERVILLE BY CALLING (630) 420-6082 BETWEEN THE HOURS OF 8:00AM AND 4:00PM (CLOSED 1:00PM TO 2:00PM DAILY) ON WEEKDAYS WHEN THE CITY IS OPEN FOR BUSINESS. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE THE SITE PERMIT NUMBER FOR THE PROJECT IN ORDER TO SCHEDULE THE INSPECTION(S).
- RECORD DRAWINGS ARE REQUIRED TO BE SUBMITTED AND APPROVED BY THE CITY OF NAPERVILLE PRIOR TO FINAL OCCUPANCY BEING GRANTED.
- FINAL ACCEPTANCE OF PUBLIC IMPROVEMENTS SHALL BE GRANTED ONLY AFTER A FINAL INSPECTION HAS BEEN COMPLETED AND HAS REVEALED THAT ALL IMPROVEMENTS HAVE BEEN SATISFACTORILY COMPLETED IN ACCORDANCE WITH THE NAPERVILLE STANDARD SPECIFICATIONS. UTILITIES ARE NOT CONSIDERED ACCEPTED UNTIL THEY ARE FORMALLY ACCEPTED BY THE CITY COUNCIL AS REQUIRED IN ACCORDANCE WITH THE NAPERVILLE MUNICIPAL CODE.

OTHER GENERAL NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SAFE AND HEALTHFUL WORKING CONDITIONS THROUGHOUT THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
- IF THE ENGINEER IS RETAINED FOR CONSTRUCTION STAKING SERVICES, THE ENGINEER AND T.E.D. WILL BE GIVEN SEVENTY-TWO (72) HOURS NOTICE FOR ANY STAKING THAT IS TO BE DONE. IF ENGINEER IS CONTRACTED BY OWNER OR CONTRACTOR FOR CONSTRUCTION STAKING SERVICES, EACH OF THE VARIOUS ITEMS OF WORK COVERED BY THIS CONTRACT WILL BE STAKED ONCE. ADDITIONAL STAKING REQUIRED DUE TO CONTRACTOR NEGLIGENCE SHALL BE PAID FOR BY THE CONTRACTOR AT THE CURRENT HOURLY RATE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING EACH OF THE UTILITY COMPANIES BEFORE ANY WORK IS STARTED. ALL UTILITIES MUST BE STAKED PRIOR TO CONSTRUCTION.
- AFTER CONSTRUCTION STAKING IS PERFORMED, BUT PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL CALL THE ATTENTION OF THE OWNER'S REPRESENTATIVE TO ANY ERRORS OR DISCREPANCIES WHICH MAY BE SUSPECTED IN LINES AND GRADES WHICH ARE ESTABLISHED BY THE OWNER, AND SHALL NOT PROCEED WITH THE WORK UNTIL ANY LINES AND GRADES WHICH ARE BELIEVED TO BE IN ERROR HAVE BEEN VERIFIED OR CORRECTED BY THE OWNER'S REPRESENTATIVE.
- THE UNDERGROUND CONTRACTOR SHALL BE RESPONSIBLE TO PLACE ON GRADE AND COORDINATE WITH OTHER CONTRACTORS ALL UNDERGROUND STRUCTURE FRAMES SUCH AS CATCH BASINS, INLETS, MANHOLES, HYDRANTS, BUFFALO BOXES, VALVES, ETC. NO ADDITIONAL COMPENSATION WILL BE PAID AND SAID ADJUSTMENTS SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS OF CONSTRUCTION.
- CONTRACTORS SHALL KEEP PUBLIC STREET PAVEMENTS CLEAN OF DIRT AND DEBRIS AND, WHEN NECESSARY, CLEAN PAVEMENTS ON A DAILY BASIS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS (INCLUDING UTILITY LOCATIONS) PRIOR TO THE INSTALLATION OR FABRICATION OF ANY MATERIALS. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.

USE OF THE ELECTRONIC MEDIA VERSION OF FINAL SITE DEVELOPMENT PLANS AND SPECIFICATIONS

THESE FINAL SITE DEVELOPMENT PLANS AND SPECIFICATIONS ARE COPYRIGHTED INSTRUMENTS OF SERVICE WITH RESPECT TO THIS PARTICULAR PROJECT AND TO WHICH INSTRUMENTS OF SERVICE CEMCON, LTD. RETAINS A PROPRIETARY INTEREST SUBJECT ONLY TO CERTAIN RIGHTS GRANTED UNDER CONTRACT BY CEMCON, LTD. FOR THE PARTICULAR PROJECT AND PARTICULAR CLIENT IDENTIFIED ON THE COVER SHEET. ONLY THE PRINTED OR HARD COPIES OF SAID INSTRUMENTS OF SERVICE BEARING THE ORIGINAL SIGNATURE AND IMPRESSED SEAL OF THE PROFESSIONAL ENGINEER IN THE EMPLOY OF CEMCON, LTD. MAY BE RELIED UPON. THE ELECTRONIC MEDIA VERSION OF THESE INSTRUMENTS OF SERVICE ACQUIRED BY THIRD PARTIES WITH NO CONTRACTUAL RELATIONSHIP TO CEMCON, LTD. ARE FOR CONVENIENCE ONLY AND ANY CONCLUSION OR INFORMATION DERIVED FROM SUCH ELECTRONIC FILES IS AND SHALL BE AT USER'S SOLE RISK. BECAUSE DATA STORED IN ELECTRONIC MEDIA FORMAT CAN DEGRADATE, BE SUBSEQUENTLY MODIFIED INADVERTENTLY OR OTHERWISE WITHOUT THE AUTHORIZATION OR KNOWLEDGE OF CEMCON, LTD., ANY ENTITY RECEIVING OR UTILIZING SAID ELECTRONIC FILES SHALL CAREFULLY COMPARE AND VERIFY THAT THE TEXT DATA, GRAPHICS OR DESIGN INFORMATION IMPARTED ON SAID ELECTRONIC MEDIA FILES ARE CONSISTENT WITH THE PRINTED OR HARD COPIES OF SAID INSTRUMENTS OF SERVICE AND ADVISEDLY THE LATEST MOST UP-TO-DATE AND OPERATIVE VERSION OF SAID INSTRUMENTS OF SERVICE. IN PARTICULAR, THE ACQUISITION OF DATA POINTS IN EITHER THE HORIZONTAL AND / OR VERTICAL PLANS MUST BE COMPARED AND CORROBORATED WITH THAT LATEST OPERATIVE PRINTED OR HARD COPY OF SAID INSTRUMENTS OF SERVICE, OR ERRORS AND MISINFORMATION MAY BE INTRODUCED. WHEN TRANSFERRING THE ELECTRONIC MEDIA VERSION OF SAID INSTRUMENTS OF SERVICE EITHER BY CEMCON, LTD. OR THIRD PARTIES, CEMCON, LTD. MAKES NO REPRESENTATION AS TO THE LONG TERM RELIABILITY, USABILITY, OR READABILITY OF SAID INSTRUMENTS OF SERVICE RESULTING FROM THE USE OF SOFTWARE APPLICATION PACKAGES, OPERATING SYSTEMS OR COMPUTER HARDWARE DIFFERING FROM THOSE USED BY CEMCON, LTD.

**CITY OF NAPERVILLE
Department of Public Utilities – Water/Wastewater General Notes**

- NEW WATER MAIN VALVES, INCLUDING PRESSURE TAP VALVES, ADJACENT TO AN EXISTING WATER MAIN, AND EXISTING WATER MAIN VALVES SHALL ONLY BE OPERATED BY THE CITY OF NAPERVILLE, DEPARTMENT OF PUBLIC UTILITIES CEE/CM DIVISION PERSONNEL WITH 48-HOUR NOTICE (MONDAY-FRIDAY). CONTACT DPU-W/WW CEE/CM AT 630-420-4122 FOR SCHEDULING.
- ANY EXISTING UTILITY STRUCTURES REQUIRING ADJUSTMENT OR RECONSTRUCTION SHALL BE COMPLETED BY THE CONTRACTOR TO THE SATISFACTION OF THE UTILITY OWNER. ADJUSTMENTS AND/OR RECONSTRUCTIONS NOT CALLED FOR ON THE PLANS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. NO MORE THAN A TOTAL OF 12 INCHES OF ADJUSTING RINGS AND/OR 2 ADJUSTING RINGS SHALL BE ALLOWED. ALL STRUCTURE FRAMES SHALL BE FLUSH WITH FINAL GRADE.
- TREES SHALL BE INSTALLED A MINIMUM OF FIVE (5) FEET HORIZONTALLY FROM UNDERGROUND ELECTRICAL FEEDERS, SANITARY SEWERS, SANITARY SERVICES, WATER MAINS, AND WATER SERVICES. TREES SHALL BE INSTALLED A MINIMUM OF TEN (10) FEET HORIZONTALLY FROM UTILITY STRUCTURES AND APPURTENANCES, INCLUDING, BUT NOT LIMITED TO, MANHOLES, VALVE VAULTS, VALVE BOXES AND FIRE HYDRANTS. NO TREES, SHRUBS OR OBSTACLES WILL BE ALLOWED 10' IN FRONT OF, 5' ON THE SIDES, AND 7' TO THE REAR OF THE ELECTRICAL TRANSFORMER.
- ALL RETAINER GLANDS WHEN REQUIRED TO RESTRAIN VALVES, FITTINGS, HYDRANTS, AND PIPE JOINTS SHALL BE MECHANICAL JOINT WEDGE ACTION TYPE MEGALUG 1100 SERIES AS MANUFACTURED BY EBBA IRON, INC. OR UNI-FLANGE BLOCKBUSTER 1400 SERIES AS MANUFACTURED BY FORD METER BOX CO. AND SHALL BE FOR USE ON DUCTILE IRON PIPE CONFORMING TO ANSI/AWWA C151/A21.51, FOR NOMINAL PIPE SIZES 3" THROUGH 48".
- EXISTING DUCTILE IRON SYSTEMS FOR RESTRAINING PUSH-ON PIPE BELLS SHALL BE MEGALUG SERIES 1100HD OR FORD SERIES 1390.
- EXISTING DUCTILE IRON SYSTEMS REQUIRING RESTRAINT SHALL BE MEGALUG SERIES 1100SD (SPLIT MEGALUG) FOR MECHANICAL JOINTS.
- DUCTILE IRON WATER MAIN TO BE CLASS 52. ALL DUCTILE IRON PIPE IS TO BE ENCASED IN POLYETHYLENE FILM POLYETHYLENE ENCASEMENT TO BE INSTALLED IN ACCORDANCE WITH ANSI/AWWA C105/A21.5-05.
- A SET OF AS-BUILT RECORD DRAWING SHALL BE GIVEN TO THE CITY OF NAPERVILLE UPON COMPLETION OF IMPROVEMENTS SHOWING THE ELEVATION AND LOCATION (TIED TO TWO POINTS) OF ALL NEW AND EXISTING STRUCTURES INCLUDING FIRE HYDRANTS, VALVE BOXES AND VALVES, LINES TOP SLEEVES, WATER SERVICE CORPORATION STOPS, WATER MAIN FITTINGS/BENDS, MANHOLES, SANITARY SERVICE WYES (MEASURED FROM DOWNSTREAM MANHOLE), AND ABANDONED WATER OR SANITARY SERVICE LINES. ALL ELEVATIONS SHOULD BE REFERENCED TO THE SAME BENCHMARK DATUM AS THE ORIGINAL DESIGN PLANS. HORIZONTAL TIES SHALL BE REFERENCED TO LOT LINES, BACK OF CURB, OR PROPERTY CORNERS.
- ALL SANITARY SEWER PIPING SHALL BE PVC PIPE MEETING THE REQUIREMENTS OF ASTM D-2241 WITH JOINTS CONFORMING TO ASTM D-3139. ALL SANITARY SEWER FITTINGS SHALL BE PVC MEETING THE FOLLOWING REQUIREMENTS: 4" TO 12" SHALL BE INJECTION MOLDED FITTINGS MEETING ASTM D-2241. GREATER THAN 12" SHALL BE FABRICATED FITTINGS MEETING ASTM D-2241 OR C905. MINIMUM PRESSURE RATING SHALL BE 150 PSI.
- THE VALVES LESS THAN 16" SHALL BE STANDARD PATTERN, GATE VALVES AND SHALL HAVE THE NAME OR MARK OF THE MANUFACTURER, SIZE AND WORKING PRESSURE PLAINLY CAST IN RAISED LETTERS ON THE VALVE BODY. VALVES MAY BE APPROVED FROM ONE OF THE FOLLOWING MANUFACTURERS: AMERICAN, CLOW, WATEROUS OR KENNEDY.
- STAINLESS STEEL NUTS, BOLTS/T-BOLTS, AND WASHERS, TYPE 304 OR BETTER, WILL BE REQUIRED ON ALL WATER MAIN INSTALLATIONS. THIS WOULD APPLY TO HYDRANTS, TAPPING SLEEVES, VALVES, FITTINGS, RESTRAINT, AND OTHER APPURTENANCES BURIED OR VALVE VAULTS. MECHANICAL JOINTS AND RESTRAINT GLANDS REQUIRE 304 STAINLESS STEEL T-BOLTS. AN ANTI-SEIZE COMPOUND SHALL BE FACTORY APPLIED TO NUTS OR BOLTS – ANY DAMAGE TO THIS COATING SHALL BE REPAIR WITH FIELD APPLIED APPROVED ANTI-SEIZE COMPOUND THAT IS A MOLYBDENUM-BASE LUBRICANT, BOSTIK NEVER-SEZ OR APPROVED EQUAL.
- THE CONTRACTOR SHALL ROTATE AND/OR ADJUST ANY EXISTING AND/OR NEW HYDRANT TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC UTILITIES.
- WATER MAINS SHALL BE SUBJECTED TO A HYDROSTATIC/LEAKAGE TEST IN ACCORDANCE WITH NAPERVILLE STANDARD SPECIFICATIONS. TEST PRESSURE SHALL BE NO LESS THAN 150 PSI FOR A PERIOD OF 4 HOURS AND NOT VARY BY MORE THAN ± 5 PSI. DURING THE TEST, THE TEST GAUGE SHALL BE APPROVED BY THE CITY AND SHALL BE GLYCERIN OR OIL FILLED, WITH A RANGE OF NOT MORE THAN 200 PSI AND INCREMENTS NOT GREATER THAN 5 PSI. 4" MINIMUM DIAL SIZE. WATER RECOVERY TEST SHALL BE COMPLETED AT THE END OF THE TESTING PERIOD TO SHOW ACTUAL LEAKING AND THAT THE WATER MAIN DID NOT HAVE TOO MUCH TRAPPED AIR IN THE TESTED SECTION.

**CITY OF NAPERVILLE
Department of Public Utilities – Water/Wastewater General Notes**

- THE CITY OF NAPERVILLE DPU-W/WW DOES NOT GUARANTEE THAT ANY VALVE OR FITTING IN THE EXISTING WATER DISTRIBUTION SYSTEM WILL HOLD AGAINST A HYDROSTATIC/LEAKAGE TEST. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING AN ACCEPTABLE PRESSURE TEST WHICH SHALL INCLUDE PROVISIONS AROUND EXISTING VALVES AND FITTINGS.
- FIRE HYDRANT SHOULD BE BAGGED NOT IN SERVICE UNTIL ALL TESTING AND DISINFECTION HAS BEEN COMPLETED AND NEW WATER MAIN SECTION IS SERVICE.
- SANITARY SEWER AND WATER SHALL BE CONSTRUCTED, TESTED, AND PLACED INTO SERVICE IN ACCORDANCE WITH CITY OF NAPERVILLE STANDARD SPECIFICATION AND SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION.
- ALL VALVE BOXES, VAULTS, HYDRANTS, AND MANHOLES SHALL NOT BE COVERED WITH CONSTRUCTION DEBRIS AND SHALL REMAIN ACCESSIBLE TO THE RESPECTIVE UTILITY COMPANY.
- WATER SERVICE LINE SMALLER THAN 3" SHALL BE TYPE K COPPER. IF JOINTS ARE REQUIRED DUE TO LENGTH OF SERVICE, THEN ONLY COMPRESSION TYPE COUPLING SHALL BE PERMITTED. NO SOLDERED OR FLARED TYPE JOINTS ARE ALLOWED.
- ALL SANITARY MANHOLES SHALL BE TESTED FOR LEAKAGE BY VACUUM TESTING. THE MANHOLE FRAME AND ADJUSTING RINGS SHALL BE IN PLACE WHEN TESTING. ANY LEAKS SHALL BE REPAIRED FROM EXTERIOR OF MANHOLE – PATCHING INSIDE OF MANHOLE SHALL NOT BE ACCEPTABLE. A VACUUM OF 10" (254 MM) HG SHALL BE PLACED ON THE MANHOLE AND THE TIME SHALL BE MEASURED FOR THE VACUUM TO DROP TO 9" (229 MM) HG. THE VACUUM SHALL NOT DROP BELOW 9" (229 MM) HG FOR THE FOLLOWING TIME PERIODS FOR EACH SIZE OF MANHOLE:
 - 48-INCH DIAMETER – 60 SECONDS
 - 60-INCH DIAMETER – 75 SECONDS
 - 72-INCH DIAMETER – 90 SECONDS
 - 84-INCH DIAMETER – 105 SECONDS
 ANY MANHOLES THAT FAIL THE TEST SHALL BE SEALED AND RE-TESTED UNTIL ACCEPTABLE.
- THE CONTRACTOR SHALL PROVIDE INTERNAL TELEVIEWED INSPECTION OF ALL INSTALLED SANITARY SEWER, LATERALS, MANHOLES AND CONNECTIONS TO THE PUBLIC SYSTEM. FOLLOWING COMPLETION OF TELEVIEWING WORK, THE CONTRACTOR SHALL SUBMIT VIDEO RECORDINGS ON DVD OR FLASH DRIVE ALONG WITH A COMPREHENSIVE TELEVIEWING REPORT WHICH WILL INDICATE THE LOCATION, FOOTAGES AND NATURE OF ANY DEFECTS. ALL DEFECTS SHALL BE REPAIRED TO THE SATISFACTION OF THE WATER/WASTEWATER UTILITY AND RE-TELEVIEWED.
- CONTRACTOR WORK HOURS ARE ONLY ALLOWED FROM 7:00 A.M. TO 5:00 P.M., MONDAY THROUGH SATURDAY. NO WORK SHALL BE PERMITTED ON SUNDAYS.
- SANITARY PIPES WITH LESS THAN 4 FEET OR MORE THAN 25 FEET OF COVER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPING (CLASS 50, MINIMUM) AND ENCASED IN POLYWRAP.
- ALL EXCAVATIONS MORE THAN 20 FEET DEEP MUST BE PROTECTED BY A SYSTEM DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER.
- CONTRACTOR SHALL MAINTAIN 2' MINIMUM CLEARANCE BETWEEN EXISTING UTILITIES AND NEW FOUNDATIONS AND UNDERGROUND FACILITIES. IN AREAS WHERE FOUNDATIONS AND UNDERGROUND FACILITIES ARE PROPOSED ADJACENT TO EXISTING UTILITIES, THE CONTRACTOR SHALL POT HOLE BY VACUUM EXCAVATION OR HAND EXCAVATION TO LOCATE THE EXISTING UTILITY TO VERIFY MINIMUM CLEARANCE REQUIREMENT.
- FENCES SHALL BE INSTALLED A MINIMUM OF 5 FEET FROM ANY WATER OR SANITARY MAINS WHEN RUNNING PARALLEL WITH THEM. WHERE FENCES ARE INSTALLED CROSSING WATER OR SANITARY MAINS, THE POSTS SHALL BE LOCATED TO HAVE THE MAIN BETWEEN THEM.
- ALL BRASS COMPONENTS SHALL BE CERTIFIED TO BE LEAD FREE IN COMPLIANCE WITH NSF 61 AND NSF 372 AND IDENTIFIED WITH APPLICABLE MARKINGS.
- DEFLECTION LIMITS FOR FLEXIBLE THERMOPLASTIC PIPE:
 - DEFLECTION OF POLYVINYL CHLORIDE (PVC) PIPE SHALL NOT EXCEED 5.0% OF THE "BASE I.D." (INTERNAL DIAMETER) OF THE PIPE. "BASE I.D." SHALL BE CALCULATED IN ACCORDANCE WITH THE FOLLOWING:

$$\text{AVG ID} = \text{AVG OD} - 2(1.06)t$$

$$\text{TOLERANCE PACKAGE} = (A^2 + B^2 + C^2 + D^2)/2$$
 WHERE:
 - A = OD TOLERANCE (ASTM D3034)
 - B = EXCESS WALL THICKNESS TOLERANCE = 0.06t
 - C = OUT-OF-ROUNDNESS TOLERANCE = 0.15(AVG OD)
 - t = MINIMUM WALL THICKNESS (ASTM D-2241)
$$\text{BASE ID} = \text{AVG. ID} - \text{TOLERANCE PACKAGE}$$
 - ALL SANITARY SEWERS SHALL PASS INFILTRATION AND EXFILTRATION AND AIR TESTS AND DEFLECTION TESTING AND SANITARY SEWER MANHOLES SHALL PASS VACUUM TESTING MEETING THE APPROVAL OF THE CITY OF NAPERVILLE.

OTHER SANITARY SEWER AND WATERMAIN NOTES

- WATERMAIN SERVICES SHALL HAVE A MINIMUM OF 5.0 FEET OF COVER AND SHALL BE RUN IN STRAIGHT ALIGNMENT UNLESS SPECIFICALLY SHOWN ON THE PLANS.
- ALL EXISTING UTILITIES OR IMPROVEMENTS, INCLUDING WALKS, CURBS, PAVEMENT AND PARKWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE PROMPTLY RESTORED TO THEIR RESPECTIVE ORIGINAL CONDITION.
- THE CONTRACTOR SHALL BE AWARE OF POTENTIAL CONFLICTS WITH EXISTING UTILITIES AS INDICATED ON THE PLANS. THE CONTRACTOR SHALL EXCAVATE AROUND UTILITIES TO DETERMINE ELEVATIONS BEFORE BEGINNING CONSTRUCTION.
- "BAND-SEAL" OR SIMILAR NON-SHEAR COUPLINGS SHALL BE USED WHEN JOINING SEWER PIPES OF DISSIMILAR MATERIALS.
- ALL NEW SANITARY SEWERS SHALL HAVE WYES FOR PROPOSED BUILDING SERVICES. ALL CONNECTIONS TO EXISTING SANITARY SEWERS NOT HAVING WYES SHALL BE MADE WITH A CASCADE STAINLESS STEEL SEWER SADDLE FOR BUILDING SERVICES AND WITH A MANHOLE FOR SEWER EXTENSIONS. ALL TAPS SHALL INCLUDE A PROPERLY INSTALLED HUB WYE SADDLE.
- CONNECTIONS TO EXISTING SANITARY SEWER AND WATER SYSTEMS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- WATER SERVICES SHALL INCLUDE THE NECESSARY LENGTH OF TYPE "K" COPPER WATER TUBE OF THE SIZE SHOWN ON THE PLANS, CORPORATION STOP, CURB STOP, AND SERVICE BOX, ALL AS REQUIRED BY THE MUNICIPALITY, AND ALL NECESSARY LABOR, TOOLS, EQUIPMENT, EXCAVATION & BACKFILL, FOR A COMPLETE INSTALLATION AS SHOWN ON THE PLANS. TRENCH BACKFILL WILL BE PAID FOR SEPARATELY, WHEN REQUIRED.
- GRANULAR TRENCH BACKFILL SHALL BE USED IN ALL LOCATIONS WHERE THE PROPOSED UNDERGROUND UTILITY IS TO BE CONSTRUCTED UNDER PERMANENT TYPE PAVEMENTS, DRIVEWAYS, OR SIDEWALKS. IN ANY UTILITY TRENCH OVER WHICH ANOTHER UTILITY WILL PASS, OR AS DIRECTED BY THE ENGINEER, TRENCH BACKFILL SHALL BE EXTENDED TWO (2) FEET ON EACH SIDE OF THE PERMANENT TYPE SURFACE.
- ALL SANITARY SEWER SHALL BE CONSTRUCTED WITH STONE BEDDING (IDOT GRADATION CA-11) IN ACCORDANCE WITH ASTM D-2321-89 CLASS IB.
- THE COST OF PIPE BEDDING WILL NOT BE PAID FOR SEPARATELY BUT INCLUDED IN THE CONTRACT UNIT PRICES OF THE VARIOUS SEWER ITEMS.
- DEFLECTION TESTING FOR FLEXIBLE THERMOPLASTIC PIPE:
 - THE PIPELINE SHALL BE TESTED FOR EXCESS DEFLECTION BY PULLING A "GO-NO GO" MANDREL THROUGH THE PIPE FROM MANHOLE TO MANHOLE. THE MANDREL SHALL BE SIZED IN ACCORDANCE WITH SECTION 31-1.11 C (4), AND AS SPECIFIED IN THE SPECIAL PROVISIONS. A "DEFLECTOMETER" MAY ALSO BE USED TO CHECK AND RECORD DEFLECTION.
 - WHEREVER POSSIBLE AND PRACTICAL, THE TESTING SHALL INITIATE AT THE DOWNSTREAM LINES AND PROCEED TOWARDS THE UPSTREAM LINES.
 - WHERE DEFLECTION IS FOUND TO BE IN EXCESS OF ALLOWABLE TESTING LIMITS, THE CONTRACTOR SHALL EXCAVATE TO THE POINT OF EXCESS DEFLECTION AND CAREFULLY COMPACT AROUND THE POINT WHERE EXCESS DEFLECTION WAS FOUND. THE LINE SHALL THEN BE RE-TESTED FOR DEFLECTION. HOWEVER, SHOULD AFTER THE INITIAL TESTING THE DEFLECTED PIPE FAIL TO RETURN TO THE ORIGINAL SIZE (INSIDE DIAMETER), THE LINE SHALL BE REPLACED.
- DEFLECTION LIMITS FOR FLEXIBLE THERMOPLASTIC PIPE:
 - DEFLECTION OF POLYVINYL CHLORIDE (PVC) PIPE SHALL NOT EXCEED 5.0% OF THE "BASE I.D." (INTERNAL DIAMETER) OF THE PIPE. "BASE I.D." SHALL BE CALCULATED IN ACCORDANCE WITH THE FOLLOWING:

$$\text{AVG ID} = \text{AVG OD} - 2(1.06)t$$

$$\text{TOLERANCE PACKAGE} = (A^2 + B^2 + C^2 + D^2)/2$$
 WHERE:
 - A = OD TOLERANCE (ASTM D3034)
 - B = EXCESS WALL THICKNESS TOLERANCE = 0.06t
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 - t = MINIMUM WALL THICKNESS (ASTM D-2241)
$$\text{BASE ID} = \text{AVG. ID} - \text{TOLERANCE PACKAGE}$$
 - ALL SANITARY SEWERS SHALL PASS INFILTRATION AND EXFILTRATION AND AIR TESTS AND DEFLECTION TESTING AND SANITARY SEWER MANHOLES SHALL PASS VACUUM TESTING MEETING THE APPROVAL OF THE CITY OF NAPERVILLE.

PROTECTION OF WATERMAIN AND WATER SERVICE

- WATERMANS AND WATER SERVICE LINES SHALL BE PROTECTED FROM SANITARY SEWERS, STORM SEWERS, COMBINED SEWERS, HOUSE SEWER SERVICE CONNECTIONS AND DRAINS AS FOLLOWS:
- WATERMANS:
 - HORIZONTAL SEPARATION:
 - WATERMANS SHALL BE LAID AT LEAST TEN FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED DRAIN, STORM SEWER, SANITARY SEWER, COMBINED SEWER OR SEWER SERVICE CONNECTION.
 - WATERMANS MAY BE LAID CLOSER THAN TEN FEET TO A SEWER LINE WHEN:
 - LOCAL CONDITIONS PREVENT A LATERAL SEPARATION OF TEN FEET; AND
 - THE WATERMAIN INVERT IS AT LEAST 18 INCHES ABOVE THE CROWN OF THE SEWER; AND
 - THE WATERMAIN IS EITHER IN A SEPARATE TRENCH OR IN THE SAME TRENCH ON AN UNDISTURBED EARTH SHELF LOCATED TO ONE SIDE OF THE SEWER.
 - BOTH THE WATERMAIN AND DRAIN OR SEWER SHALL BE CONSTRUCTED OF SLIP-ON OR MECHANICAL JOINT CAST OR DUCTILE IRON PIPE, PRESTRESSED CONCRETE PIPE (STORM SEWER ONLY), OR PVC PIPE MEETING THE REQUIREMENTS OF SECTION 653.111 OF THE I.E.P.A. TECHNICAL POLICY STATEMENTS, WHEN IT IS IMPOSSIBLE TO MEET (A) OR (B) ABOVE. THE DRAIN OR SEWER SHALL BE PRESSURE TESTED TO THE MAXIMUM EXPECTED SURCHARGE HEAD BEFORE BACKFILLING.
 - VERTICAL SEPARATION:
 - A WATERMAIN SHALL BE LAID SO THAT ITS INVERT IS 18 INCHES ABOVE THE CROWN OF THE DRAIN OR SEWER, WHENEVER WATERMANS CROSS STORM SEWERS, SANITARY SEWERS OR SEWER SERVICE CONNECTIONS. THE VERTICAL SEPARATION SHALL BE MAINTAINED FOR THAT PORTION OF THE WATERMAIN LOCATED WITHIN TEN FEET HORIZONTALLY OF ANY SEWER OR DRAIN CROSSED. A LENGTH OF WATERMAIN PIPE SHALL BE CENTERED OVER THE SEWER TO BE CROSSED WITH JOINTS EQUIDISTANT FROM THE SEWER OR DRAIN.
 - THE DRAIN OR SEWER SHALL BE CONSTRUCTED OF SLIP-ON OR MECHANICAL JOINT CAST OR DUCTILE IRON PIPE, PRESTRESSED CONCRETE PIPE (STORM SEWER ONLY), OR PVC PIPE MEETING THE REQUIREMENTS OF SECTION 653.111, OR THE DRAIN OR SEWER SHALL BE SLEEVED WITH STEEL PIPE OR CONSTRUCTED OF REINFORCED CONCRETE PIPE CONFORMING TO ASTM C-76 WITH GASKETED JOINTS CONFORMING TO ASTM C-361 (STORM SEWERS ONLY), FOR THE ENTIRE LENGTH OF STORM SEWER BETWEEN STRUCTURES WHEN STORM SEWER IS PERPENDICULAR TO WATERMAIN, IF:
 - IT IS IMPOSSIBLE TO OBTAIN THE PROPER VERTICAL SEPARATION AS DESCRIBED IN (A) ABOVE; OR
 - THE WATERMAIN PASSES UNDER A SEWER OR DRAIN.
 - A VERTICAL SEPARATION OF 18 INCHES BETWEEN THE INVERT OF THE SEWER OR DRAIN AND THE CROWN OF THE WATERMAIN SHALL BE MAINTAINED WHERE A WATERMAIN CROSSES UNDER A SEWER. SUPPORT THE SEWER OR DRAIN LINES TO PREVENT SETTLING AND BREAKING THE WATERMAIN.
 - CONSTRUCTION SHALL EXTEND ON EACH SIDE OF THE CROSSING UNTIL THE NORMAL DISTANCE FROM THE WATER MAIN TO THE SEWER OR DRAIN LINE IS AT LEAST TEN FEET.
 - EXCEPT IN THE CASE OF DIRECT CONFLICT DO NOT LOWER WATERMAIN TO CLEAR OBSTRUCTIONS.
 - WHEN WATERMAIN CROSSES UNDER ANY SEWER FOLLOW THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS" MAY 1996, FIFTH EDITION (SEE PAGE 162, DRAWING NUMBER 19).
- WATER SERVICE LINES:
 - THE HORIZONTAL AND VERTICAL SEPARATION BETWEEN WATER SERVICE LINES AND ALL STORM SEWERS, SANITARY SEWER, COMBINED SEWERS OR ANY DRAIN OR SEWER SERVICE CONNECTION SHALL BE THE SAME AS WATER MAIN SEPARATION DESCRIBED IN (a) ABOVE.
 - WATER PIPE DESCRIBED IN (a) ABOVE SHALL BE USED FOR SEWER SERVICE LINES WHEN MINIMUM HORIZONTAL AND VERTICAL SEPARATION CANNOT BE MAINTAINED.
 - SPECIAL CONDITIONS – ALTERNATE SOLUTIONS SHALL BE PRESENTED TO THE AGENCY WHEN EXTREME TOPOGRAPHICAL, GEOLOGICAL OR EXISTING STRUCTURAL CONDITIONS MAKE STRICT COMPLIANCE WITH (a) AND (b) ABOVE TECHNICALLY AND ECONOMICALLY IMPRACTICAL. ALTERNATE SOLUTIONS WILL BE APPROVED PROVIDED WATERTIGHT CONSTRUCTION STRUCTURALLY EQUIVALENT TO APPROVED WATERMAIN MATERIAL IS PROPOSED.
 - WATERMANS SHALL BE SEPARATED FROM SEPTIC TANKS, DISPOSAL FIELDS AND SEEPAGE BEDS BY A MINIMUM OF 25 FEET.
 - WATERMANS AND WATER SERVICE LINES SHALL BE PROTECTED AGAINST ENTRANCE OF HYDROCARBONS THROUGH DIFFUSION THROUGH ANY MATERIAL USED IN CONSTRUCTION OF THE LINE.

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CONSTRUCTION SPECIFICATIONS – GENERAL NOTES

ASHWOOD HEIGHTS – PHASE 2

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CONSTRUCTION SPECIFICATIONS – GENERAL NOTES

CITY OF NAPERVILLE

Storm Sewer Notes

1. NO CONNECTION TO AN EXISTING PUBLIC STORM SEWER MAY BE MADE WITHOUT PERMISSION OF THE CITY ENGINEER.

2. THE CONTRACTOR SHALL REPAIR ANY EXISTING FIELD DRAINAGE TILE DAMAGED DURING CONSTRUCTION AND PROPERLY REROUTE AND/OR CONNECT SAID TILE TO THE NEAREST STORM SEWER OUTLET. ALL LOCATIONS OF ENCOUNTERED FIELD DRAINAGE TILE SHALL BE PROPERLY INDICATED ON THE CONTRACTOR'S RECORD DRAWINGS.

3. THE FOLLOWING MATERIALS ARE PERMITTED FOR STORM SEWER AND PIPE CULVERTS, WHERE A PARTICULAR MATERIAL IS SPECIFIED IN THE PLANS OR SPECIAL PROVISIONS, NO OTHER KIND OF MATERIAL WILL BE PERMITTED:

3a. REINFORCED CONCRETE PIPE (RCP) IS REQUIRED IN PUBLIC RIGHT-OF-WAY – REINFORCED CONCRETE PIPE SHALL CONFORM TO ASTM DESIGNATION C 76, CLASSES I, II, III, IV OR V. BITUMINOUS JOINTS SHALL CONFORM TO ASTM DESIGNATIONS C 14 OR C 76 AS MAY BE APPLICABLE. BITUMINOUS MATERIAL SHALL CONSIST OF A HOMOGENEOUS BLEND OF BITUMEN, INERT FILLER, AND SUITABLE SOLVENT APPROVED BY THE CITY ENGINEER. RUBBER GASKET JOINTS SHALL CONFORM TO ASTM C 433 AND SHALL SPAN FROM STRUCTURE TO STRUCTURE AT WATERMAIN CROSSINGS. REINFORCED CONCRETE PIPE SHALL ALSO BE PERMITTED AS ROUND, ELLIPTICAL, OR BOX SHAPED OR AS REINFORCED CONCRETE ARCH CULVERT.

3b. NON-REINFORCED CONCRETE PIPE IS PERMITTED FOR ANY STORM SEWER WITHIN AN EASEMENT OUTSIDE OF PUBLIC RIGHT OF WAY – NON-REINFORCED CONCRETE PIPE SHALL BE ALLOWED FOR PIPES WITH A 10 INCH OR SMALLER DIAMETER. NON-REINFORCED CONCRETE PIPE SHALL CONFORM TO ASTM DESIGNATION C 14, CLASS 3. BITUMINOUS JOINTS SHALL CONFORM TO ASTM DESIGNATIONS C 14 OR C 76 AS MAY BE APPLICABLE. BITUMINOUS MATERIAL SHALL CONSIST OF A HOMOGENEOUS BLEND OF BITUMEN, INERT FILLER, AND SUITABLE SOLVENT APPROVED BY THE CITY ENGINEER. RUBBER GASKET JOINTS SHALL CONFORM TO ASTM C 433 AND SHALL SPAN FROM STRUCTURE TO STRUCTURE AT WATERMAIN CROSSINGS.

3c. DUCTILE IRON PIPE (DIP) IS PERMITTED FOR ANY STORM SEWER WITHIN AN EASEMENT OUTSIDE OF PUBLIC RIGHT OF WAY – DUCTILE IRON PIPE SHALL CONFORM TO ANSI A 21.51 (AWWA C-151), CLASS THICKNESS DESIGNED PER ANSI A 21.50 (AWWA C-150), TAR (SEAL) COATED AND CEMENT LINED PER ANSI A 21.4 (AWWA C-104), WITH MECHANICAL OR RUBBER RING (SLIP SEAL OR PUSH ON) JOINTS. ALL DUCTILE IRON PIPE SHALL BE WRAPPED WITH POLYETHYLENE.

3d. POLYVINYL CHLORIDE PIPE (PVC) IS PERMITTED FOR ANY STORM SEWER WITHIN AN EASEMENT OUTSIDE OF PUBLIC RIGHT OF WAY – POLYVINYL CHLORIDE (PVC) PIPE SHALL CONFORM TO ASTM D 3034, TYPE PSM. THE MINIMUM STANDARD DIMENSION RATIO (SDR) SHALL BE 26. THE PIPE SHALL BE MADE OF PVC PLASTIC HAVING A MINIMUM CELL CLASSIFICATION OF 12454-C, AND SHALL HAVE A MINIMUM PIPE STIFFNESS OF FORTY-SIX (46) LBS. PER INCH (317 KPA). JOINTS FOR PVC PIPE SHALL BE FLEXIBLE ELASTOMETRIC SEALS PER ASTM D 3212.

3e. HIGH DENSITY POLYETHYLENE PIPE (HDPE) IS PERMITTED FOR ANY STORM SEWER WITHIN AN EASEMENT OUTSIDE OF PUBLIC RIGHT OF WAY – HIGH-DENSITY POLYETHYLENE (HDPE) PIPE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 252 AND M 294. PIPE AND FITTINGS SHALL BE MADE FROM VIRGIN PE COMPOUNDS WHICH CONFORM TO THE REQUIREMENTS OF CELL CLASS 324420C AS DEFINED AND DESCRIBED IN ASTM D 3350. RUBBER GASKET JOINTS SHALL BE USED.

4. BEDDING, OTHER THAN CONCRETE EMBEDMENT, SHALL CONSIST OF GRAVEL, CRUSHED GRAVEL, OR CRUSHED STONE 1/4 INCH TO 1 INCH IN SIZE, AS A MINIMUM, THE MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF IDOT STANDARD SPECIFICATIONS. THE GRADATION SHALL CONFORM TO GRADATION CA-7 OR CA-11 OF THE STANDARD SPECIFICATIONS.

5. BACKFILL MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF IDOT STANDARD SPECIFICATIONS. THE GRADATION SHALL CONFORM TO GRADATION CA-6 OF THE STANDARD SPECIFICATIONS. BACKFILL MATERIAL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.

6. JOINTS CONNECTING DISSIMILAR PIPE MATERIALS SHALL BE MADE WITH SEWER CLAMP NON-SHEAR TYPE COUPLINGS; CASCADE CSS; ROMAC LSS; FERMO; INC SHEAR RING, OR APPROVED EQUAL, WHEN AVAILABLE. A STANDARD JOINT WITH A TRANSITION GASKET MAY BE USED. THE NAME OF THE MANUFACTURER, CLASS, AND DATE OF ISSUE SHALL BE CLEARLY IDENTIFIED ON ALL SECTIONS OF PIPE. THE CONTRACTOR SHALL ALSO SUBMIT BILLS OF LADING, OR OTHER QUALITY ASSURANCE DOCUMENTATION WHEN REQUESTED BY THE CITY ENGINEER. ALL NUTS AND BOLTS FOR COUPLINGS SHALL BE STAINLESS STEEL.

7. MANHOLES FOR STORM SEWERS SHALL HAVE A MINIMUM INSIDE DIAMETER OF 48 INCHES AND SHALL BE CONSTRUCTED OF PRECAST CONCRETE UNITS IN ACCORDANCE WITH ASTM C478-05 (OR LATEST EDITION) AND SHALL CONFORM TO THE CITY OF NAPERVILLE STANDARD DETAIL. ALL MANHOLES SHALL BE WATER-TIGHT. ALL VISIBLE LEAKS SHALL BE SEALED IN A MANNER ACCEPTABLE TO THE CITY ENGINEER.

8. MANHOLES SHALL BE FURNISHED WITH A SELF-SEALING FRAME AND SOLID COVER (EAST JORDAN IRON WORKS 1022 WITH TYPE A SOLID COVER, OR APPROVED EQUAL) WITH THE WORD "STORM" IMPRINTED ON THE COVER IN RAISED LETTERS. ALL FRAMES AND LIDS SHALL MEET OR EXCEED AASHTO H-20 LOADING SPECIFICATIONS. FRAMES SHALL BE SHOP PAINTED WITH ASPHALTIC BASE PAINT. BOTH THE MANHOLE FRAME AND COVER SHALL HAVE MACHINED HORIZONTAL AND VERTICAL BEARING SURFACES. INVERTED MANHOLE FRAMES ARE NOT ALLOWED. PICK HOLES SHALL NOT CREATE OPENINGS IN THE MANHOLE COVER.

9. MANHOLE STEPS ON MAXIMUM 16 INCH CENTER SHALL BE FURNISHED WITH EACH MANHOLE, SECURELY ANCHORED IN PLACE, TRUE TO VERTICAL ALIGNMENT, IN ACCORDANCE WITH THE NAPERVILLE STANDARD DETAILS. STEPS SHALL BE COPOLYMER POLYPROPYLENE REINFORCED WITH 1/2 INCH A615/A615M-05A (OR LATEST EDITION) GRADE 60 STEEL REINFORCEMENT, MEETING OR EXCEEDING ASTM C 478-05 (OR LATEST EDITION) AND OSHA STANDARDS.

10. CATCH BASINS AND INLETS SHALL HAVE A MINIMUM INSIDE DIAMETER OF 24 INCHES AND SHALL BE CONSTRUCTED OF PRECAST CONCRETE UNITS IN ACCORDANCE WITH ASTM C478-05 (OR LATEST EDITION) AND SHALL CONFORM TO THE CITY OF NAPERVILLE STANDARD DETAIL. ALL CATCH BASINS AND INLETS SHALL BE WATER-TIGHT AT ALL POINTS BELOW GRADE. ALL VISIBLE LEAKS SHALL BE SEALED IN A MANNER ACCEPTABLE TO THE CITY ENGINEER. CATCH BASINS AND INLETS SHALL BE FURNISHED WITH A FRAME AND GRATE BASED UPON THE LOCATION OF THE INSTALLATION AS LISTED BELOW. ALL FRAMES AND GRATES SHALL MEET OR EXCEED AASHTO H-20 LOADING SPECIFICATIONS. FRAMES SHALL BE SHOP PAINTED WITH ASPHALTIC BASE PAINT.

- A) PAVEMENT: EAST JORDAN IRON WORKS 1022 FRAME WITH TYPE M1 RADIAL FLAT GRATE, OR APPROVED EQUAL.
- B) BARRIER CURB AND GUTTER: EAST JORDAN IRON WORKS 7220 FRAME WITH TYPE M1 GRATE AND T1 CURB BOX, OR APPROVED EQUAL.
- C) DEPRESSED CURB: EAST JORDAN IRON WORKS 5120 FRAME AND GRATE, OR APPROVED EQUAL.
- D) MOUNTABLE CURB: EAST JORDAN IRON WORKS 7525 FRAME AND GRATE, OR APPROVED EQUAL.
- E) NON-PAVED AREAS: EAST JORDAN IRON WORKS 6527 BEEHIVE GRATE, OR APPROVED EQUAL. ALTERNATELY, IN AREAS WHERE THERE IS THE LIKELIHOOD OF PEDESTRIAN TRAFFIC, EAST JORDAN IRON WORKS 1022 FRAME WITH TYPE M1 RADIAL FLAT GRATE, OR APPROVED EQUAL MAY BE USED.

Storm Sewer Notes

11. ALL PIPE SHALL BE LAID TRUE TO LINE AND GRADE. DIRT AND OTHER FOREIGN MATERIAL SHALL BE PREVENTED FROM ENTERING THE PIPE OR PIPE JOINT DURING HANDLING OR LAYING OPERATIONS. ALL STORM SEWER PIPE TO PIPE CONNECTIONS SHALL BE SEALED WITH BUTYL MASTIC TO ENSURE WATER TIGHTNESS. LIFT HOLES TO BE SEALED USING BUTYL MASTIC AND CONCRETE PLUGS. AT NO TIME SHALL CONNECTIONS BETWEEN THE STORM SEWER AND SANITARY SEWER BE ALLOWED.

12. FOR STRUCTURES LOCATED IN PAVED AREAS, A MINIMUM OF FOUR, 2-INCH DIAMETER HOLES SHALL BE DRILLED OR PRECAST INTO THE STRUCTURE WITHIN 1 FOOT OF THE LOWEST PIPE INVERT. THE HOLES SHALL BE DISTRIBUTED EQUIDISTANT AROUND THE PERIMETER OF THE STRUCTURE. A 1-FOOT BY 1-FOOT SECTION OF UNDERDRAIN FILTER CLOTH MATERIAL SHALL BE SUFFICIENTLY FIXED TO THE OUTSIDE OF THE MANHOLE WITH MASTIC MATERIAL TO PREVENT SLIPPAGE DURING BACKFILLING.

13. ALL STORM SEWER STRUCTURE FRAMES WITHOUT INSIDE FLANGES SHALL BE SHAPED WITH NON-SHRINKING HYDRAULIC CEMENT TO FORM A FILLET TO THE STRUCTURE OR ADJUSTING RING. WHEN ADJUSTMENTS ARE NECESSARY, THEY SHALL BE PERFORMED WITH A MAXIMUM OF 2 PRECAST CONCRETE RINGS SET IN A CONTINUOUS LAYER OF PREFORMED BITUMINOUS MASTIC. THE MAXIMUM HEIGHT OF ADJUSTMENTS SHALL BE 12 INCHES. TWO INCH CONCRETE RINGS SHALL ONLY BE USED WHEN THE ADJUSTMENT IS LESS THAN 3 INCHES.

14. ADJUSTMENTS LESS THAN 4 INCHES MAY BE MADE USING HARD COMPOSITE RUBBER TYPE RINGS, SUCH AS GNR OR APPROVED EQUAL. ONLY ONE TYPE OF ADJUSTING RING MAY BE USED ON A STRUCTURE. COMBINING BOTH CONCRETE AND HARD COMPOSITE RUBBER RINGS ON A STRUCTURE IS NOT PERMITTED.

15. ALL STORM SEWER CASTINGS MUST INCLUDE "NO DUMPING, DRAINS TO RIVER" LOGOS.

16. ALL PIPE OUTLETS AND RIPRAP SHALL BE FLUSH WITH THE GROUND AND CONSTRUCTION OUTFALLS MUST NOT RESULT IN AN INCREASE IN GROUND ELEVATION IN THE FLOODPLAIN.

CITY OF NAPERVILLE

Erosion Control and Drainage Notes

1. THE CONTRACTOR SHALL MAINTAIN PROPER DRAINAGE AT ALL TIMES DURING THE COURSE OF CONSTRUCTION AND PREVENT STORM WATER FROM RUNNING INTO OR STANDING IN EXCAVATED AREAS.

2. DURING EXTENDED DRY PERIODS, THE CONSTRUCTION AREA(S) MAY NEED TO BE WATERED DOWN TO PREVENT THE BLOWING OF SOIL FROM THE SITE.

3. DURING CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE UTILIZED TO MINIMIZE THE TRACKING OF DIRT ONTO THE PUBLIC STREETS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO KEEP PUBLIC STREET PAVEMENT CLEAN OF DIRT AND DEBRIS. ANY DIRT THAT IS TRACKED ONTO THE PUBLIC STREETS SHALL BE REMOVED THE SAME DAY. IF THE AMOUNT TRACKED ON THE PUBLIC STREET IS EXCESSIVE, CLEANING MAY BE REQUIRED MORE FREQUENTLY.

4. ALL EROSION CONTROL MEASURES SHALL BE PROPERLY INSTALLED, AS PERMITTED, PRIOR TO ANY LAND DISTURBANCE ACTIVITIES. ALL EROSION CONTROL SHALL BE MAINTAINED UNTIL TURF IS ESTABLISHED.

5. ACCEPTABLE PERIMETER EROSION CONTROL INCLUDES SILT FENCE, SILT WORM AND ANY OTHER APPLICATION APPROVED BY THE CITY ENGINEER.

6. ALL OPEN GRATE STRUCTURES SHALL HAVE EROSION CONTROL PROTECTION IN ACCORDANCE WITH THE APPROVED EROSION CONTROL PLANS. INLET BASKETS ARE THE PREFERRED METHOD; STRAW BALES SHALL NOT BE USED.

7. STOCKPILES NOT BEING DISTURBED FOR MORE THAN 14 DAYS SHALL BE SEALED.

8. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY, AFTER ANY 0.5 INCH RAINFALL, OR MORE FREQUENTLY AS NECESSARY TO MAINTAIN THEIR FUNCTION.

9. IT IS THE RESPONSIBILITY OF THE OWNER OR HIS DESIGNEE TO INSPECT ALL TEMPORARY EROSION CONTROL MEASURES PER THE REQUIREMENTS OF THE NPDES PERMIT AND CORRECT ANY DEFICIENCIES AS NEEDED.

OTHER EROSION CONTROL NOTES

1. SEE STORMWATER POLLUTION PREVENTION PLAN FOR OTHER EROSION CONTROL NOTES.

CITY OF NAPERVILLE

Geometric and Paving Notes

1. THE DEVELOPER AND CONTRACTOR SHALL HAVE THE RESPONSIBILITY TO ADEQUATELY PROTECT THE PAVEMENT AND PROPERTY, CURB AND GUTTER AND OTHER RIGHT-OF-WAY IMPROVEMENTS, WHETHER NEWLY CONSTRUCTED OR EXISTING, FROM ANY AND ALL DAMAGE. SUFFICIENT MEANS SHALL BE EMPLOYED BY THE CONTRACTOR TO PROTECT AGAINST SUCH DAMAGE TO THE SATISFACTION OF THE CITY ENGINEER.

2. ANY NEW OR EXISTING IMPROVEMENTS THAT ARE DAMAGED SHALL BE REPAIRED OR REPLACED IN A MANNER THAT IS SATISFACTORY TO THE CITY ENGINEER.

3. THE CONTRACTOR AND/OR DEVELOPER SHALL SECURE ALL NECESSARY RIGHTS AND PERMISSIONS TO PERFORM ANY WORK ON PRIVATE PROPERTY NOT WITHIN THE OWNERSHIP RIGHTS OF THE DEVELOPER. THE DEVELOPER SHALL BEAR THE SOLE RESPONSIBILITY FOR DAMAGES THAT MAY OCCUR AS A RESULT OF WORK PERFORMED UNDER CONTRACTS THEY INITIATE.

4. THE CONTRACTOR/DEVELOPER WILL BE RESPONSIBLE FOR BRINGING PAVEMENTS (STREET, CURB AND GUTTER, SIDEWALK, DRIVEWAY) ON THE PROPERTY UP TO CITY STANDARDS INCLUDING ANY REPAIRS TO SUBSTANDARD PAVEMENTS THAT EXISTED PRIOR TO OR OCCURRED DURING CONSTRUCTION.

5. WHEREVER NEW WORK WILL MEET EXISTING CONDITIONS OTHER THAN LAWN AREAS, REGARDLESS OF WHETHER THE NEW OR EXISTING WORK IS ASPHALT OR CONCRETE, THE EXISTING ADJACENT SIDEWALK, DRIVEWAYS, PAVEMENT OR CURB SHALL BE NEATLY SAW CUT. THE SAW CUT SHALL BE IN A NEAT STRAIGHT LINE SUFFICIENTLY DEEP SO THAT IT RENDERS A SMOOTH VERTICAL FACE TO MATCH TO. IF THE CONTRACTOR IS NOT CAREFUL OR DOES NOT SAW DEEP ENOUGH AND THE CUT LINE BREAKS OUT OR CHIPS TO AN IMPERFECT EDGE, THEN THE EXISTING SIDE MUST BE RE-CUT SQUARE AND DONE OVER UNTIL IT IS CORRECT.

OTHER GEOMETRIC AND PAVING AND EARTHWORK NOTES

1. WORK UNDER THIS SECTION SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

A. CLEARING AND REMOVAL OF ALL UNDESIRABLE TREES AND OTHER VEGETATIVE GROWTH WITHIN THE CONSTRUCTION AREA. TREE REMOVAL SHALL BE DESIGNATED BY THE OWNER AND SHALL BE KEPT TO A MINIMUM.

B. STRIPPING OF TOPSOIL FROM ALL STREET, DRIVEWAY, PARKING LOT, RIGHT-OF-WAY, BUILDING PAD AND OTHER DESIGNATED STRUCTURAL AREAS.

C. STOCKPILING OF TOPSOIL AT LOCATIONS AS DIRECTED BY THE OWNER. TOPSOIL STOCKPILED FOR FUTURE USE SHALL BE RELATIVELY FREE FROM LARGE ROOTS, STICKS, WEEDS, BRUSH, STONES LARGER THAN ONE (1) INCH DIAMETER, OR OTHER LITTER AND WASTE PRODUCTS INCLUDING EXTRANEOUS MATERIALS NOT CONDUCTIVE TO PLANT GROWTH. TOPSOIL SHALL BE STOCKPILED IN SEQUENCE TO ELIMINATE ANY REHANDLING OR DOUBLE MOVEMENTS BY THE CONTRACTOR. FAILURE TO PROPERLY SEQUENCE THE STOCKPILING OPERATIONS SHALL NOT CONSTITUTE A CLAIM FOR ADDITIONAL COMPENSATION. NO MATERIAL SHALL BE STOCKPILED IN FRONT YARDS, OVERLAND DRAINAGE SWALES (FLOOD ROUTING AREAS), IN PROPOSED UTILITY LOCATIONS, IN UTILITY EASEMENTS OR IN THE RIGHT-OF-WAY.

D. REMOVAL OF UNSUITABLE MATERIALS AS SPECIFIED FROM ROADWAY, DRIVEWAY/PARKING, BUILDING PAD AND OTHER DESIGNATED AREAS. OWNER TO VALIDATE UNSUITABLE AREAS BY ON-SITE MEASURING.

E. CLAY CUT AND CLAY FILL WITH COMPACTION WITHIN ROADWAY, DRIVEWAY/PARKING, BUILDING PAD AND OTHER DESIGNATED AREAS.

F. EXCAVATION AND GRADING OF THE OPEN SPACE, AND/OR YARD AREAS PER PLAN INCLUDING CONSTRUCTION OF BERMS, ETC.

G. PLACEMENT AND COMPACTION OF STRUCTURAL MATERIAL TO THE DESIGN SUBGRADE ELEVATIONS AS REQUIRED BY THE STANDARDS AND DETAILS ON THE CONSTRUCTION PLANS. THE CONTRACTOR WILL NOTE THAT THE ELEVATIONS SHOWN ON THE CONSTRUCTION PLANS ARE FINISHED GRADE ELEVATIONS AND THAT PAVEMENT AND/OR TOPSOIL REPLACEMENT THICKNESS MUST BE SUBTRACTED TO DETERMINE SUBGRADE ELEVATIONS.

H. IF REQUIRED, BORROW PIT EXCAVATION OF STRUCTURAL MATERIAL AND REFILL OF PIT WITH NON-STRUCTURAL MATERIAL.

I. PLACEMENT AND COMPACTION OF NON-STRUCTURAL FILLS.

J. MOVEMENT AND COMPACTION OF SOIL MATERIAL FROM THE CONSTRUCTION OF UNDERGROUND UTILITIES.

K. BACKFILLING OF CURBS AND/OR PAVEMENT AND SIDEWALK AFTER INSTALLATION OF SAME BY THE PAVING CONTRACTOR.

L. FINAL SHAPING AND TRIMMING TO THE LINES, GRADES, AND CROSS-SECTIONS SHOWN IN THESE PLANS; AND TOPSOIL PLACEMENT TO DESIGN FINISHED GRADE ELEVATIONS.

M. SOIL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE APPLICABLE SPECIFICATIONS.

2. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE PLANS AND SHALL NOTIFY THE ENGINEER AT ONCE OF ANY DISCREPANCIES. THE CONTRACTOR SHALL EXAMINE THE DRAINAGE PATTERNS SHOWN ON THE PLANS AND MAKE CERTAIN THAT ALL GUTTER FLAGS AND PAVEMENTS ARE PITCHED PROPERLY TO ACHIEVE THIS DRAINAGE PATTERN.

3. MATERIALS TESTING, IF REQUIRED BY THE MUNICIPALITY, SHALL BE PROVIDED BY THE CONTRACTOR. THIS ITEM WILL NOT BE PAID FOR SEPARATELY BUT INCLUDED IN THE VARIOUS ITEMS OF WORK.

4. DURING CONSTRUCTION OPERATIONS THE CONTRACTOR SHALL INSURE POSITIVE SITE DRAINAGE AT THE CONCLUSION OF EACH DAY. SITE DRAINAGE MAY BE ACHIEVED BY DITCHING, PUMPING OR ANY OTHER ACCEPTABLE METHOD. THE CONTRACTOR'S FAILURE TO PROVIDE THE ABOVE WILL PRECLUDE ANY POSSIBLE ADDED COMPENSATION REQUESTED DUE TO DELAYS OR UNSUITABLE MATERIAL CREATED AS A RESULT THEREOF.

OTHER GEOMETRIC AND PAVING AND EARTHWORK NOTES

5. IT SHALL BE THE RESPONSIBILITY OF EACH RESPECTIVE CONTRACTOR TO REMOVE FROM THE SITE ANY AND ALL MATERIALS AND DEBRIS WHICH RESULT FROM HIS CONSTRUCTION OPERATIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.

6. THE GRADING OPERATIONS ARE TO BE CLOSELY SUPERVISED AND INSPECTED, PARTICULARLY DURING THE REMOVAL OF UNSUITABLE MATERIAL AND THE CONSTRUCTION OF EMBANKMENTS OR BUILDING PADS, BY THE SOILS ENGINEER OR HIS REPRESENTATIVE. ALL TESTING, INSPECTION AND SUPERVISION OF SOIL QUALITY, UNSUITABLE REMOVAL AND ITS REPLACEMENT AND OTHER SOILS RELATED OPERATIONS SHALL BE ENTIRELY THE SOLE RESPONSIBILITY OF THE SOILS ENGINEER. HIS DIRECT EMPLOY TO SUPERVISE THIS WORK WITHOUT AUTHORIZATION FROM OWNER AND ASSIGNMENT OF AN EWO NUMBER.

7. THE GRADING AND CONSTRUCTION OF THE SITE IMPROVEMENTS SHALL NOT CAUSE PONDING OF STORM WATER. ALL AREAS SHALL BE GRADED TO ALLOW POSITIVE DRAINAGE.

8. THE PROPOSED GRADING ELEVATIONS SHOWN ON THE PLANS ARE FINISH GRADE. A MINIMUM OF SIX INCHES (6") OF TOPSOIL IS TO BE PLACED BEFORE FINISH GRADE ELEVATIONS ARE ACHIEVED.

9. THE SELECTED STRUCTURAL FILL MATERIAL SHALL BE PLACED IN LEVEL UNIFORM LAYERS SO THAT THE COMPACTED THICKNESS IS APPROXIMATELY SIX INCHES (6"); IF COMPACTION EQUIPMENT DEMONSTRATES THE ABILITY TO COMPACT GREATER THICKNESSES, THEN A GREATER THICKNESS MAY BE SPECIFIED. EACH LAYER SHALL BE THOROUGHLY MIXED DURING SPREADING TO INSURE UNIFORMITY.

10. EMBANKMENT MATERIAL WITHIN ROADWAY, DRIVEWAY, AND OTHER STRUCTURAL CLAY FILL AREAS SHALL BE COMPACTED TO A MINIMUM OF NINETY-THREE PERCENT (93%) OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM SPECIFICATION D-1557 (MODIFIED PROCTOR METHOD) OR TO SUCH OTHER DENSITY AS MAY BE DETERMINED APPROPRIATE BY THE SOILS ENGINEER. EMBANKMENT MATERIAL FOR BUILDING PADS SHALL BE COMPACTED TO A MINIMUM OF NINETY-FIVE PERCENT (95%) OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM DESIGNATION D-1557 (MODIFIED PROCTOR METHOD) OR TO SUCH OTHER DENSITY AS MAY BE DETERMINED APPROPRIATE BY THE SOILS ENGINEER.

11. THE SURFACE VEGETATION, TOPSOIL AND ANY OBVIOUSLY SOFT UNDERLYING SOIL SHOULD BE STRIPPED FROM ALL AREAS TO RECEIVE STRUCTURAL FILL. IF THE UNDERLYING SUBGRADE SOILS RUT DEEPER THAN ONE INCH UNDER THE CONSTRUCTION EQUIPMENT OR IF THE MOISTURE CONTENT EXCEEDS THAT NEEDED FOR PROPER COMPACTION, THE SOIL SHALL BE SCARIFIED, DRIED AND RECOMPACTED TO THE REQUIRED SPECIFICATIONS (SEE SECTION 301.03 OF THE IDOT SPECIFICATIONS).

12. COMPLETED GRADING (FINISHED FINE GRADE) FOR PROPOSED PAVEMENT SUBGRADE AREAS, BUILDING PADS, AND YARD/OPEN SPACE AREAS SHALL BE WITHIN A TOLERANCE OF PLUS OR MINUS ONE-TENTH OF A FOOT (0.1') OF DESIGN SUBGRADE ELEVATIONS.

13. THE SUBGRADE FOR PROPOSED STREET AND PAVEMENT AREAS SHALL BE PROOF-ROLLED BY THE CONTRACTOR IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE AND ANY UNSTABLE AREAS ENCOUNTERED SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER AND SOILS ENGINEER. ANY UNDERCUT AND REPLACE NECESSARY WILL BE MEASURED FOR PAVEMENT AT THE CONTRACT UNIT PRICE.

14. ALL COMPENSATORY STORAGE SHALL BE OPERATIONAL PRIOR TO PLACEMENT OF FILL STRUCTURES, OR OTHER MATERIALS IN REGULATORY FLOODPLAIN. GRADING IN FLOODPLAIN AREAS SHALL BE DONE IN SUCH A MANNER THAT THE EXISTING FLOODPLAIN STORAGE IS MAINTAINED AT ALL TIMES.

CITY OF NAPERVILLE

Traffic Control and Protection Notes

1. ALL DEVELOPERS AND CONTRACTORS SHALL PROVIDE SUITABLE TRAFFIC CONTROL FOR THEIR CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH PART 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION. TRAFFIC CONTROL MUST BE PROVIDED FOR ANY ACTIVITY THAT IMPACTS TRAFFIC FLOW. THIS INCLUDES, BUT IS NOT LIMITED TO, ROAD CLOSURES REQUIRING DETOURS, DAILY LANE CLOSURES, LONG TERM LANE CLOSURES, NARROW LANES, AND CONSTRUCTION VEHICLES ENTERING AND EXITING THE PUBLIC ROADWAY. ALL TRAFFIC CONTROL SET-UPS MAY BE INSPECTED BY THE CITY OF NAPERVILLE TO ENSURE THAT THEY ARE PROVIDING POSITIVE GUIDANCE TO MOTORISTS AND ARE NOT IN THEMSELVES PRESENTING A HAZARDOUS SITUATION. A REPRESENTATIVE OF THE DEVELOPER OR CONTRACTOR MUST PROVIDE PHONE NUMBERS AT WHICH THEY CAN BE REACHED 24 HOURS A DAY AND ON WEEKENDS SO THAT THEY CAN MAINTAIN TRAFFIC CONTROL DEVICES.

2. PEDESTRIANS MUST BE PROVIDED WITH A SAFE ALTERNATE ROUTE IF PEDESTRIAN FACILITIES ARE TO BE CLOSED AS A RESULT OF CONSTRUCTION ACTIVITIES. GUIDANCE MUST BE PROVIDED TO PEDESTRIANS SO THAT THEY MAY AVOID THE WORK ZONE. SAID PEDESTRIAN DETOUR PLAN (WITH SIGNAGE) IS TO BE REVIEWED AND ACCEPTED BY THE CITY IN WRITING, PRIOR TO THE COMMENCEMENT OF THE WORK.

3. THE CONTRACTOR SHALL EMPLOY THE APPROPRIATE METHODS OF TRAFFIC CONTROL IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, SUCH THAT THE SAFETY OF VEHICLES, AND PEDESTRIANS IS PRESERVED AT ALL TIMES. THE ERECTION AND MAINTENANCE OF THE TRAFFIC CONTROL DEVICES SHALL BE TO THE SATISFACTION OF THE AGENCY OF JURISDICTION AND THE CITY ENGINEER.

4. ANY TEMPORARY OPEN HOLES SHOULD BE BARRICADED AND PROTECTED IN ACCORDANCE WITH APPLICABLE STANDARDS.

5. LANE CLOSURES ON ARTERIAL ROADWAYS WITHIN THE CITY OF NAPERVILLE ARE NOT PERMITTED BETWEEN THE HOURS OF 6AM-9AM AND 3PM-7PM MONDAY THROUGH FRIDAY, UNLESS OTHERWISE PERMITTED BY THE CITY ENGINEER. LANE CLOSURES ON ARTERIAL STREETS ARE PERMITTED BETWEEN 7AM AND 7PM ON WEEKENDS, UNLESS OTHERWISE PERMITTED BY THE CITY ENGINEER. ARTERIAL ROADWAYS ARE DEFINED AS BOTH MAJOR AND MINOR ARTERIAL ROADWAYS AS DESIGNATED ON THE CITY'S MASTER THROUGHFARE PLAN, LATEST EDITION.

6. ANY WORK THAT IMPACTS A TRAFFIC LANE ON AN ARTERIAL ROADWAY REQUIRES AN ARROWBOARD AS PART OF THE TRAFFIC CONTROL.

7. AT THE END OF EACH DAY OF WORK, THE ROADWAY MUST BE COMPLETELY REOPENED TO TRAFFIC. ANY OPEN HOLES MUST BE PLATED OR COLD PATCHED; THE CITY WILL NOT ALLOW THE HOLES TO BE FILLED WITH GRAVEL.

OTHER TRAFFIC CONTROL AND PROTECTION NOTES

1. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER AND CITY A TRAFFIC CONTROL PLAN FOR ANY WORK THAT NECESSITATES SUCH A PLAN.

2. AT THE PRECONSTRUCTION MEETING THE CONTRACTOR SHALL FURNISH THE NAME OF THE INDIVIDUAL IN HIS DIRECT EMPLOY WHO IS TO BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF THE TRAFFIC CONTROL FOR THIS PROJECT. IF THE ACTUAL INSTALLATION AND MAINTENANCE ARE TO BE ACCOMPLISHED BY A SUBCONTRACTOR, CONSENT SHALL BE REQUESTED OF THE ENGINEER AT THE TIME OF THE PRECONSTRUCTION MEETING IN ACCORDANCE WITH ARTICLE 108.01 OF THE STANDARD SPECIFICATIONS. THIS SHALL NOT RELIEVE THE CONTRACTOR OF THE FOREGOING REQUIREMENT FOR A RESPONSIBLE INDIVIDUAL IN HIS DIRECT EMPLOY TO SUPERVISE THIS WORK. THE CONTRACTOR WILL PROVIDE THE NAME OF ITS REPRESENTATIVE WHO WILL BE RESPONSIBLE FOR THE ADMINISTRATION OF THE TRAFFIC CONTROL PLAN.

3. THIS ITEM OF WORK SHALL INCLUDE FURNISHING, INSTALLING, MAINTAINING, RELOCATING AND REMOVING ALL TRAFFIC CONTROL DEVICES USED FOR THE PURPOSE OF REGULATING, WARNING OR DIRECTING TRAFFIC DURING THE CONSTRUCTION OR MAINTENANCE OF THIS IMPROVEMENT.

4. THE FOLLOWING TRAFFIC CONTROL REQUIREMENTS ARE OF SPECIAL IMPORTANCE. CONFORMANCE TO THESE REQUIREMENTS, HOWEVER, SHALL NOT RELIEVE THE CONTRACTOR FROM CONFORMING TO ALL OTHER APPLICABLE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

5. THE GOVERNING FACTOR IN THE EXECUTION AND STAGING OF WORK FOR THIS PROJECT IS TO PROVIDE THE MOTORING PUBLIC WITH THE SAFEST POSSIBLE TRAVEL CONDITIONS ALONG THE ROADWAY THROUGH THIS CONSTRUCTION ZONE. THE CONTRACTOR SHALL SO ARRANGE HIS OPERATION AS TO KEEP THE CLOSING OF ANY LANE OF THE ROADWAY TO A MINIMUM.

6. TRAFFIC CONTROL DEVICES INCLUDE: SIGNS AND THEIR SUPPORTS, SIGNALS, PAVEMENT MARKINGS, BARRICADES WITH SAND BAGS, CHANNELIZING DEVICES, WARNING LIGHTS, ARROWBOARDS, FLAGGERS, OR ANY OTHER DEVICE USED FOR THE PURPOSE OF REGULATING, WARNING, OR GUIDING TRAFFIC THROUGH THE CONSTRUCTION ZONE.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER LOCATION, INSTALLATION, AND ARRANGEMENT OF ALL TRAFFIC CONTROL DEVICES. SPECIAL ATTENTION SHALL BE GIVEN TO ADVANCE WARNING SIGNS DURING CONSTRUCTION OPERATIONS IN ORDER TO KEEP LANE ASSIGNMENT CONSISTENT WITH BARRICADE PLACEMENT AT ALL TIMES. THE CONTRACTOR SHALL COVER ALL TRAFFIC CONTROL DEVICES WHICH ARE INCONSISTENT WITH DETOUR OR LANE ASSIGNMENT PATTERNS DURING THE TRANSITION FROM ONE CONSTRUCTION STAGE TO ANOTHER.

8. CONSTRUCTION SIGNS REFERRING TO DAYTIME LANE CLOSURE DURING WORKING HOURS SHALL BE REMOVED OR COVERED DURING NON-WORKING HOURS.

9. THE CONTRACTOR SHALL COORDINATE ALL TRAFFIC CONTROL WORK ON THIS PROJECT WITH ADJOINING OR OVERLAPPING PROJECTS, INCLUDING BARRICADE PLACEMENT NECESSARY TO PROVIDE A UNIFORM TRAFFIC DETOUR PATTERN. WHEN DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL REMOVE ALL TRAFFIC CONTROL DEVICES WHICH WERE FURNISHED, INSTALLED AND MAINTAINED BY HIM UNDER THIS CONTRACT, AND SUCH DEVICES SHALL REMAIN THE PROPERTY OF THE CONTRACTOR. ALL TRAFFIC CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL SPECIFIC AUTHORIZATION FOR RELOCATION OR REMOVAL IS RECEIVED FROM THE ENGINEER.

10. THE CONTRACTOR SHALL ENSURE THAT ALL TRAFFIC CONTROL DEVICES INSTALLED BY HIM ARE OPERATIONAL 24 HOURS A DAY, INCLUDING SUNDAYS AND HOLIDAYS.

11. THE CONTRACTOR SHALL PROVIDE A MANNED TELEPHONE ON A CONTINUOUS 24-HOUR-A-DAY BASIS TO RECEIVE NOTIFICATION OF ANY DEFICIENCIES REGARDING TRAFFIC CONTROL AND PROTECTION AND SHALL DISPATCH WORKERS, MATERIALS AND EQUIPMENT TO CORRECT ANY SUCH DEFICIENCIES. THE CONTRACTOR SHALL RESPOND TO ANY CALL FROM THE CITY OF NAPERVILLE TRANSPORTATION, ENGINEERING AND DEVELOPMENT BUSINESS GROUP AT (630) 420-6082 CONCERNING ANY REQUEST FOR IMPROVING OR CORRECTING TRAFFIC CONTROL DEVICES AND BEGIN MAKING THE REQUESTED REPAIRS WITHIN TWO HOURS FROM THE TIME OF NOTIFICATIONS.

12. WHEN TRAVELING IN LANES OPEN TO PUBLIC TRAFFIC, THE CONTRACTOR'S VEHICLES SHALL ALWAYS MOVE WITH AND NOT AGAINST OR ACROSS THE FLOW OF TRAFFIC. VEHICLES SHALL BE ENITIC OR LEAVE WORK AREAS IN A MANNER WHICH WILL NOT BE HAZARDOUS TO, OR INTERFERE WITH, TRAFFIC AND SHALL NOT PARK OR STOP EXCEPT WITHIN DESIGNATED WORK AREAS. PERSONAL VEHICLES SHALL NOT PARK WITHIN THE RIGHT-OF-WAY EXCEPT IN SPECIFIC AREAS DESIGNATED BY THE ENGINEER.

13. ANY DROP OFF GREATER THAN THREE INCHES, BUT LESS THAN SIX INCHES WITHIN EIGHT FEET OF THE PAVEMENT EDGE SHALL BE PROTECTED BY TYPE I OR II BARRICADES EQUIPPED WITH MONO-DIRECTIONAL STEADY BURN LIGHTS AT 100 FOOT CENTER TO CENTER SPACING. IF THE DROP OFF WITHIN EIGHT FEET OF THE PAVEMENT EDGE EXCEEDS SIX INCHES, THE BARRICADES MENTIONED ABOVE SHALL BE PLACED AT 50 FOOT CENTER TO CENTER SPACING. BARRICADES THAT MUST BE PLACED IN EXCAVATED AREAS SHALL HAVE LEG EXTENSIONS INSTALLED SUCH THAT THE TOP OF THE BARRICADE IS IN COMPLIANCE WITH THE HEIGHT REQUIREMENTS OF STANDARD 2299. VERTICAL PANELS OR OTHER DELINEATING DEVICES MAY BE SUBSTITUTED FOR TYPE I OR II BARRICADES WITH THE APPROVAL OF THE ENGINEER.

14. CHECK BARRICADES SHALL BE PLACED IN WORK AREAS PERPENDICULAR TO TRAFFIC EVERY 100 FEET, ONE (1) PER LANE AND SHOULDER, TO PREVENT MOTORISTS FROM USING WORK AREAS AS A TRAVELED WAY. ADDITIONAL CHECK BARRICADES SHALL BE PLACED IN ADVANCE OF ANY HAZARD IN THE WORK AREAS WHICH WOULD ENDANGER A MOTORIST. CHECK BARRICADES SHALL BE TYPE I OR II AND EQUIPPED WITH A FLASHING LIGHT.

15. PLACEMENT OF ALL SIGNS AND BARRICADES SHALL PROCEED IN THE DIRECTION OF FLOW OF TRAFFIC. REMOVAL OF ALL SIGNS AND BARRICADES SHALL START AT THE END OF THE CONSTRUCTION AREAS AND PROCEED TOWARD ONCOMING TRAFFIC UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

16. DELAYS TO THE CONTRACTOR CAUSED BY COMPLYING WITH THESE REQUIREMENTS WILL BE CONSIDERED INCIDENTAL TO THE ITEM FOR TRAFFIC CONTROL AND PROTECTION, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

17. THIS ITEM OR WORK WILL BE MEASURED ON A LUMP SUM BASIS FOR FURNISHING, INSTALLING, MAINTAINING, RELOCATING AND REMOVING THE TRAFFIC CONTROL DEVICES REQUIRED IN THE PLANS AND THESE SPECIAL PROVISIONS. PAYMENT FOR TRAFFIC CONTROL AND PROTECTION SHALL BE CONSIDERED AS INCLUDED IN THE WORK BEING DONE OR AS SPECIFIED IN THE PLANS.

18. ADJACENT ROADWAYS MUST REMAIN OPEN TO TWO-WAY TRAFFIC AT ALL TIMES UNLESS OTHERWISE AUTHORIZED BY THE CITY ENGINEER.

19. IF NECESSARY, ANY TEMPORARY LANE CLOSURES ON ADJACENT ROADWAYS MUST BE COORDINATED WITH AND APPROVED BY CITY STAFF.

20. DURING THE PERIOD OF TIME WHEN THE PUBLIC SIDEWALK IS CLOSED, "SIDEWALK CLOSED" SIGNS MUST BE PLACED WITH POSITIVE DIRECTION TO PEDESTRIANS. A SIGN SHOULD BE PLACED AT THE EAST & WEST EXTENTS OF THE WORK ZONE TO DIRECT PEOPLE TO USE THE SIDEWALK ALONG THE NORTH SIDE OF THE STREET.

21. ALL CONTRACTOR AND SUB-CONTRACTOR VEHICLES MUST BE PARKED OFF OF PUBLIC STREETS UNLESS AUTHORIZED BY THE CITY OF NAPERVILLE ENGINEER. Copyright © 2021 Cemcon, Ltd. All rights reserved.

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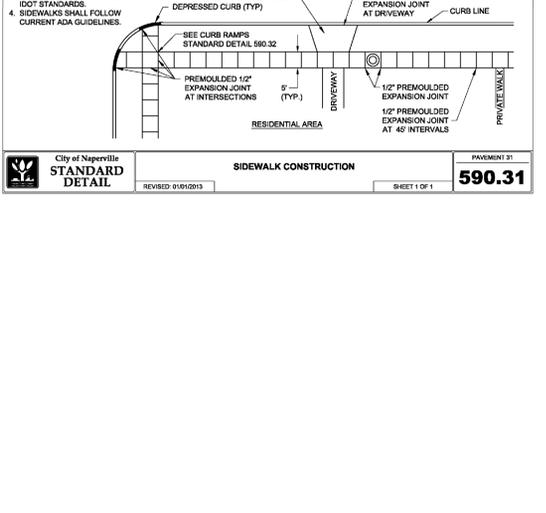
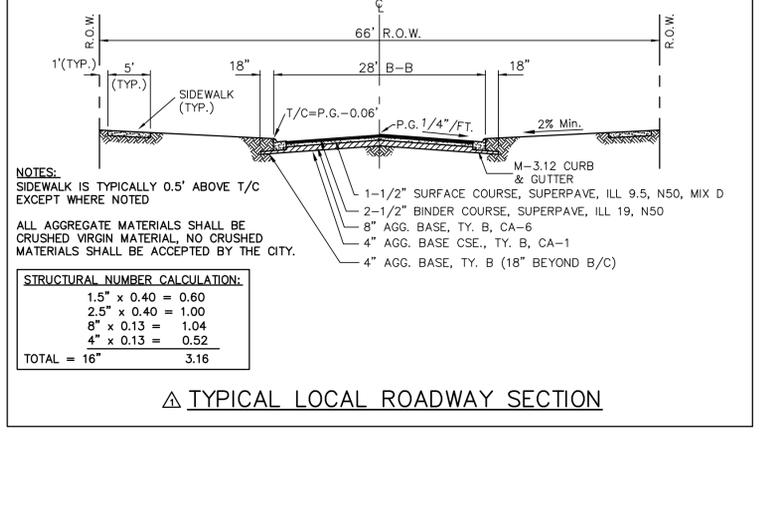
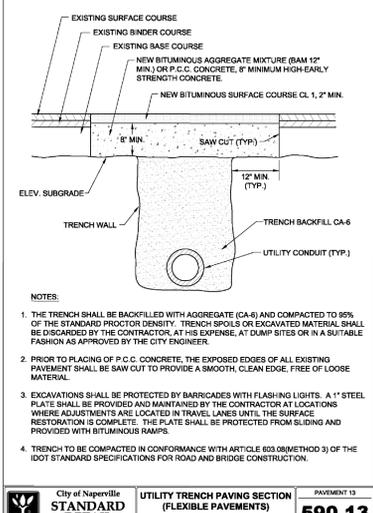
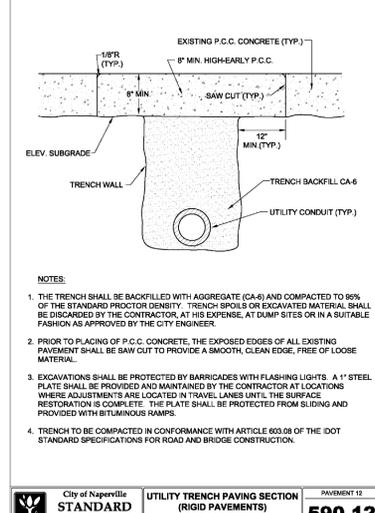
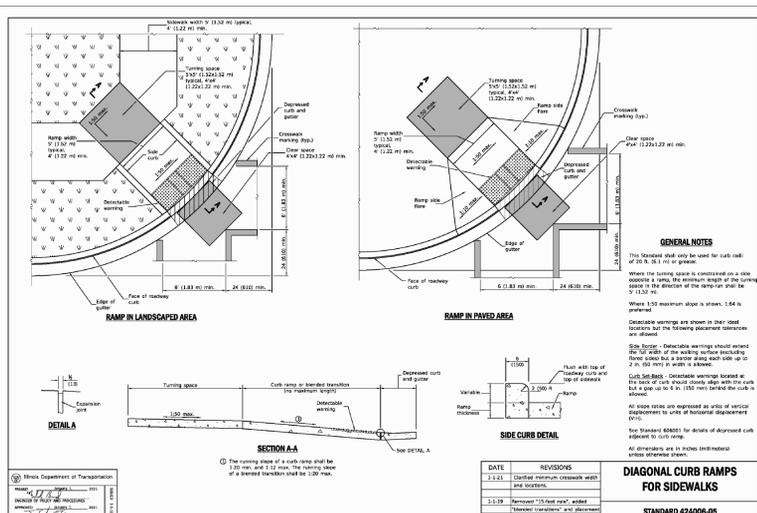
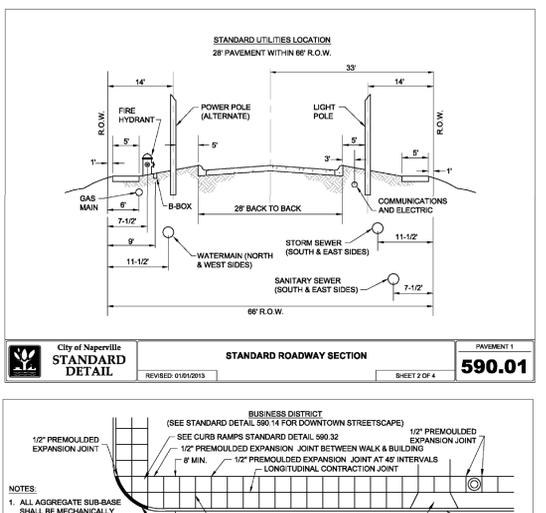
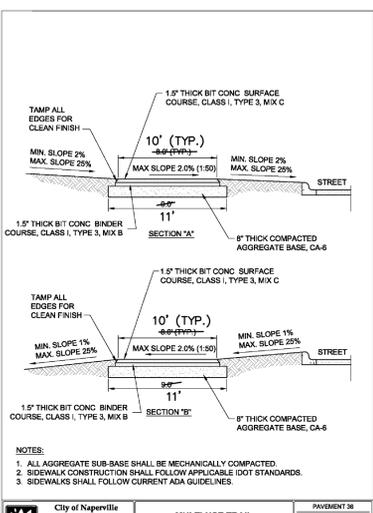
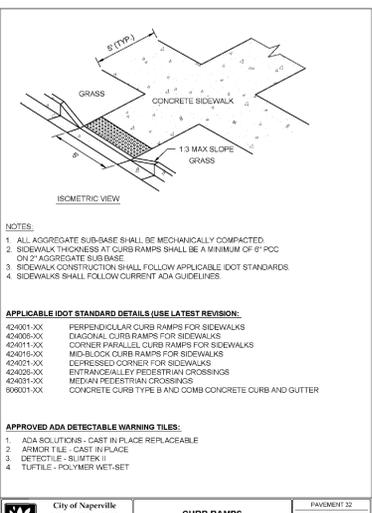
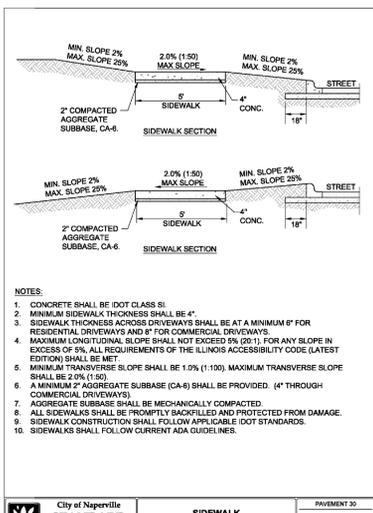
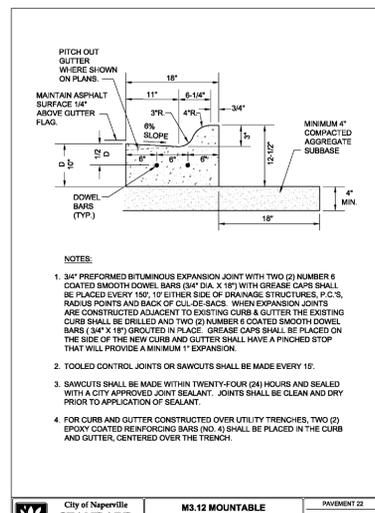
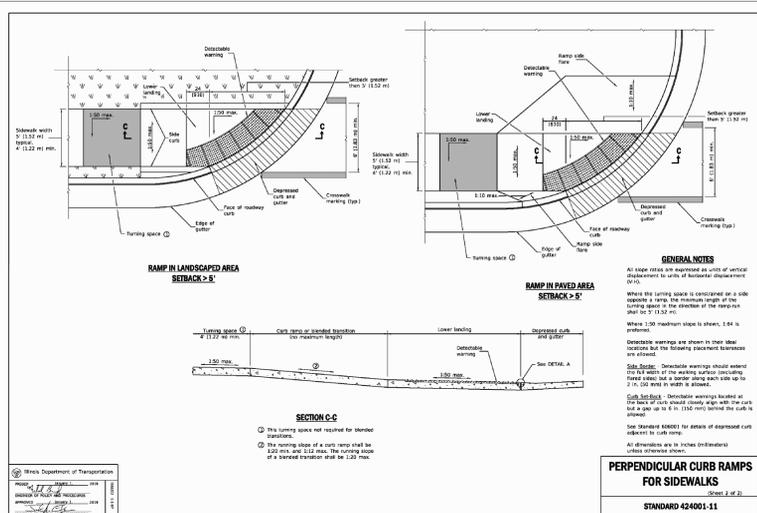
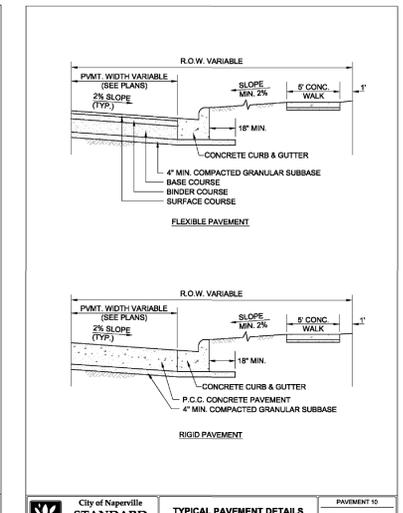
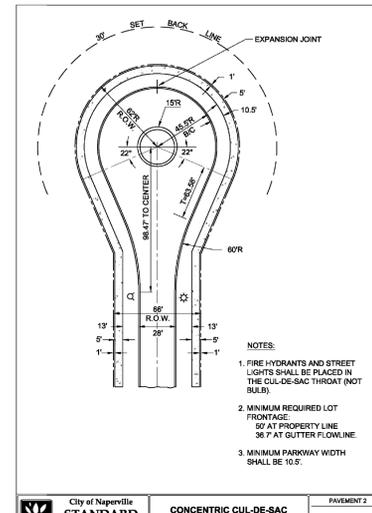
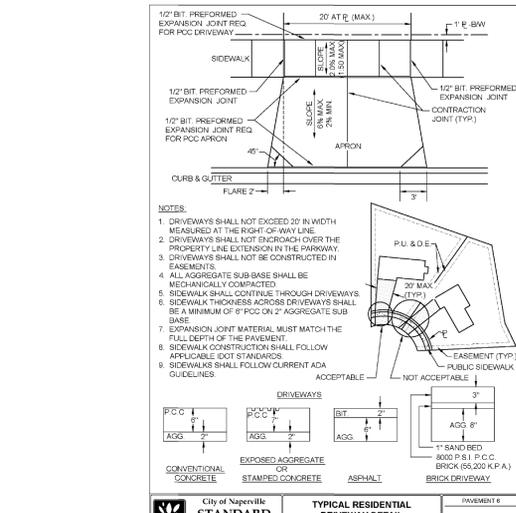
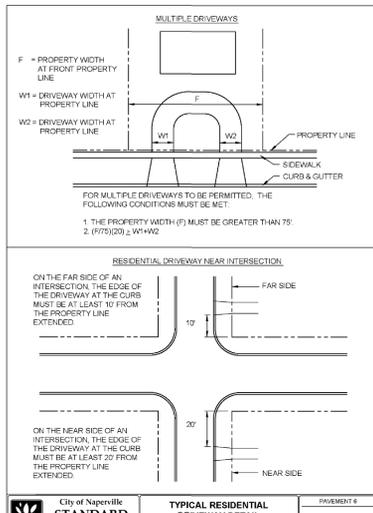
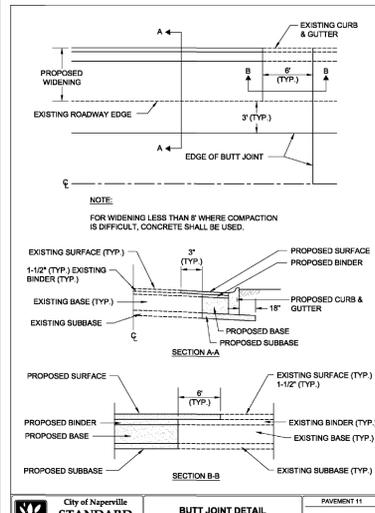
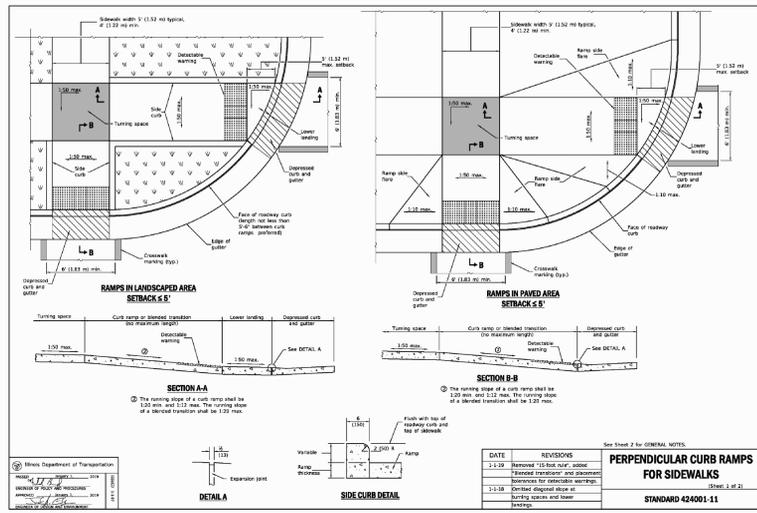
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STREET PAVEMENT DESIGN AND DETAILS

ASHWOOD HEIGHTS - PHASE 2

FILE NAME: DETAILS	DSGN. BY: RWB	JOB NO.: 904.408	F.L.D. BK./PG.: D39/45-53	SHEET NO.
DIR: 904408	DRN. BY: LAL	DATE: 01-12-22	SCALE: 1" = N.T.S.	04 of 15

GENERAL NOTES

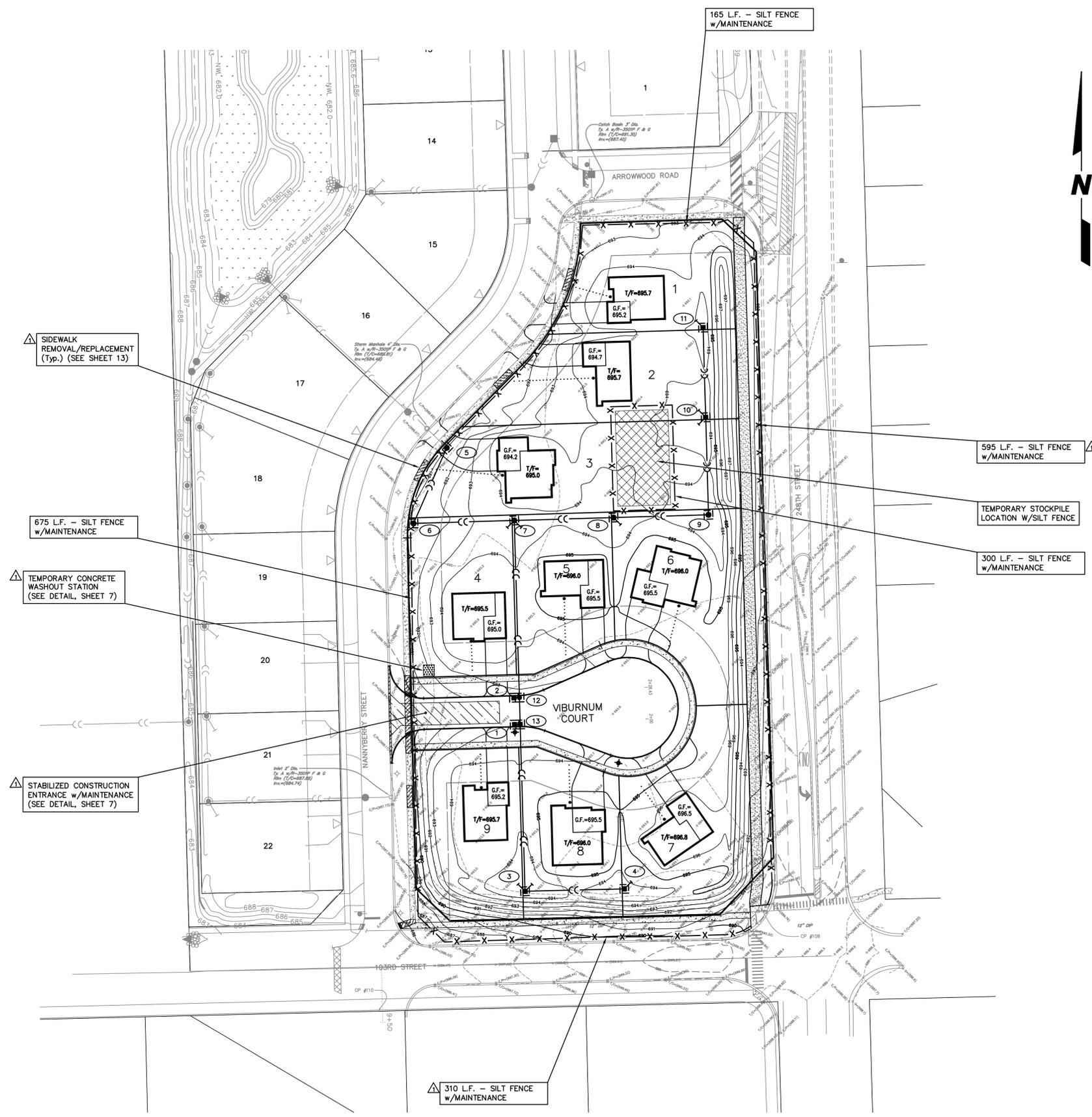
FOR

WILL/SOUTH COOK SOIL & WATER CONSERVATION DISTRICT

1. **ROCK OUTLET PROTECTION**
NARRATIVE CAN BE FOUND IN THE ILLINOIS URBAN MANUAL—CODE 910 (SEE SUPPLEMENTAL BINDER FOR EXCERPTS).
DETAIL MAY BE FOUND ON "OVERALL SOIL EROSION, SEDIMENTATION CONTROL PLAN AND DETAILS" FOR ASHWOOD PARK NORTH (ILLINOIS URBAN MANUAL DETAIL NUMBER IL 610).
2. **TOP SOILING**
NARRATIVE CAN BE FOUND IN THE ILLINOIS URBAN MANUAL—CODE 981 (SEE SUPPLEMENTAL BINDER FOR EXCERPTS).
3. **SILT FENCE**
NARRATIVE CAN BE FOUND IN THE ILLINOIS URBAN MANUAL—CODE 920 (SEE SUPPLEMENTAL BINDER FOR EXCERPTS).
DETAIL MAY BE FOUND ON "OVERALL SOIL EROSION, SEDIMENTATION CONTROL PLAN AND DETAILS" FOR ASHWOOD PARK NORTH (ILLINOIS URBAN MANUAL DETAIL NUMBER IL 620).
4. **EROSION BLANKET**
NARRATIVE CAN BE FOUND IN THE ILLINOIS URBAN MANUAL—CODE 830 (SEE SUPPLEMENTAL BINDER FOR EXCERPTS).
DETAIL MAY BE FOUND ON "OVERALL SOIL EROSION, SEDIMENTATION CONTROL PLAN AND DETAILS" FOR ASHWOOD PARK NORTH (ILLINOIS URBAN MANUAL DETAIL NUMBER IL 530).
5. **MULCHING**
NARRATIVE CAN BE FOUND IN THE ILLINOIS URBAN MANUAL—CODE 875 (SEE SUPPLEMENTAL BINDER FOR EXCERPTS).
6. **PORTABLE SETTLING TANK**
NARRATIVE CAN BE FOUND IN THE ILLINOIS URBAN MANUAL—CODE 895 (SEE SUPPLEMENTAL BINDER FOR EXCERPTS).
7. **TEMPORARY SEEDING**
NARRATIVE CAN BE FOUND IN THE ILLINOIS URBAN MANUAL—CODE 965 (SEE SUPPLEMENTAL BINDER FOR EXCERPTS).
8. **PERMANENT SEEDING**
NARRATIVE CAN BE FOUND IN THE ILLINOIS URBAN MANUAL—CODE 880 (SEE SUPPLEMENTAL BINDER FOR EXCERPTS).
9. **DUST CONTROL**
NARRATIVE CAN BE FOUND IN THE ILLINOIS URBAN MANUAL—CODE 825 (SEE SUPPLEMENTAL BINDER FOR EXCERPTS).
10. **STABILIZED CONSTRUCTION ENTRANCE**
NARRATIVE CAN BE FOUND IN THE ILLINOIS URBAN MANUAL—CODE 930 (SEE SUPPLEMENTAL BINDER FOR EXCERPTS).

LEGEND

EXISTING	PROPOSED	DESCRIPTION
○	●	MANHOLE
□	■	CATCH BASIN
	■	INLET
	■	CLEANOUT
	■	SLOPE INLET BOX
	■	HEADWALL
	■	END SECTION
	■	STORM SEWER
	■	MANHOLE OR INLET FILTER INSERT
	■	TRIANGULAR SILT DIKE
	---	SILT FENCE DITCH CHECK
	-x-x-	SILT FENCE WITH MAINTENANCE
	■	RIP-RAP
	NO	NUMBERING SYSTEM USED ON PLANS FOR DRAINAGE STRUCTURE IDENTIFICATION
	■	STABILIZED CONSTRUCTION ENTRANCE
	■	TEMPORARY TOPSOIL STOCKPILE LOCATION
	■	TEMPORARY CONCRETE WASHOUT
	■	SIDEWALK REMOVAL



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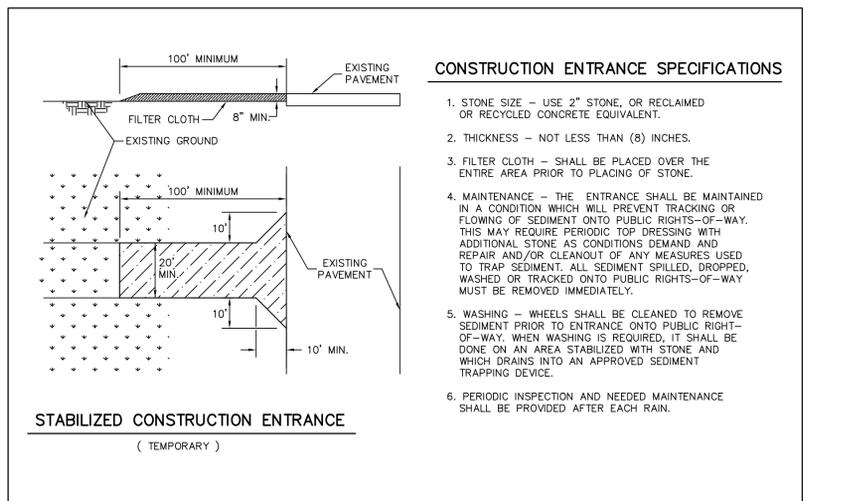
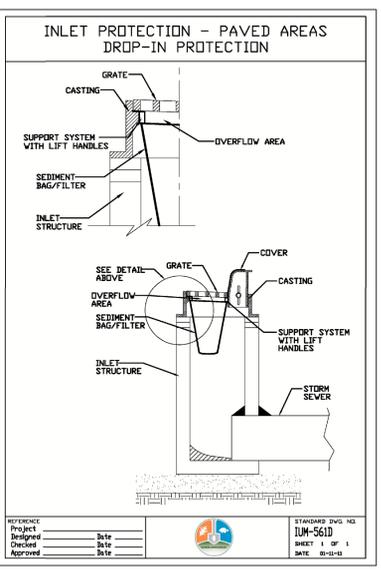
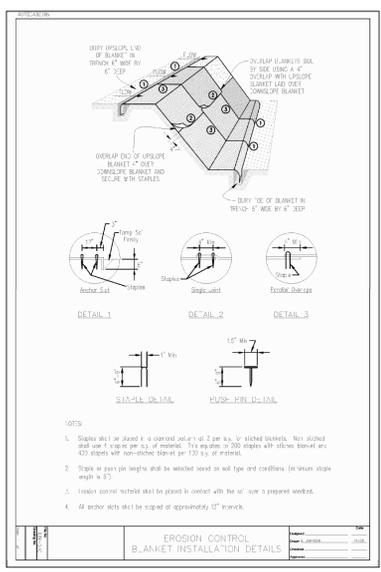
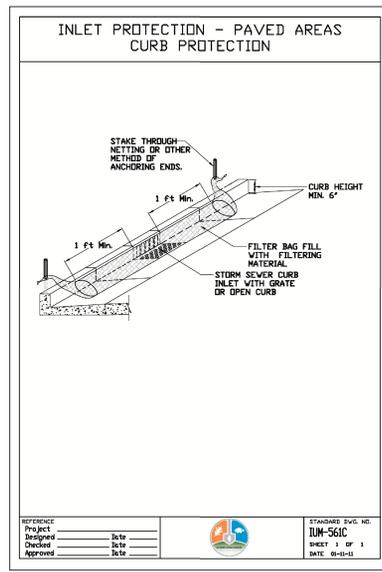
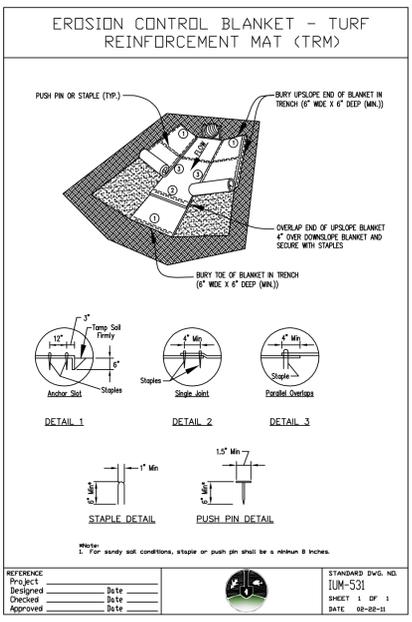
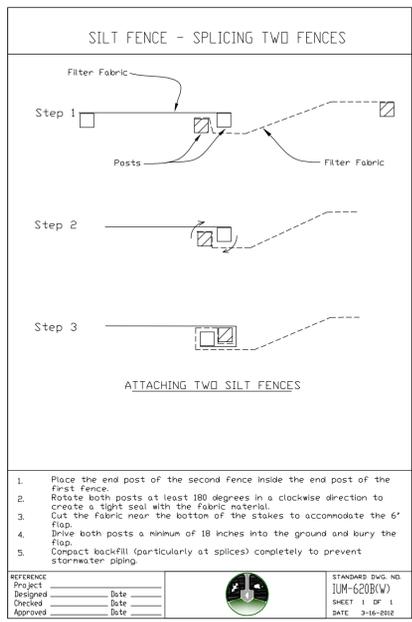
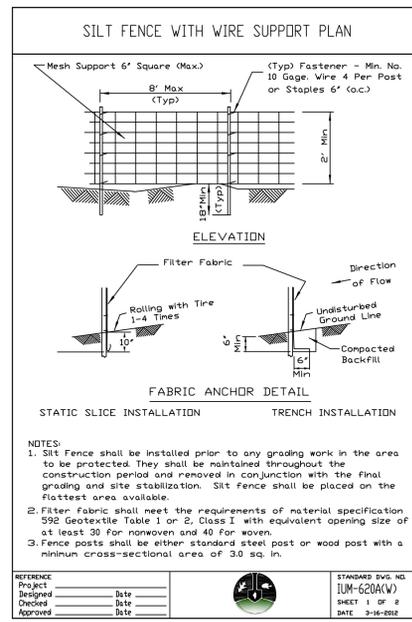
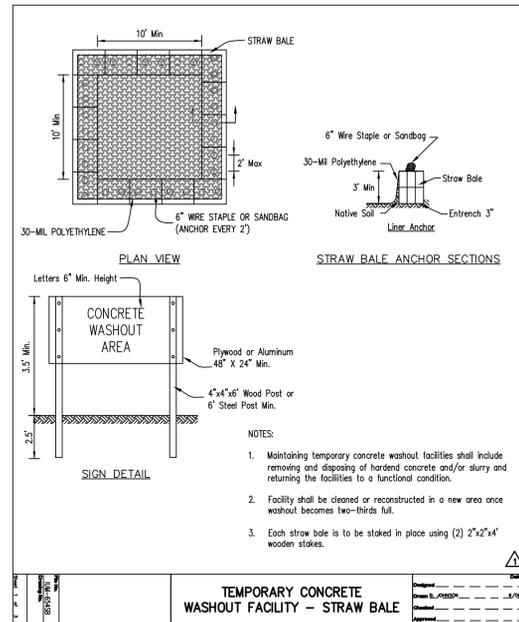


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1	03-25-22/JGC	REVISED PER CITY COMMENTS DATED 02-09-2022 (SECOND SUBMITTAL)			

SOIL EROSION AND SEDIMENTATION CONTROL PLAN				
ASHWOOD HEIGHTS – PHASE 2				
FILE NAME: SOILERO	DSGN. BY: RWB	JOB NO.: 904.408	FLD. BK./PG.: D39/45-53	SHEET NO.
DIR: 904408	DRN. BY: LAL	DATE: 01-12-22	SCALE: 1" = 50'	06 of 15

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SOIL EROSION AND SEDIMENTATION CONTROL DETAILS

ASHWOOD HEIGHTS - PHASE 2

FILE NAME: SOILERO	DSGN. BY: RWB	JOB NO.: 904.408	F.L.D. BK./PG.: D39/45-53	SHEET NO.
DIR: 904408	DRN. BY: LAL	DATE: 01-12-22	SCALE: 1" = N.T.S.	07 of 15

STORMWATER POLLUTION PREVENTION PLAN

THIS STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN PREPARED TO COMPLY WITH THE PROVISIONS OF THE GENERAL NPDES PERMIT NUMBER ILR10 ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY FOR STORMWATER DISCHARGES FROM CONSTRUCTION SITE ACTIVITIES.

THE PERMITTEE MUST COMPLY WITH ALL CONDITIONS OF THE GENERAL PERMIT. ANY PERMIT NON-COMPLIANCE CONSTITUTES A VIOLATION OF THE ILLINOIS ENVIRONMENTAL PROTECTION ACT AND CLEAN WATER ACT AND IS GROUNDS FOR ENFORCEMENT ACTION, FOR PERMIT TERMINATION, REVOCATION AND REISSUANCE OR MODIFICATION, OR FOR DENIAL OF A PERMIT RENEWAL APPLICATION.

ALL EROSION CONTROL MEASURES ARE TO BE IN PLACE PRIOR TO ANY WORK COMMENCING.

NO STOCKPILES ARE ALLOWED WITHIN THE LIMITS OF FLOODPLAIN, WETLANDS AND WETLAND BUFFER AREAS.

1. SITE DESCRIPTION

A. THE FOLLOWING IS A DESCRIPTION OF THE CONSTRUCTION ACTIVITY WHICH IS THE SUBJECT OF THIS PLAN:

THE CONSTRUCTION OF SITE INFRASTRUCTURE IMPROVEMENTS TO SERVE A NINE LOT RESIDENTIAL SUBDIVISION, INCLUDING GRADING OF THE SITE, STORM SEWERS AND SERVICES, SANITARY SEWERS AND SERVICES, WATER MAINS AND SERVICES, STREET PAVEMENTS, SIDEWALKS, STREET LIGHTING, EROSION AND SEDIMENTATION CONTROL MEASURES, AND VEGETATIVE STABILIZATION AND BEST MANAGEMENT PRACTICES.

B. THE FOLLOWING IS A DESCRIPTION OF THE INTENDED SEQUENCE OF MAJOR ACTIVITIES WHICH WILL DISTURB SOILS FOR MAJOR PORTIONS OF THE CONSTRUCTION SITE:

- a. SOIL EROSION CONTROL MEASURES INSTALLATION.
- b. SITE GRADING AND STOCKPILING OPERATIONS.
- c. INSTALLATION OF SITE UTILITIES.
- d. TOPSOIL PLACEMENT, FINE GRADING AND VEGETATIVE RESTORATION.

C. THE TOTAL AREA OF THE PROJECT IS ESTIMATED TO BE APPROXIMATELY 4.04 +/- ACRES. THE TOTAL AREA OF THE PROJECT ESTIMATED TO BE DISTURBED BY EXCAVATION, GRADING, OR OTHER ACTIVITIES IS APPROXIMATELY 4.29 +/- ACRES.

D. THE ESTIMATED RUNOFF CURVE NUMBER OF THE PROJECT SITE AFTER CONSTRUCTION ACTIVITIES ARE COMPLETED IS 83.0. INFORMATION DESCRIBING THE SOILS AT THE SITE IS CONTAINED IN THE SOILS REPORT(S) FOR THE PROJECT ON FILE WITH THE OWNER/DEVELOPER.

E. THESE PLAN DOCUMENTS CONTAIN SITE MAP(S) INDICATING DRAINAGE PATTERNS AND APPROXIMATE SLOPES ANTICIPATED AFTER MAJOR GRADING ACTIVITIES, AREAS OF MAJOR SOIL DISTURBANCE, THE LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE AND CONTROLS TO PREVENT OFF-SITE SEDIMENT TRACKING, THE LOCATION OF MAJOR STRUCTURAL AND NON-STRUCTURAL CONTROLS IDENTIFIED IN THE PLAN, THE LOCATION OF AREAS WHERE STABILIZATION PRACTICES ARE EXPECTED TO OCCUR, LOCATION OF ON-SITE OR OFF-SITE SOIL STOCKPILING OR MATERIAL STORAGE, SURFACE WATERS (INCLUDING WETLANDS), AND LOCATIONS WHERE STORMWATER IS DISCHARGED TO A SURFACE WATER.

F. THE IMMEDIATE RECEIVING WATER IS WEST TRIBUTARY TO CLOW CREEK WHICH IS TRIBUTARY TO THE WEST BRANCH DUPAGE RIVER. THERE ARE NO WETLANDS ON THE SITE.

2. CONTROLS

THIS SECTION OF THE PLAN ADDRESSES THE VARIOUS CONTROLS THAT WILL BE IMPLEMENTED FOR EACH OF THE MAJOR CONSTRUCTION ACTIVITIES DESCRIBED IN 1.B. ABOVE. FOR EACH MEASURE DISCUSSED, THE CONTRACTORS AND SUB-CONTRACTORS WILL BE RESPONSIBLE FOR IMPLEMENTATION AS INDICATED. THE CONTRACTOR OR SUB-CONTRACTOR MUST SIGN THE REQUIRED CERTIFICATION ON THIS PLAN.

A. EROSION AND SEDIMENT CONTROLS

THE PERMITTEE SHALL DESIGN, INSTALL AND MAINTAIN EFFECTIVE EROSION CONTROLS AND SEDIMENT CONTROLS TO MINIMIZE THE DISCHARGE OF POLLUTANTS. AT A MINIMUM, SUCH CONTROLS MUST BE DESIGNED, INSTALLED AND MAINTAINED TO:

- a. CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE SOIL EROSION;
- b. CONTROL STORMWATER DISCHARGES, INCLUDING BOTH PEAK FLOWRATES AND TOTAL STORM WATER VOLUME, TO MINIMIZE EROSION AT OUTLETS AND TO MINIMIZE DOWNSTREAM CHANNEL AND STREAMBANK EROSION;
- c. MINIMIZE THE AMOUNT OF SOIL EXPOSED DURING CONSTRUCTION ACTIVITY THROUGH THE USE OF PROJECT PHASING OR OTHER APPROPRIATE TECHNIQUES;
- d. MINIMIZE THE DISTURBANCE OF STEEP SLOPES;
- e. MINIMIZE SEDIMENT DISCHARGES FROM THE SITE. THE DESIGN, INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS MUST ADDRESS FACTORS SUCH AS THE AMOUNT, FREQUENCY, INTENSITY AND DURATION OF PRECIPITATION, THE NATURE OF RESULTING STORM WATER RUNOFF AS SOON AS POSSIBLE BUT NOT EXCEEDING THE RANGE OF SOIL PARTICLE SIZES EXPECTED TO BE PRESENT ON THE SITE;
- f. PROVIDE AND MAINTAIN NATURAL BUFFERS AROUND SURFACE WATERS, DIRECT STORM WATER TO VEGETATED AREAS TO INCREASE SEDIMENT REMOVAL AND MAXIMIZE STORM WATER INFILTRATION, UNLESS INFEASIBLE;
- g. MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL;
- h. MINIMIZE SEDIMENT TRACK-OUT. WHERE SEDIMENT HAS BEEN TRACKED-OUT FROM THE SITE ONTO PAVED ROADS, SIDEWALKS, OR OTHER PAVED AREAS OUTSIDE THE SITE, REMOVE THE DEPOSITED SEDIMENT BY THE END OF THE SAME BUSINESS DAY IN WHICH THE TRACK-OUT OCCURS OR BY THE END OF THE NEXT BUSINESS DAY IF TRACK-OUT OCCURS ON A NON-BUSINESS DAY. REMOVE THE TRACK-OUT BY SWEEPING, SHOVELING, OR VACUUMING THESE SURFACES OR BY USING OTHER SIMILARLY EFFECTIVE MEANS OR SEDIMENT REMOVAL. HOUSING OR SWEEPING TRACKED-OUT SEDIMENT INTO ANY STORMWATER CONVEYANCE, STORM DRAIN INLET, OR WATER OF THE U.S. IS PROHIBITED.
- i. MINIMIZE DUST. ON AREAS OF EXPOSED SOILS, MINIMIZE THE GENERATION OF DUST THROUGH THE APPROPRIATE APPLICATION OF WATER OR OTHER DUST SUPPRESSION TECHNIQUES.

B. STABILIZATION PRACTICES

THE STORM WATER POLLUTION PREVENTION PLAN SHALL INCLUDE A DESCRIPTION OF INTERIM AND PERMANENT STABILIZATION PRACTICES, INCLUDING SITE-SPECIFIC SCHEDULING OF THE IMPLEMENTATION OF THE PRACTICES. SITE PLANS SHOULD ENSURE THAT EXISTING VEGETATION IS PRESERVED WHERE PRACTICABLE AND THE DISTURBED PORTIONS OF THE SITE ARE STABILIZED. STABILIZATION PRACTICES MAY INCLUDE: TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING, GEOTEXTILES, SOD STABILIZATION, VEGETATIVE BUFFER STRIPS, PROTECTION OF TREES, PRESERVATION OF MATURE VEGETATION, STAGED OR STAGGERED DEVELOPMENT, AND OTHER APPROPRIATE MEASURES. A RECORD OF THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR, WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, AND WHEN STABILIZATION MEASURES ARE INITIATED, SHALL BE INCLUDED IN THE PLAN. STABILIZATION OF DISTURBED AREAS MUST, AT A MINIMUM, BE INITIATED IMMEDIATELY WHENEVER CLEARING, GRADING, EXCAVATING OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. STABILIZATION OF DISTURBED AREAS MUST BE INITIATED WITHIN 1 WORKING DAY OF PERMANENT OR TEMPORARY CESSATION OF EARTH DISTURBING ACTIVITIES AND SHALL BE COMPLETED AS SOON AS POSSIBLE BUT NOT LATER THAN 14 DAYS FROM THE INITIATION OF STABILIZATION WORK IN AN AREA. EXCEPTIONS TO THESE TIME FRAMES ARE SPECIFIED AS PROVIDED IN PARAGRAPHS (c) AND (b) BELOW.

a. WHERE THE INITIATION OF STABILIZATION MEASURES IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.

b. ON AREAS WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED AND WILL RESUME AFTER 14 DAYS, A TEMPORARY STABILIZATION METHOD CAN BE USED.

TEMPORARY STABILIZATION TECHNIQUES AND MATERIALS SHALL BE DESCRIBED IN THE SWPPP.

c. STABILIZATION IS NOT REQUIRED FOR EXIT POINTS AT LINEAR UTILITY CONSTRUCTION SITES THAT ARE ONLY EPISODICALLY AND FOR VERY SHORT DURATIONS OVER THE LIFE OF THE PROJECT, PROVIDED OTHER EXIT POINT CONTROLS ARE IMPLEMENTED TO MINIMIZE SEDIMENT TRACK-OUT.

THE FOLLOWING INTERIM AND PERMANENT STABILIZATION PRACTICES, AS A MINIMUM, WILL BE IMPLEMENTED TO STABILIZE THE DISTURBED AREA OF THE SITE:

- rip-rap
- VEGETATIVE STABILIZATION
- MULCH
- EROSION CONTROL BLANKET-TEMPORARY AND PERMANENT
- MINIMIZATION OF SOIL DISTURBANCE

C. STRUCTURAL PRACTICES

A DESCRIPTION OF STRUCTURAL PRACTICES UTILIZED TO DIVERT FLOWS FROM EXPOSED SOILS, STORE FLOWS OR OTHERWISE LIMIT RUNOFF AND THE DISCHARGE OF POLLUTANTS FROM EXPOSED AREAS OF THE SITE. SUCH PRACTICES MAY INCLUDE SILT FENCES, EARTH DIKES, DRAINAGE SWALES, SEDIMENT TRAPS, CHECK DAMS, SUBSURFACE DRAINS, PIPE SLOPE DRAINS, LEVEL SPREADERS, STORM DRAIN INLET PROTECTION, ROCK OUTLET PROTECTION, REINFORCED SOIL RETAINING SYSTEMS, GABIONS, AND TEMPORARY OR PERMANENT SEDIMENT BASINS. STRUCTURAL PRACTICES SHOULD BE PLACED ON UPLAND SOILS TO THE DEGREE PRACTICABLE. THE INSTALLATION OF THESE DEVICES MAY BE SUBJECT TO SECTION 404 OF THE CWA.

THE FOLLOWING DESIGN REQUIREMENTS APPLY TO SEDIMENT BASINS IF SUCH STRUCTURAL PRACTICES WILL BE INSTALLED TO REDUCE SEDIMENT CONCENTRATIONS IN STORM WATER DISCHARGES:

- a. WHEN DISCHARGING FROM THE SEDIMENT BASIN, UTILIZE OUTLET STRUCTURES THAT WITHDRAW WATER FROM THE SURFACE IN ORDER TO MINIMIZE THE DISCHARGE.
- b. PREVENT EROSION OF THE SEDIMENT BASIN USING STABILIZATION CONTROLS (E.G. EROSION CONTROL BLANKETS). AT THE INLET AND OUTLET USING EROSION CONTROLS AND VELOCITY DISSIPATION DEVICES.
- c. SEDIMENT BASINS SHALL BE DESIGNED TO FACILITATE MAINTENANCE, INCLUDING SEDIMENT REMOVAL FROM THE BASINS, AS NECESSARY.

THE FOLLOWING REQUIREMENTS APPLY TO PROTECTING STORM DRAIN INLETS:

a. INSTALL INLET PROTECTION MEASURES THAT REMOVE SEDIMENT FROM DISCHARGES PRIOR TO ENTRY INTO ANY STORM DRAIN INLET THAT CARRIES STORMWATER FLOW FROM THE SITE TO A WATER OF THE U.S., PROVIDED THAT AUTHORITY HAS BEEN GRANTED TO ACCESS THE STORM DRAIN.

b. CLEAN OR REMOVE AND REPLACE THE PROTECTION MEASURES AS SEDIMENT ACCUMULATES, THE FILTER BECOMES CLOGGED, AND/OR PERFORMANCE IS COMPROMISED. WHERE THERE IS EVIDENCE OF SEDIMENT ACCUMULATION ADJACENT TO THE INLET PROTECTION MEASURE, REMOVE THE DEPOSITED SEDIMENT BY THE END OF THE SAME BUSINESS DAY IN WHICH IT IS FOUND OR BY THE END OF THE FOLLOWING BUSINESS DAY IF REMOVAL BY THE SAME BUSINESS DAY IS NOT FEASIBLE.

PROVIDED BELOW IS A DESCRIPTION OF STRUCTURAL PRACTICES THAT WILL BE IMPLEMENTED AND MAINTAINED, TO THE DEGREE ATTAINABLE, TO DIVERT FLOWS FROM EXPOSED SOILS, STORE FLOWS OR OTHERWISE LIMIT RUNOFF AND THE DISCHARGE OF POLLUTANTS FROM EXPOSED AREAS OF THE SITE. THE INSTALLATION OF THESE DEVICES MAY BE SUBJECT TO SECTION 404 OF THE CWA:

- INLET PROTECTORS ON STORM DRAINS
- SILT FENCE
- SEDIMENT DIKES AND DITCH CHECKS
- STABILIZED CONSTRUCTION ENTRANCE

D. USE OF CHEMICAL TREATMENTS

IDENTIFY THE USE OF ALL POLYMER FLOCCULANTS OR TREATMENT CHEMICALS AT THE SITE. DOSAGE AND TREATMENT CHEMICALS SHALL BE IDENTIFIED ALONG WITH ANY INFORMATION FROM ANY MATERIAL SAFETY DATA SHEET. DESCRIBE THE LOCATION OF ALL STORAGE AREAS FOR CHEMICALS. INCLUDE ANY INFORMATION FROM THE MANUFACTURER'S SPECIFICATIONS. TREATMENT CHEMICALS MUST BE STORED IN AREAS WHERE THEY WILL NOT BE EXPOSED TO PRECIPITATION. THE SWPPP MUST DESCRIBE PROCEDURES FOR USE OF TREATMENT CHEMICALS AND STAFF RESPONSIBLE FOR USE/APPLICATION OF TREATMENT CHEMICALS MUST BE TRAINED ON THE ESTABLISHED PROCEDURES.

USE OF POLYMER FLOCCULANTS IS NOT PROPOSED FOR THE SITE UNDER THIS PERMIT.

E. BEST MANAGEMENT PRACTICES FOR IMPAIRED WATERS

FOR ANY SITE WHICH DISCHARGES DIRECTLY TO AN IMPAIRED WATER IDENTIFIED ON THE AGENCY'S WEBSITE FOR 303(d) LISTING FOR SUSPENDED SOLIDS, TURBIDITY, OR SILTATION, THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE DESIGNED FOR A STORM EVENT EQUAL TO OR GREATER THAN A 25-YEAR 24-HOUR RAINFALL EVENT. IF REQUIRED BY FEDERAL REGULATIONS OR THE ILLINOIS URBAN MANUAL, THE STORM WATER POLLUTION PREVENTION PLAN SHALL ADHERE TO MORE RESTRICTIVE DESIGN CRITERIA. PLEASE REFER TO THE AGENCY'S WEBSITE.

F. POLLUTION PREVENTION

THE PERMITTEE SHALL DESIGN, INSTALL, IMPLEMENT, AND MAINTAIN EFFECTIVE POLLUTION PREVENTION MEASURES TO MINIMIZE THE DISCHARGE OF POLLUTANTS. AT A MINIMUM, SUCH MEASURES MUST BE DESIGNED, INSTALLED, IMPLEMENTED AND MAINTAINED TO:

- a. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.
- b. MINIMIZE THE EXPOSURE OF BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE, AND OTHER MATERIALS PRESENT ON THE SITE TO PRECIPITATION AND TO STORM WATER. MINIMIZATION TO EXPOSURE IS NOT REQUIRED FOR ANY PRODUCT OR MATERIALS WHERE THE EXPOSURE TO PRECIPITATION AND TO STORMWATER WILL NOT RESULT IN A DISCHARGE OF POLLUTANTS, OR WHEN EXPOSURE OF A SPECIFIC MATERIAL OR PRODUCT POSSES LITTLE RISK OF STORMWATER CONTAMINATION (SUCH AS FINAL PRODUCTS AND MATERIALS INTENDED FOR OUTDOOR USE).
- c. MINIMIZE THE EXPOSURE OF FUEL, OIL, HYDRAULIC FLUID AND OTHER PETROLEUM PRODUCTS BY STORING IN COVERED AREAS OR CONTAINMENT AREAS.
- d. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM SPILLS AND LEAKS AND IMPLEMENT CHEMICAL SPILL AND LEAK PREVENTION AND RESPONSE PROCEDURES.
- G. OTHER CONTROLS
 - a. WASTE DISPOSAL. NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED TO WATERS OF THE UNITED STATES, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.
 - b. THE PLAN SHALL ENSURE AND DEMONSTRATE COMPLIANCE WITH APPLICABLE STATE AND/OR LOCAL WASTE DISPOSAL, SANITARY SEWER OR SEPTIC SYSTEM REGULATIONS.
 - c. FOR CONSTRUCTION SITES THAT RECEIVE CONCRETE OR ASPHALT FROM OFF-SITE LOCATIONS, THE PLAN MUST IDENTIFY AND INCLUDE APPROPRIATE CONTROLS AND MEASURES TO REDUCE OR ELIMINATE DISCHARGES FROM THESE ACTIVITIES.
 - d. THE PLAN SHALL INCLUDE SPILL RESPONSE PROCEDURES AND PROVISIONS FOR REPORTING IF THERE ARE RELEASES IN EXCESS OF REPORTABLE QUANTITIES.
 - e. THE PLAN SHALL ENSURE THE REGULATED HAZARDOUS OR TOXIC WASTE MUST BE STORED AND DISPOSED IN ACCORDANCE WITH ANY APPLICABLE STATE AND FEDERAL REGULATIONS.

H. BEST MANAGEMENT PRACTICES FOR POST-CONSTRUCTION STORM WATER MANAGEMENT

DESCRIBE THE MEASURES THAT WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS TO CONTROL POLLUTANTS IN STORM WATER DISCHARGES THAT WILL OCCUR AFTER CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED. STRUCTURAL MEASURES SHOULD BE PLACED ON UPLAND SOILS TO THE DEGREE ATTAINABLE. THE INSTALLATION OF THESE DEVICES MAY BE SUBJECT TO SECTION 404 OF THE CWA. THIS PERMIT ONLY ADDRESSES THE INSTALLATION OF STORM WATER MANAGEMENT MEASURES, AND NOT THE ULTIMATE OPERATION AND MAINTENANCE OF SUCH STRUCTURES AFTER THE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED AND THE SITE HAS UNDERGONE FINAL STABILIZATION. PERMITTEES ARE RESPONSIBLE FOR ONLY THE INSTALLATION AND MAINTENANCE OF STORM WATER MANAGEMENT MEASURES PRIOR TO FINAL STABILIZATION OF THE SITE AND ARE NOT RESPONSIBLE FOR MAINTENANCE AFTER STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY HAVE BEEN ELIMINATED FROM THE SITE.

a. WHILE NOT MANDATORY, IT IS ADVISABLE THAT THE PERMITTEE CONSIDER INCLUDING IN ITS STORM WATER POLLUTION PREVENTION PLAN AND DESIGN AND CONSTRUCTION PLANS METHODS OF POST-CONSTRUCTION STORM WATER MANAGEMENT TO RETAIN THE GREATEST AMOUNT OF POST-DEVELOPMENT STORM WATER RUNOFF PRACTICABLE, GIVEN THE SITE AND PROJECT CONSTRAINTS. SUCH PRACTICES MAY INCLUDE BUT ARE NOT LIMITED TO: STORM WATER DETENTION STRUCTURES (INCLUDING WET PONDS); STORM WATER RETENTION STRUCTURES; FLOW ATTENUATION BY USE OF OPEN VEGETATED SWALES AND NATURAL DEPRESSIONS; INFILTRATION OF RUNOFF ON-SITE; AND SEQUENTIAL SYSTEMS (WHICH COMBINE SEVERAL PRACTICES). TECHNICAL INFORMATION ON POST-CONSTRUCTION STORM WATER MANAGEMENT PRACTICES IS INCLUDED IN THE ILLINOIS URBAN MANUAL (2017). THE STORM WATER POLLUTION PREVENTION PLAN SHALL INCLUDE AN EXPLANATION OF THE TECHNICAL BASIS USED TO SELECT THE PRACTICES TO CONTROL POLLUTION WHERE POST-CONSTRUCTION FLOWS WILL EXCEED PREDEVELOPMENT LEVELS.

b. VELOCITY DISSIPATION DEVICES SHALL BE PLACED AT DISCHARGE LOCATIONS AND ALONG THE LENGTH OF ANY OUTFALL CHANNEL AS NECESSARY TO PROVIDE A NON-EROSIVE VELOCITY FLOW FROM THE STRUCTURE TO A WATER COURSE SO THAT THE NATURAL PHYSICAL AND BIOLOGICAL CHARACTERISTICS AND FUNCTIONS ARE MAINTAINED AND PROTECTED (E.G. MAINTENANCE OF HYDROLOGIC CONDITIONS, SUCH AS THE HYDROPERIOD AND HYDRODYNAMICS PRESENT PRIOR TO THE INITIATION OF CONSTRUCTION ACTIVITIES).

c. UNLESS OTHERWISE SPECIFIED IN THE ILLINOIS URBAN MANUAL (2017), THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE DESIGNED FOR A STORM EVENT EQUAL TO OR GREATER THAN A 25-YEAR 24-HOUR RAINFALL EVENT.

PROVIDED BELOW IS A DESCRIPTION OF POST-CONSTRUCTION BEST MANAGEMENT PRACTICES (INCLUDING STORMWATER MANAGEMENT) THAT WILL BE IMPLEMENTED DURING CONSTRUCTION TO CONTROL POLLUTANTS IN STORMWATER DISCHARGE:

STORMWATER MANAGEMENT FACILITY(IES) TO ATTENUATE RUNOFF WETLAND AND NATIVE VEGETATION TO PROMOTE FILTRATION AND INFILTRATION OF RUNOFF OPEN VEGETATED SWALES LANDSCAPED BUFFERS USE OF CATCH BASINS FOR SEDIMENT REMOVAL

I. APPROVED STATE OR LOCAL PLANS

a. THE MANAGEMENT PRACTICES, CONTROLS AND OTHER PROVISIONS CONTAINED IN THE STORM WATER POLLUTION PREVENTION PLAN MUST BE AT LEAST AS PROTECTIVE AS THE REQUIREMENTS CONTAINED IN THE ILLINOIS URBAN MANUAL (2017). CONSTRUCTION ACTIVITIES WHICH DISCHARGE STORM WATER MUST INCLUDE IN THEIR STORM WATER POLLUTION PREVENTION PLAN PROCEDURES AND REQUIREMENTS FOR PROTECTING SURFACE WATER RESOURCES ARE, UPON SUBMITTAL OF AN NOI TO BE AUTHORIZED TO DISCHARGE UNDER THIS PERMIT, INCORPORATED BY REFERENCE AND ARE ENFORCEABLE UNDER THIS PERMIT. THE PLAN SHALL INCLUDE ALL REQUIREMENTS OF THIS PERMIT AND INCLUDE MORE STRINGENT STANDARDS REQUIRED BY A LOCAL APPROVAL. THIS PROVISION DOES NOT APPLY TO PROVISIONS OF MASTER PLANS, COMPREHENSIVE PLANS, NON-ENFORCEABLE GUIDELINES OR TECHNICAL GUIDANCE DOCUMENTS THAT ARE NOT IDENTIFIED IN A SPECIFIC PLAN OR PERMIT THAT IS ISSUED FOR THE CONSTRUCTION SITE.

b. DISCHARGERS SEEKING ALTERNATIVE PERMIT REQUIREMENTS ARE NOT AUTHORIZED BY THIS PERMIT AND SHALL SUBMIT AN INDIVIDUAL PERMIT APPLICATION IN ACCORDANCE WITH 40 CFR 122.26 AT THE ADDRESS INDICATED IN PART I.D. (WHERE TO SUBMIT) OF THIS PERMIT, ALONG WITH A DESCRIPTION OF WHY REQUIREMENTS IN APPROVED LOCAL PLANS OR PERMITS SHOULD NOT BE APPLICABLE AS A CONDITION OF AN NPDES PERMIT.

J. NATURAL BUFFERS

FOR ANY STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN 50 FEET OF WATER OF THE UNITED STATES, EXCEPT FOR ACTIVITIES FOR WATER-DEPENDENT STRUCTURES AUTHORIZED BY A SECTION 404 PERMIT, THE PERMITTEE SHALL:

- a. PROVIDE A 50-FOOT UNDISTURBED NATURAL BUFFER BETWEEN THE CONSTRUCTION ACTIVITY AND THE WATERS OF THE UNITED STATES; OR
- b. PROVIDE ADDITIONAL EROSION AND SEDIMENT CONTROLS WITH THAT AREA.

K. MAINTENANCE

A. THE PLAN SHALL INCLUDE A DESCRIPTION OF PROCEDURES TO MAINTAIN IN GOOD AND EFFECTIVE OPERATING CONDITIONS, ALL EROSION AND SEDIMENT CONTROL MEASURES AND OTHER BEST MANAGEMENT PRACTICES, INCLUDING VEGETATION AND OTHER PROTECTIVE MEASURES IDENTIFIED IN THE STORM WATER POLLUTION PREVENTION PLAN.

B. WHERE A BASIN HAS BEEN INSTALLED TO CONTROL SEDIMENT DURING CONSTRUCTION ACTIVITIES, THE PERMITTEES SHALL KEEP THE BASIN(S) IN EFFECTIVE OPERATING CONDITION AND AS NECESSARY, REMOVE ACCUMULATED SEDIMENT. SEDIMENT SHALL BE REMOVED IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL (2017) OR MORE FREQUENTLY. MAINTENANCE OF ANY SEDIMENT BASIN SHALL INCLUDE A POST CONSTRUCTION CLEAN OUT OF ACCUMULATED SEDIMENT IF THE BASIN IS TO REMAIN IN PLACE.

OTHER EROSION AND SEDIMENT CONTROL STRUCTURES SHALL BE MAINTAINED AND CLEANED AS NECESSARY TO KEEP STRUCTURE(S) IN EFFECTIVE OPERATING CONDITION, INCLUDING REMOVAL OF EXCESS SEDIMENT AS NECESSARY.

FOLLOWING IS A DESCRIPTION OF PROCEDURES THAT WILL BE USED TO MAINTAIN IN GOOD AND EFFECTIVE OPERATING CONDITION, VEGETATION, EROSION AND SEDIMENT CONTROL MEASURES AND OTHER PROTECTIVE MEASURES IDENTIFIED IN THIS PLAN:

- a. STABILIZED CONSTRUCTION ENTRANCE. THE ENTRANCE(S) SHALL BE MAINTAINED TO PREVENT TRACKING OF SEDIMENT ONTO PUBLIC STREETS. ANY SEDIMENT TRACKED ONTO A STREET SHALL BE REMOVED IMMEDIATELY.
- b. VEGETATIVE EROSION CONTROL MEASURES: THE VEGETATIVE GROWTH OF TEMPORARY AND PERMANENT SEEDING, SODDING, VEGETATIVE CHANNELS, VEGETATIVE FILTERS, ETC. SHALL BE MAINTAINED PERIODICALLY AND SUPPLY ADEQUATE WATERING AND FERTILIZER TO MAINTAIN A HEALTHY STAND OF VEGETATION. THE VEGETATIVE COVER SHALL BE REMOVED AND REESTABLISHED AS NECESSARY.
- c. SILT FILTER FENCE: SILT FENCE SHALL BE MAINTAINED IN GOOD CONDITION. DAMAGED SILT FILTER FENCE SHALL BE REPAIRED OR REPLACED TO MEET THE STANDARDS INCLUDED HEREIN.
- d. SILT DIKES AND DITCH CHECKS: THESE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN GOOD WORKING CONDITION THROUGHOUT CONSTRUCTION. INSPECT FREQUENTLY TO VERIFY THAT THE TEMPORARY MEASURE IS SECURED TO THE GROUND AND REMOVE SEDIMENT ACCUMULATION TO MAINTAIN PROPER FUNCTION.
- e. INLET PROTECTORS: INLET PROTECTORS (SILT FENCE OR SILT BASKET) SHALL BE INSPECTED FREQUENTLY AND SEDIMENT ACCUMULATION SHALL BE REMOVED TO MAINTAIN PROPER FUNCTION. DAMAGED SILT FENCE OR FILTER FABRIC SHALL BE REPLACED AS NECESSARY.

4. INSPECTIONS

QUALIFIED PERSONNEL (PROVIDED BY THE PERMITTEE) SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED. STRUCTURAL CONTROL MEASURES AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM OR BY THE END OF THE FOLLOWING BUSINESS OR WORK DAY THAT IS 0.50 INCHES OR GREATER. QUALIFIED PERSONNEL MEANS A PERSON KNOWLEDGEABLE IN THE PRINCIPLES AND PRACTICES OF EROSION AND SEDIMENT CONTROL MEASURES, SUCH AS A LICENSED PROFESSIONAL ENGINEER (P.E.), A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), A CERTIFIED EROSION SEDIMENT AND STORM WATER INSPECTOR (CESSMW), A CERTIFIED STORMWATER INSPECTOR (CSI) OR OTHER KNOWLEDGEABLE PERSON WHO POSSESSES THE SKILLS TO ASSESS CONDITIONS AT THE CONSTRUCTION SITE THAT COULD IMPACT STORM WATER QUALITY AND TO ASSESS THE EFFECTIVENESS OF ANY SEDIMENT AND EROSION CONTROL MEASURES SELECTED TO CONTROL THE QUALITY OF STORM WATER DISCHARGES FROM THE CONSTRUCTION ACTIVITIES. AREAS INACCESSIBLE DURING INSPECTIONS DUE TO FLOODING OR OTHER UNSAFE CONDITIONS SHALL BE INSPECTED WITHIN 72 HOURS OF BECOMING ACCESSIBLE.

a. INSPECTIONS MAY BE REDUCED TO ONCE PER MONTH WHEN CONSTRUCTION ACTIVITIES HAVE CEASED DUE TO FROZEN CONDITIONS (WHEN GROUND AND/OR AIR TEMPERATURES ARE AT OR BELOW 32 DEGREES FAHRENHEIT). WEEKLY INSPECTIONS WILL RECOMMENCE WHEN CONSTRUCTION ACTIVITIES ARE CONDUCTED, OR IF THERE IS A 0.50 INCHES OR GREATER RAIN EVENT, OR A DISCHARGE DUE TO SNOWMELT OCCURS.

b. DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION AND ALL AREAS WHERE STORMWATER TYPICALLY FLOWS WITHIN THE SITE SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. ALL LOCATIONS WHERE STABILIZATION MEASURES HAVE BEEN IMPLEMENTED SHALL BE OBSERVED TO ENSURE THAT THEY ARE STILL STABILIZED. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING.

c. BASED ON THE RESULTS OF THE INSPECTION, THE DESCRIPTION OF POTENTIAL POLLUTANT SOURCES IDENTIFIED IN THE STORM WATER POLLUTION PREVENTION PLAN IN ACCORDANCE WITH PART I.V.D.1 (SITE DESCRIPTION) OF THIS PERMIT AND THE POLLUTION PREVENTION CONTROL MEASURES IDENTIFIED IN THE PLAN IN ACCORDANCE WITH PART I.V.D.2 (CONTROLS) OF THIS PERMIT SHALL BE REVISED AS APPROPRIATE AS SOON AS PRACTICABLE AFTER SUCH INSPECTION TO MINIMIZE THE POTENTIAL FOR SUCH DISCHARGES. SUCH MODIFICATIONS SHALL PROVIDE FOR TIMELY IMPLEMENTATION OF ANY CHANGES TO THE PLAN AND POLLUTION PREVENTION CONTROL MEASURES WITHIN 7 CALENDAR DAYS FOLLOWING THE INSPECTION.

d. A REPORT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN, AND ACTIONS TAKEN IN ACCORDANCE WITH PARAGRAPH B ABOVE AND PARAGRAPH C ABOVE SHALL BE SUBMITTED TO THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM THE DATED THAT THE PERMIT COVERAGE EXPIRES OR IS TERMINATED. ALL INSPECTION REPORTS SHALL BE RETAINED AT THE CONSTRUCTION SITE. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH PART V.G. (SIGNATORY REQUIREMENTS) OF THIS PERMIT. ANY FLOODING OR OTHER UNSAFE CONDITIONS THAT DELAY INSPECTIONS SHALL BE DOCUMENTED IN THE INSPECTION REPORT.

e. THE PERMITTEE SHALL NOTIFY THE APPROPRIATE AGENCY FIELD OPERATIONS SECTION OFFICE BY EMAIL AT: EPA.SWNONCOM@ILLINOIS.GOV, TELEPHONE OR FAX (SEE ATTACHMENT A) WITHIN 24 HOURS OF ANY INCIDENT OF NONCOMPLIANCE OF THE STORM WATER POLLUTION PREVENTION PLAN OBSERVED DURING ANY INSPECTION CONDUCTED, OR FOR VIOLATIONS OF ANY CONDITION OF THIS PERMIT. THE PERMITTEE SHALL COMPLETE AND SUBMIT WITHIN 5 DAYS AN "INCIDENCE OF NONCOMPLIANCE" (ION) REPORT FOR ANY VIOLATION OF THE STORM WATER POLLUTION PREVENTION PLAN OBSERVED DURING ANY INSPECTION CONDUCTED, OR FOR VIOLATIONS OF ANY CONDITION OF THIS PERMIT. SUBMISSION SHALL BE ON FORMS PROVIDED BY THE AGENCY AND INCLUDE SPECIFIC INFORMATION ON THE CAUSE OF NONCOMPLIANCE, ACTIONS WHICH WILL BE TAKEN TO PREVENT ANY FURTHER CAUSES OF NONCOMPLIANCE, AND A STATEMENT DETAILING ANY ENVIRONMENTAL IMPACT WHICH MAY HAVE RESULTED FROM THE NONCOMPLIANCE. CORRECTIVE ACTIONS MUST BE UNDERTAKEN IMMEDIATELY TO ADDRESS THE IDENTIFIED NON-COMPLIANCE ISSUE(S).

f. ALL REPORTS OF NONCOMPLIANCE SHALL BE SIGNED BY A RESPONSIBLE AUTHORITY AS DEFINED IN PART V.G. (SIGNATORY REQUIREMENTS).

g. AFTER THE INITIAL CONTACT HAS BEEN MADE WITH THE APPROPRIATE AGENCY FIELD OPERATIONS SECTION OFFICE, ALL REPORTS OF NONCOMPLIANCE SHALL BE MAILED TO THE AGENCY AT THE FOLLOWING ADDRESS:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
LISTED IN PART II.F.2. THIS PERMIT THAT ARE COMBINED WITH STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY MUST BE IDENTIFIED IN THE PLAN. THE PLAN SHALL IDENTIFY AND ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORM WATER COMPONENT(S) OF THE DISCHARGE.

5. CORRECTIVE ACTIONS

CORRECTIVE ACTIONS MUST BE IMPLEMENTED TO ADDRESS ANY OF THE FOLLOWING CONDITIONS IDENTIFIED AT THE SITE:

- a. A STORMWATER CONTROL NEEDS REPAIR OR REPLACEMENT; OR
- b. A STORMWATER CONTROL NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT WAS NEVER INSTALLED, OR WAS INSTALLED INCORRECTLY; OR
- c. DISCHARGE IS CAUSING AN EXCEEDANCE OF APPLICABLE WATER QUALITY STANDARDS; OR
- d. A PROHIBITED DISCHARGE HAS OCCURRED.

CORRECTIVE ACTIONS SHALL BE COMPLETED AS SOON AS POSSIBLE AND DOCUMENTED WITHIN 7 DAYS IN AN INSPECTION REPORT OR REPORT OF NONCOMPLIANCE. IF IT IS INFEASIBLE TO COMPLETE THE INSTALLATION OR INSTALLATION OR REPAIR WITHIN 7 CALENDAR DAYS, DOCUMENTATION SHALL BE PROVIDED AS TO WHY IT IS INFEASIBLE TO COMPLETE THE INSTALLATION OR REPAIR WITH THE 7 DAY TIMEFRAME, AND DOCUMENT THE SCHEDULE FOR INSTALLING THE STORMWATER CONTROL(S) AND MAKING IT OPERATIONAL AS SOON AS FEASIBLE AFTER THE 7 DAY TIMEFRAME.

6. NON-STORM WATER DISCHARGES

EXCEPT FOR FLOWS FROM FIRE FIGHTING ACTIVITIES, SOURCES OF NON-STORM WATER LISTED IN PART II.F.2. THIS PERMIT THAT ARE COMBINED WITH STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY MUST BE IDENTIFIED IN THE PLAN. THE PLAN SHALL IDENTIFY AND ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORM WATER COMPONENT(S) OF THE DISCHARGE.

SOURCES OF NON-STORM WATER DISCHARGE THAT MAY BE AUTHORIZED BY THIS PERMIT ARE: DISCHARGES FROM FIRE FIGHTING ACTIVITIES, FIRE HYDRANT FLUSHING, WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED, WATERS USED TO CONTROL DUST, POTABLE WATER SOURCES INCLUDING UNCONTAMINATED WATERLINE FLUSHINGS, LANDSCAPE IRRIGATION DRAINAGES, ROUTINE EXTERNAL BUILDING WASHDOWN WHICH DOES NOT USE DETERGENTS, PAVEMENT WASH WATERS WHERE SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED (UNLESS ALL SPILLED MATERIAL HAS BEEN REMOVED) AND WHERE DETERGENTS ARE NOT USED, UNCONTAMINATED AIR CONDITIONING CONDENSATE, UNCONTAMINATED SPRING WATER, UNCONTAMINATED GROUND WATER, AND FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH PROCESS MATERIALS SUCH AS SOLVENTS.

THE POLLUTION PREVENTION MEASURES AS DESCRIBED BELOW, WILL BE IMPLEMENTED FOR NON-STORM WATER COMPONENTS OF THE DISCHARGE:

FIRE HYDRANT AND WATERMAIN SHALL NOT BE FLUSHED DIRECTLY ON THE EXPOSED AREA OR SUBGRADE OF THE PAVEMENT. HOSE SHALL BE USED TO DIRECT THE FLOW ONTO PAVEMENT OR INTO THE STORM SEWER SYSTEM, IF AVAILABLE.

ANY SOIL EROSION DUE TO IRRIGATION OF SEEDING AND DUST CONTROL WATERING SHALL BE COLLECTED AND RE-SPREAD ON-SITE. TEMPORARY AND/OR PERMANENT SOIL STABILIZATION MEASURES SHALL BE IMPLEMENTED AS NECESSARY TO CONTROL FUTURE EROSION FROM AREAS PREVIOUSLY ERODED DUE TO IRRIGATION OF SEEDING AND DUST CONTROL.

ALL SITE DE-WATERING, INCLUDING PUMP DISCHARGE, MUST BE FILTERED USING A PROPER SEDIMENTATION CONTROL MEASURE(S) PRIOR TO DISCHARGE FROM THE SITE.

7. PLAN REVIEW AND NOTIFICATION

THE PERMITTEE SHALL MAKE PLANS AVAILABLE UPON REQUEST FROM THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (AGENCY) OR A LOCAL AGENCY APPROVING SEDIMENT AND EROSION PLANS, GRADING PLANS, OR STORM WATER MANAGEMENT PLANS; OR IN THE CASE OF A STORM WATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY WHICH DISCHARGES THROUGH A MUNICIPAL SEPARATE STORM SEWER SYSTEM.

THE AGENCY MAY NOTIFY THE PERMITTEE AT ANY TIME THAT THE PLAN DOES NOT MEET ONE OR MORE OF THE MINIMUM REQUIREMENTS OF THIS PART. SUCH NOTIFICATION SHALL IDENTIFY THOSE PROVISIONS OF THE PERMIT WHICH ARE NOT BEING MET BY THE PLAN AND IDENTIFY WHICH PROVISIONS OF THE PLAN REQUIRE MODIFICATIONS IN ORDER TO MEET THE MINIMUM REQUIREMENTS OF THIS PART. WITHIN 7 DAYS FROM RECEIPT OF NOTIFICATION FROM THE AGENCY, THE PERMITTEE SHALL MAKE THE REQUIRED CHANGES TO THE PLAN AND SHALL SUBMIT TO THE AGENCY A WRITTEN CERTIFICATION THAT THE REQUESTED CHANGES HAVE BEEN MADE. FAILURE TO COMPLY SHALL TERMINATE AUTHORIZATION UNDER THIS PERMIT.

A COPY OF THIS LETTER OF NOTIFICATION OF COVERAGE ALONG WITH THE GENERAL NPDES PERMIT FOR STORM WATER DISCHARGES FROM CONSTRUCTION SITE ACTIVITIES OR OTHER INDICATION THAT STORM WATER DISCHARGES FORM THE SITE ARE COVERED UNDER AN NPDES PERMIT SHALL BE POSTED AT THE SITE IN A PROMINENT PLACE FOR PUBLIC VIEWING (SUCH AS ALONGSIDE A BUILDING PERMIT).

8. KEEPING THE PLANS CURRENT

THE PERMITTEE SHALL AMEND THE PLAN WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE, WHICH HAS A SIGNIFICANT EFFECT ON THE POTENTIAL FOR THE DISCHARGE OF POLLUTANTS TO WATERS OF THE UNITED STATES AND WHICH HAS NOT OTHERWISE BEEN ADDRESS IN THE PLAN OR IF THE STORM WATER POLLUTION PREVENTION PLAN PROVES TO BE INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANTS FROM SOURCES IDENTIFIED IN THE PLAN, OR IN OTHERWISE ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION SITE ACTIVITY. IN ADDITION, THE PLAN SHALL BE AMENDED TO IDENTIFY ANY NEW CONTRACTOR AND/OR SUBCONTRACTOR THAT WILL IMPLEMENT MEASURE OF THE STORM WATER POLLUTION PREVENTION PLAN. AMENDMENTS TO THE PLAN MAY BE REVIEWED BY THE AGENCY IN THE SAME MANNER AS PART I.V.B ABOVE. THE SWPPP AND SITE MAP MUST BE MODIFIED WITHIN 7 DAYS FOR ANY CHANGES TO CONSTRUCTION PLANS, STORMWATER CONTROL MEASURES AND SITE ACTIVITIES AT THE SITE THAT ARE NO LONGER ACCURATELY REFLECTED IN THE SWPPP. ANY REVISIONS OF THE DOCUMENTS FOR THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE KEPT ON SITE AT ALL TIMES.

9. RETENTION OF RECORDS

THE PERMITTEE SHALL RETAIN COPIES OF STORM WATER POLLUTION PREVENTION PLANS AND ALL REPORTS AND NOTICES REQUIRED BY THIS PERMIT, RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT TO BE COVERED BY THIS PERMIT AND THE AGENCY NOTICE OF PERMIT COVERAGE LETTER FOR A PERIOD OF AT LEAST THREE YEARS FROM THE DATE THAT THE PERMIT COVERAGE EXPIRES OR IS TERMINATED. THIS PERIOD MAY BE EXTENDED BY REQUEST OF THE AGENCY AT ANY TIME.

THE PERMITTEE SHALL RETAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND ANY REVISIONS TO SAID PLAN REQUIRED BY THIS PERMIT AT THE CONSTRUCTION SITE FROM THE DATE OF PROJECT INITIATION TO THE DATE OF FINAL STABILIZATION. ANY MANUALS OR OTHER DOCUMENTS REFERENCED IN THE SWPPP SHALL ALSO BE RETAINED AT THE CONSTRUCTION SITE.

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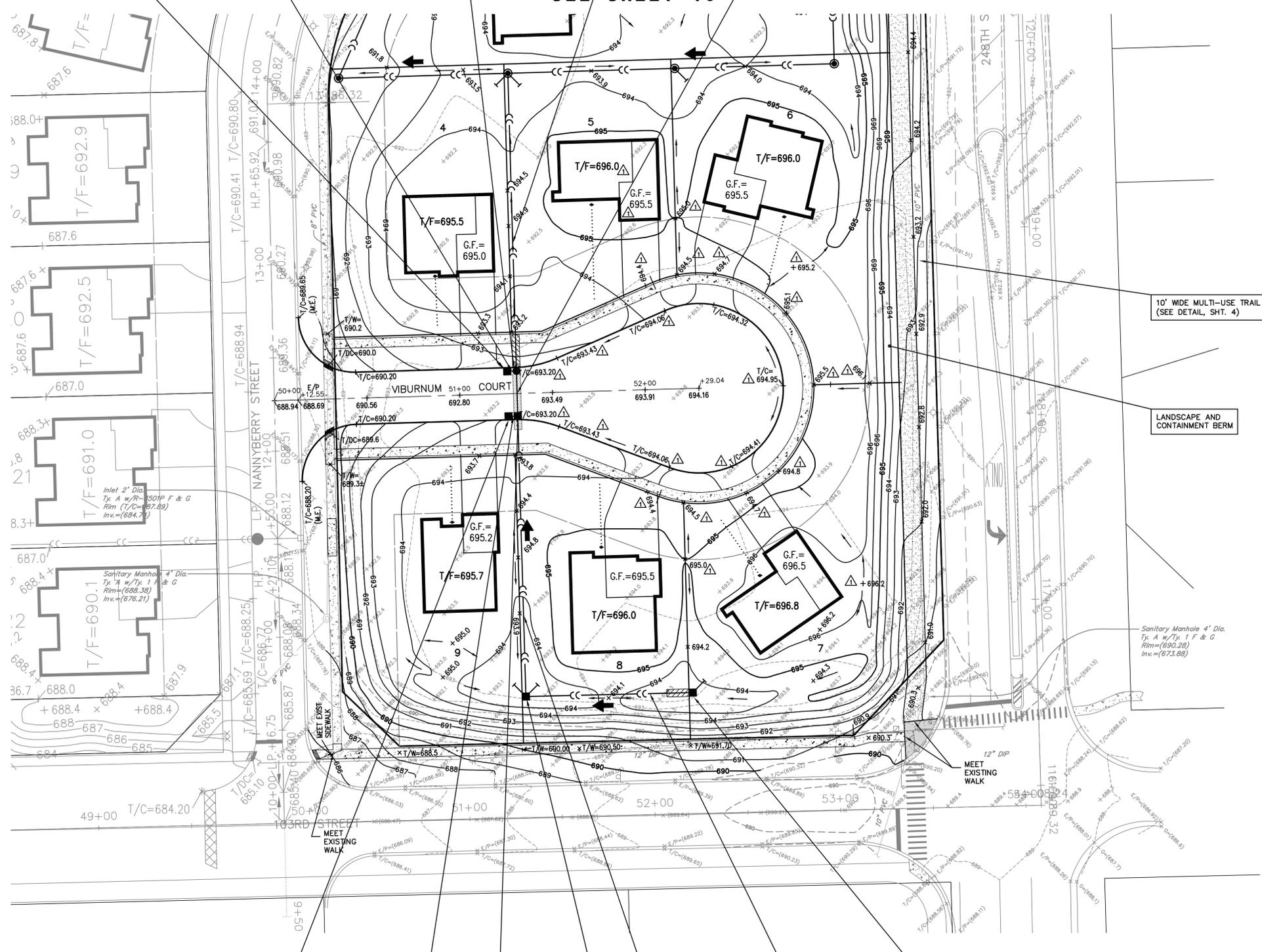
N 1831664.9, E 1013650.4
INLET NO. 2
TY. A w/R-3501P FR. & GR.
RIM = (T/C) 693.2
INV. = 689.70

5 L.F.-12" R.C.P.
TY. 2 @ 2.00%

N 1831665.0, E 1013655.4
CATCH BASIN NO. 12
TY. A w/R-3501P FR. & GR.
RIM = (T/C) 693.2
INV. = 689.60 W
689.52 N,S

158 L.F.-15" R.C.P.
TY. 2 @ 1.06%

28 L.F.-12" R.C.P.
TY. 2 @ 1.00%



- ### DRAINAGE & GRADING NOTES
- ELEVATIONS SHOWN FOR ALL CURB INLETS, CATCH BASINS, AND MANHOLES ARE TOP OF CURB.
 - ALL CURBS SHALL BE BACKFILLED TO WITHIN 6 INCHES OF THE TOP OF CURB.
 - ALL BACK YARD SWALES SHALL BE CUT OR FILLED 6 INCHES BELOW FINISHED GRADE.
 - EXISTING DRAINAGE TILES ENCOUNTERED DURING CONSTRUCTION SHALL BE PRESERVED OR REPAIRED IN ACCORDANCE WITH SPECIFICATION (SEE SHEET 2).
 - T/F - INDICATES PROPOSED TOP OF FOUNDATION ELEVATIONS AND THE LOWEST OPENING IN A CONVENTIONAL FOUNDATION WHERE SURFACE RUNOFF CAN ENTER THE FOUNDATION.
 - THE TOP OF WINDOW WELLS SHALL BE CONSTRUCTED NO LOWER THAN THE TOP OF FOUNDATION ELEVATION (T/F).
 - THE FINISHED TOPSOIL ELEVATION AT THE FOUNDATION SHOULD GENERALLY BE 0.7 FEET BELOW THE TOP OF FOUNDATION ELEVATION UNLESS INDICATED OTHERWISE.
 - G/F - INDICATES THE PROPOSED GARAGE FLOOR ELEVATION. THE PLACEMENT OF THE GARAGE / DRIVEWAY IS CRITICAL WHEN AND WHERE SHOWN ON THIS PLAN. IT IS MANDATORY THAT THE GARAGE BE CONSTRUCTED ON THE SIDE INDICATED.
 - L.O. OR W.O. - INDICATED THOSE LOTS WHERE A "LOOK-OUT" (L.O.) OR "WALK-OUT" (W.O.) BASEMENT CAN BE CONSTRUCTED. THE REQUIRED ELEVATION OF THE LOWEST FOUNDATION OPENING IS GIVEN. IF A LOOK-OUT OR WALK-OUT BASEMENT IS NOT DESIRED, A DETAILED GRADING PLAN OF THE ALTERNATE DESIGN MUST BE SUBMITTED TO THE GOVERNING AUTHORITY.
 - ACCENTED SIDES OF PROPOSED HOUSE FOUNDATIONS ARE INTENDED TO INDICATE THE APPROXIMATE LOCATION WHERE A LOOK-OUT OR WALK-OUT BASEMENT MAY BE CONSTRUCTED OR TO INDICATE THAT SPECIAL CONSTRUCTION MEASURES MUST BE EMPLOYED IN ORDER TO MINIMIZE SIDE YARD, REAR YARD AND / OR FRONT YARD GRADIENTS (E.G. DROPPED SIDING, STEPPED FOUNDATION, RETAINING WALL, ETC.) - SEE NOTES ABOVE FOR FURTHER DETAILS.
 - LOT DIMENSIONS SHOWN ON THIS PLAN MAY NOT NECESSARILY CORRESPOND TO THE PLATTED DIMENSIONS. REFER TO THE FINAL RECORDED PLAT OF SUBDIVISION.
 - WATERMAIN PROTECTION (SEE SHEETS 2 & 3 FOR DETAILS).
 - INDICATES THE LOCATION AND DIRECTION OF AN OVERLAND FLOOD ROUTE THAT MUST BE RESPECTED IN ALL FINAL GRADING OPERATIONS (SEE DETAIL).
 - DENOTES AREA WHERE GRANULAR TRENCH BACKFILL IS REQUIRED.
 - (ELEV.) - INDICATES EXISTING ELEVATION.
 - DENOTES EXISTING UTILITY TO BE REMOVED.
 - ALL REAR YARD STORM SEWERS ARE TO BE OFFSET 5 FEET FROM LOT LINE UNLESS OTHERWISE NOTED.
 - INDICATES DRIVEWAY LOCATION.
 - INDICATES PVC SUMP DRAIN CONDUIT.

N 1831636.9, E 1013651.2
INLET NO. 2
TY. A w/R-3501P FR. & GR.
RIM = (T/C) 693.2
INV. = 689.70

5 L.F.-12" R.C.P.
TY. 2 @ 2.00%

N 1831637.0, E 1013656.2
INLET NO. 13
TY. B w/R-3501P FR. & GR.
RIM = (T/C) 693.2
INV. = 689.60 W
688.80 S,N

149 L.F.-12" R.C.P.
TY. 2 @ 0.50%

90 L.F.-12" R.C.P.
TY. 2 @ 0.50%

N 1831490.5, E 1013750.5
INLET NO. 4
TY. A w/TY. 1 FR. & O.L.
RIM = 693.0
INV. = 690.00

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1	Δ	03-25-22/JCC	REVISED PER CITY COMMENTS DATED 02-09-2022 (SECOND SUBMITTAL)					

DRAINAGE AND GRADING PLAN ASHWOOD HEIGHTS - PHASE 2

FILE NAME: OVRGRADE	DSGN. BY: RWB	JOB NO.: 904.408	FLD. BK./PG.: D39/45-53	SHEET NO.
DIR: 904408	DRN. BY: LAL	DATE: 01-12-22	SCALE: 1" = 30'	09 of 15

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DRAINAGE & GRADING NOTES

1. ELEVATIONS SHOWN FOR ALL CURB INLETS, CATCH BASINS, AND MANHOLES ARE TOP OF CURB.
2. ALL CURBS SHALL BE BACKFILLED TO WITHIN 6 INCHES OF THE TOP OF CURB.
3. ALL BACK YARD SWALES SHALL BE CUT OR FILLED 6 INCHES BELOW FINISHED GRADE.
4. EXISTING DRAINAGE TILES ENCOUNTERED DURING CONSTRUCTION SHALL BE PRESERVED OR REPAIRED IN ACCORDANCE WITH SPECIFICATION (SEE SHEET 2).
5. T/F - INDICATES PROPOSED TOP OF FOUNDATION ELEVATIONS AND THE LOWEST OPENING IN A CONVENTIONAL FOUNDATION WHERE SURFACE RUNOFF CAN ENTER THE FOUNDATION.
6. THE TOP OF WINDOW WELLS SHALL BE CONSTRUCTED NO LOWER THAN THE TOP OF FOUNDATION ELEVATION (T/F).
7. THE FINISHED TOPSOIL ELEVATION AT THE FOUNDATION SHOULD GENERALLY BE 0.7 FEET BELOW THE TOP OF FOUNDATION ELEVATION UNLESS INDICATED OTHERWISE.
8. G/F - INDICATES THE PROPOSED GARAGE FLOOR ELEVATION. THE PLACEMENT OF THE GARAGE / DRIVEWAY IS CRITICAL WHEN AND WHERE SHOWN ON THIS PLAN. IT IS MANDATORY THAT THE GARAGE BE CONSTRUCTED ON THE SIDE INDICATED.
9. L.O. OR W.O. - INDICATED THOSE LOTS WHERE A "LOOK-OUT" (L.O.) OR "WALK-OUT" (W.O.) BASEMENT CAN BE CONSTRUCTED. THE REQUIRED ELEVATION OF THE LOWEST FOUNDATION OPENING IS GIVEN. IF A LOOK-OUT OR WALK-OUT BASEMENT IS NOT DESIRED, A DETAILED GRADING PLAN OF THE ALTERNATE DESIGN MUST BE SUBMITTED TO THE GOVERNING AUTHORITY.
10.  - ACCENTED SIDES OF PROPOSED HOUSE FOUNDATIONS ARE INTENDED TO INDICATE THE APPROXIMATE LOCATION WHERE A LOOK-OUT OR WALK-OUT BASEMENT MAY BE CONSTRUCTED OR TO INDICATE THAT SPECIAL CONSTRUCTION MEASURES MUST BE EMPLOYED IN ORDER TO MINIMIZE SIDE YARD, REAR YARD AND / OR FRONT YARD GRADIENTS (E.G. DROPPED SIDING, STEPPED FOUNDATION, RETAINING WALL, ETC.) - SEE NOTES ABOVE FOR FURTHER DETAILS.
11. LOT DIMENSIONS SHOWN ON THIS PLAN MAY NOT NECESSARILY CORRESPOND TO THE PLATTED DIMENSIONS. REFER TO THE FINAL RECORDED PLAT OF SUBDIVISION.
12.  - WATERMAIN PROTECTION (SEE SHEETS 2 & 3 FOR DETAILS.)
13.  - INDICATES THE LOCATION AND DIRECTION OF AN OVERLAND FLOOD ROUTE THAT MUST BE RESPECTED IN ALL FINAL GRADING OPERATIONS (SEE DETAIL).
14.  - DENOTES AREA WHERE GRANULAR TRENCH BACKFILL IS REQUIRED.
15. (ELEV.) - INDICATES EXISTING ELEVATION.
16.  - DENOTES EXISTING UTILITY TO BE REMOVED.
17. ALL REAR YARD STORM SEWERS ARE TO BE OFFSET 5 FEET FROM LOT LINE UNLESS OTHERWISE NOTED.
18.  - INDICATES DRIVEWAY LOCATION.
19.  - INDICATES PVC SUMP DRAIN CONDUIT.



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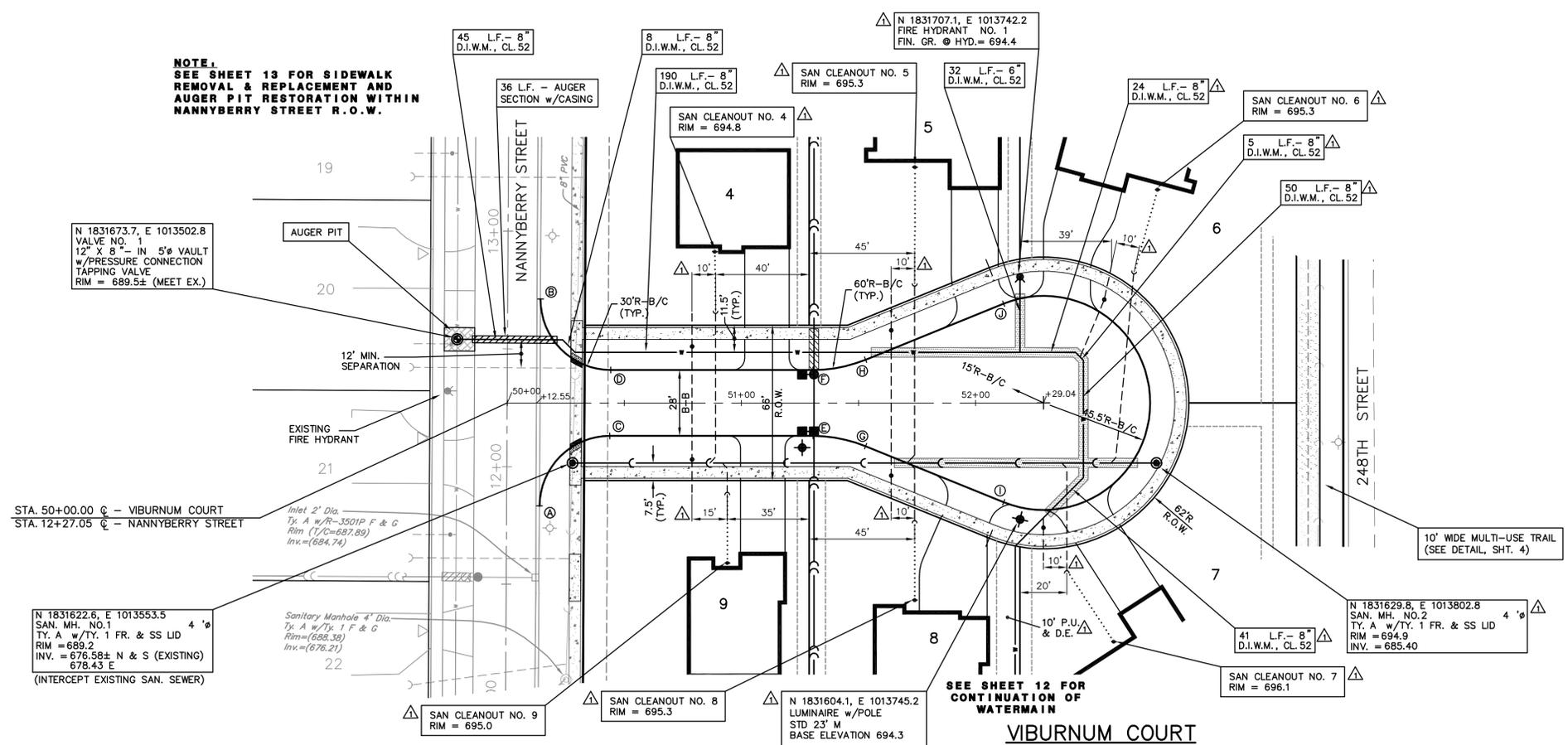
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DRAINAGE AND GRADING PLAN				
ASHWOOD HEIGHTS - PHASE 2				
FILE NAME: OVRGRADE	DSGN. BY: RWB	JOB NO.: 904.408	FLD. BK./PG.: D39/45-53	SHEET NO.
DIR: 904408	DRN. BY: LAL	DATE: 01-12-22	SCALE: 1" = 30'	10 of 15

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NOTE:
SEE SHEET 13 FOR SIDEWALK
REMOVAL & REPLACEMENT AND
AUGER PIT RESTORATION WITHIN
NANNYBERRY STREET R.O.W.



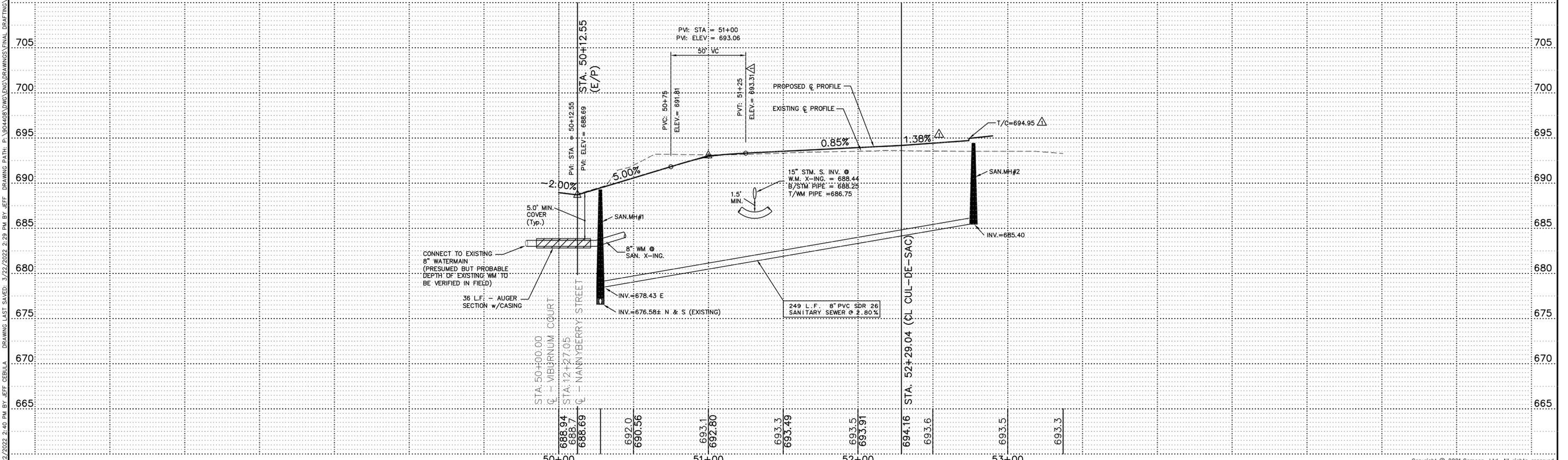
CURB RETURN TABLE

I.D.	STATION	OFFSET	T/C ELEV.
A	50+13.78	43.77' RT.	688.20 (M.E.)*
B	50+14.22	44.13' LT.	689.65 (M.E.)*
C	50+43.78	14.00' RT.	690.20
D	50+44.22	14.00' LT.	690.20
E	51+30.56	14.00' RT.	693.20
F	51+30.56	14.00' LT.	693.20
G	51+53.04	18.37' RT.	693.43
H	51+53.04	18.37' LT.	693.43
I	52+11.99	42.19' RT.	694.06
J	52+11.99	42.19' LT.	694.06

*M.E. = MEET EXISTING

- INDICATES TYPE M-3.12 CURB & GUTTER
- INDICATES TYPE M-3.12 CURB & GUTTER w/REVERSE PITCH GUTTER FLAG
- INDICATES DEPRESSED CURB
- INDICATES WATER MAIN PROTECTION
- INDICATES DETECTABLE WARNING STRIP
- INDICATES TRENCH BACKFILL
- INDICATES RISER REQUIRED
- INDICATES OVERHEAD SEWER REQUIRED
- INDICATES CURB RETURN
- INDICATES 6" PVC SDR 26 SANITARY SERVICE w/ MINIMUM 1.0% SLOPE
- INDICATES 1 1/2" TYPE K COPPER WATER SERVICE w/B-BOX (SEE DETAIL ON OVERALL SANITARY SEWER AND WATERMAIN PLAN)
- INDICATES CLEANOUT AND FUTURE SERVICE EXTENSION

- NOTE:**
- SANITARY SEWER AND WATERMAIN SERVICES TO EXTEND 5' INTO LOTS 1-9.
 - SANITARY CLEANOUTS SHOWN ON THIS PLAN ARE SUBJECT TO CHANGE ACCORDING TO THE INDIVIDUAL SITE DEVELOPMENT PLANS FOR EACH LOT. SANITARY SERVICES AT THE TIME OF PUBLIC SEWER INSTALLATION SHALL EXTEND 5' INTO LOTS 1-9 AND BE STAKED AT TERMINUS AND EXTENDED WITH CONSTRUCTION OF THE SINGLE FAMILY RESIDENCE.



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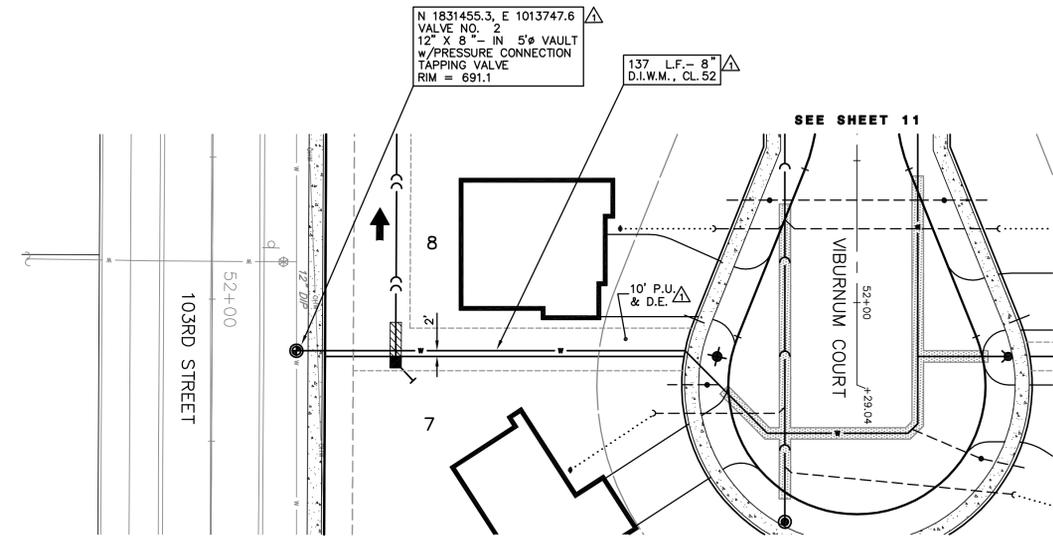
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VIBURNUM COURT
ASHWOOD HEIGHTS - PHASE 2

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DIR: 904408	DRN. BY: LAL	DATE: 01-12-22	SCALE: 1" = 30'H, 5'V	11 of 15

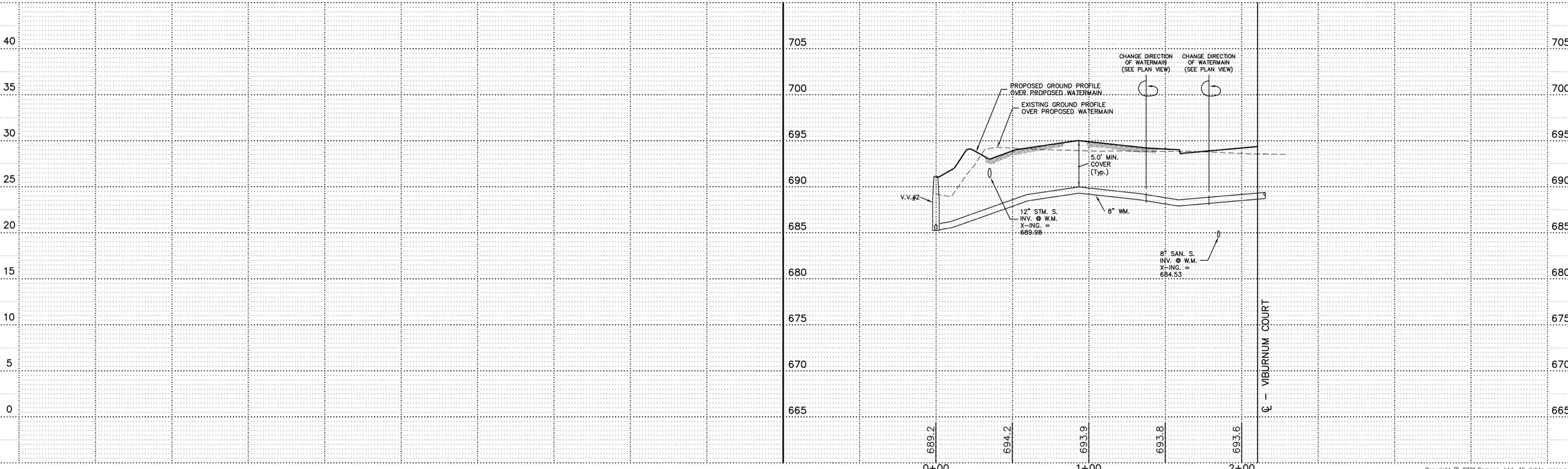
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SIDEYARD WATERMAIN

- INDICATES TYPE M-3.12 CURB & GUTTER
- ▨ INDICATES TYPE M-3.12 CURB & GUTTER w/REVERSE PITCH GUTTER FLAG
- ▩ INDICATES DEPRESSED CURB
- ▧ INDICATES WATER MAIN PROTECTION
- ▨▨▨▨ INDICATES DETECTABLE WARNING STRIP
- ▭ INDICATES TRENCH BACKFILL
- RS INDICATES RISER REQUIRED
- OS INDICATES OVERHEAD SEWER REQUIRED
- Ⓐ INDICATES CURB RETURN
- INDICATES 6" PVC SDR 26 SANITARY SERVICE @ MINIMUM 1.0% SLOPE
- INDICATES 1 1/2" TYPE K COPPER WATER SERVICE w/B-BOX (SEE DETAIL ON OVERALL SANITARY SEWER AND WATERMAIN PLAN)

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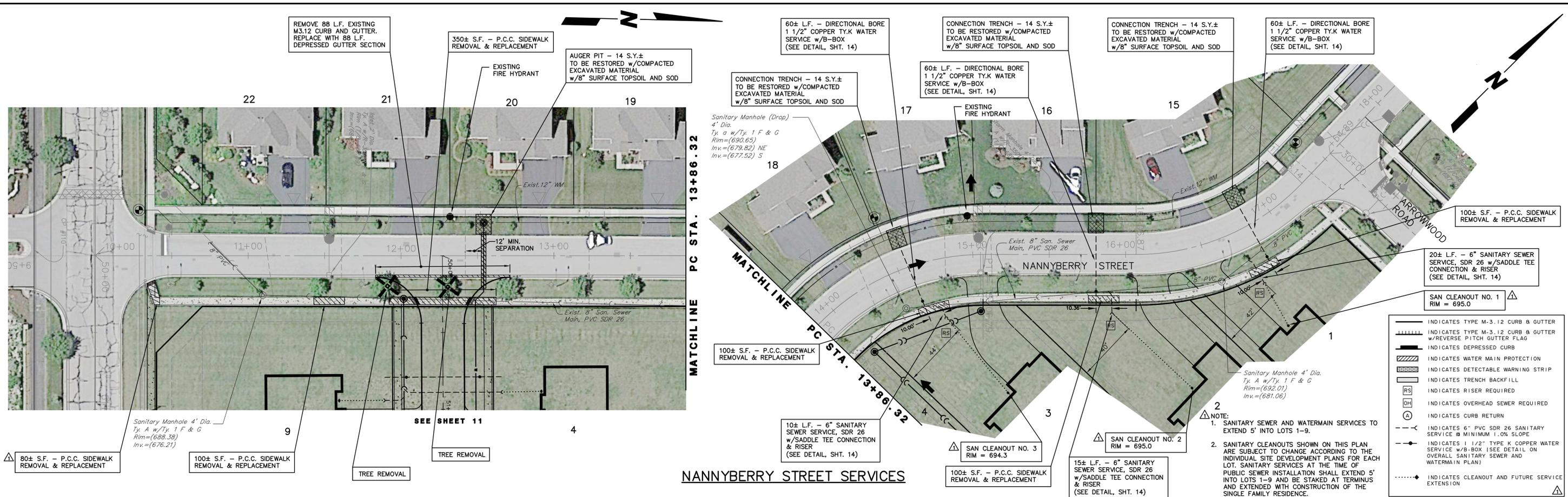
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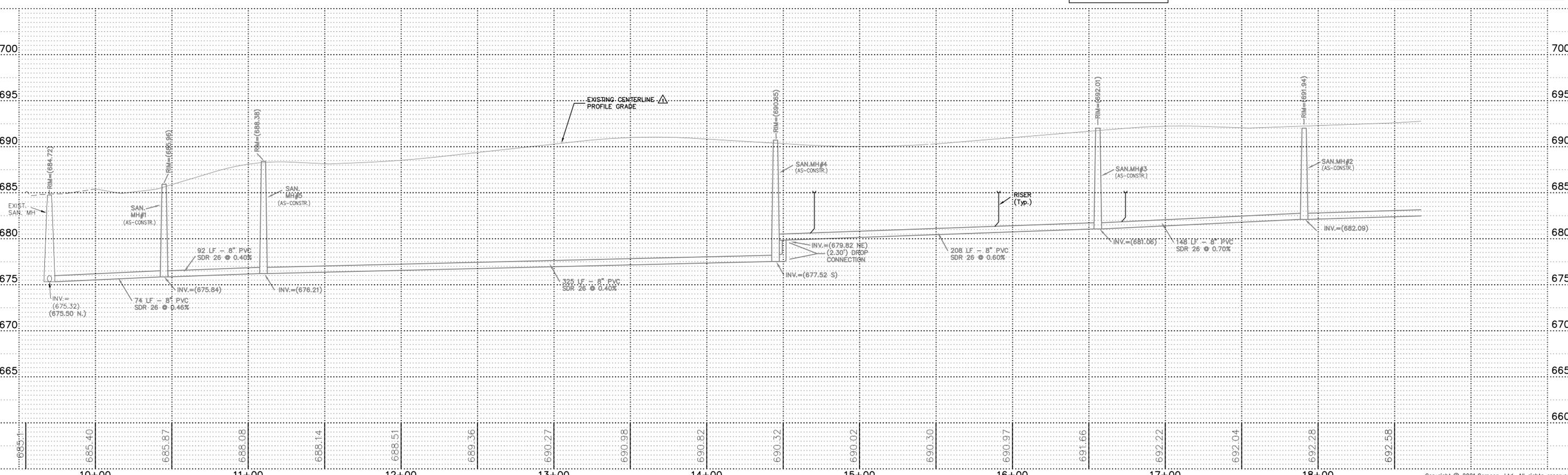
SIDEYARD WATERMAIN
ASHWOOD HEIGHTS - PHASE 2

FILE NAME: OVRPP	DSGN. BY: RWB	JOB NO.: 904.408	FLD. BK./PG.: D39/45-53	SHEET NO.
DIR: 904408	DRN. BY: LAL	DATE: 01-12-22	SCALE: 1" = 30'H, 5'V	12 of 15

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NANNYBERRY STREET SERVICES



- INDICATES TYPE M-3.12 CURB & GUTTER
- INDICATES TYPE M-3.12 CURB & GUTTER w/REVERSE PITCH GUTTER FLAG
- INDICATES DEPRESSED CURB
- INDICATES WATER MAIN PROTECTION
- INDICATES DETECTABLE WARNING STRIP
- INDICATES TRENCH BACKFILL
- INDICATES RISER REQUIRED
- INDICATES OVERHEAD SEWER REQUIRED
- INDICATES CURB RETURN
- INDICATES 6" PVC SDR 26 SANITARY SERVICE @ MINIMUM 1.0% SLOPE
- INDICATES 1 1/2" TYPE K COPPER WATER SERVICE w/B-BOX (SEE DETAIL ON OVERALL SANITARY SEWER AND WATERMAIN PLAN)
- INDICATES CLEANOUT AND FUTURE SERVICE EXTENSION

NOTE:
 1. SANITARY SEWER AND WATERMAIN SERVICES TO EXTEND 5' INTO LOTS 1-9.
 2. SANITARY CLEANOUTS SHOWN ON THIS PLAN ARE SUBJECT TO CHANGE ACCORDING TO THE INDIVIDUAL SITE DEVELOPMENT PLANS FOR EACH LOT. SANITARY SERVICES AT THE TIME OF PUBLIC SEWER INSTALLATION SHALL EXTEND 5' INTO LOTS 1-9 AND BE STAKED AT TERMINUS AND EXTENDED WITH CONSTRUCTION OF THE SINGLE FAMILY RESIDENCE.

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 (815) 751-9759

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NANNYBERRY STREET SERVICES
ASHWOOD HEIGHTS - PHASE 2

FILE NAME: OVRPP	DSGN. BY: RWB	JOB NO.: 904.408	FLD. BK./PG.: D39/45-53	SHEET NO.
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City of Naperville STANDARD DETAIL
STORM MANHOLE - TYPE A
 REVISED 06/12/2018 SHEET 1 OF 1 **290.01**

City of Naperville STANDARD DETAIL
CATCH BASIN - TYPE A
 REVISED 06/12/2018 SHEET 1 OF 1 **290.02**

City of Naperville STANDARD DETAIL
CATCH BASIN - TYPE C
 REVISED 06/12/2018 SHEET 1 OF 1 **290.04**

City of Naperville STANDARD DETAIL
INLET - TYPE A
 REVISED 06/12/2018 SHEET 1 OF 1 **290.05**

City of Naperville STANDARD DETAIL
CAST IRON STEPS
 REVISED 01/12/2013 SHEET 1 OF 1 **290.06**

City of Naperville STANDARD DETAIL
FLAT SLAB TOP PRECAST REINFORCED CONCRETE
 REVISED 01/12/2013 SHEET 1 OF 1 **290.03**

City of Naperville STANDARD DETAIL
STORM SEWER TRENCH SECTION IN NON-PAVED AREAS
 REVISED 01/12/2013 SHEET 1 OF 1 **290.21**

City of Naperville STANDARD DETAIL
STORM SEWER TRENCH SECTION IN PAVED AREAS
 REVISED 01/12/2013 SHEET 1 OF 1 **290.20**

City of Naperville STANDARD DETAIL
CASTING ADJUSTMENTS FOR STRUCTURES WITHIN THE CURB LINE
 REVISED 06/12/2018 SHEET 1 OF 1 **290.16**

City of Naperville STANDARD DETAIL
CASTING ADJUSTMENTS FOR STRUCTURES IN PAVED AREAS
 REVISED 06/12/2018 SHEET 1 OF 1 **290.15**

City of Naperville STANDARD DETAIL
FRAME & GRATE FOR M-3-12 CURB & GUTTER
 REVISED 05/12/2015 SHEET 1 OF 1 **290.13**

City of Naperville STANDARD DETAIL
FRAME & LID OR GRATE
 REVISED 05/12/2015 SHEET 1 OF 1 **290.10**

City of Naperville STANDARD DETAIL
BEEHIVE GRATE
 REVISED 05/12/2015 SHEET 1 OF 1 **290.14**

City of Naperville STANDARD DETAIL
STORM SEWER TRENCH SECTION IN PAVED AREAS
 REVISED 01/12/2013 SHEET 1 OF 1 **290.22**

City of Naperville STANDARD DETAIL
STORM SEWER TRENCH SECTION IN PAVED AREAS
 REVISED 01/12/2013 SHEET 1 OF 1 **290.23**

City of Naperville STANDARD DETAIL
SUMP PUMP CONNECTION
 REVISED 01/12/2013 SHEET 1 OF 1 **290.30**

City of Naperville STANDARD DETAIL
CASTING ADJUSTMENTS FOR STRUCTURES IN PAVED AREAS
 REVISED 06/12/2018 SHEET 1 OF 1 **290.12**

City of Naperville STANDARD DETAIL
MANHOLE FRAME, SOLID LID
 REVISED 01/12/2013 SHEET 1 OF 1 **290.11**

PREPARED FOR:
SILVERTHORNE DEVELOPMENT COMPANY
 1827 E. LINCOLN HIGHWAY
 DEKALB, IL 60115
 (815) 751-9759

PREPARED BY:
CEMCON, Ltd.
 Consulting Engineers, Land Surveyors & Planners
 2280 White Oak Circle, Suite 100
 Aurora, Illinois 60502-9675
 Ph: 630.862.2100 Fax: 630.862.2199
 E-Mail: info@cemcon.com Website: www.cemcon.com

NO.		DATE	DESCRIPTION	REVISIONS	
NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION

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DRAINAGE STRUCTURE DETAILS
ASHWOOD HEIGHTS - PHASE 2

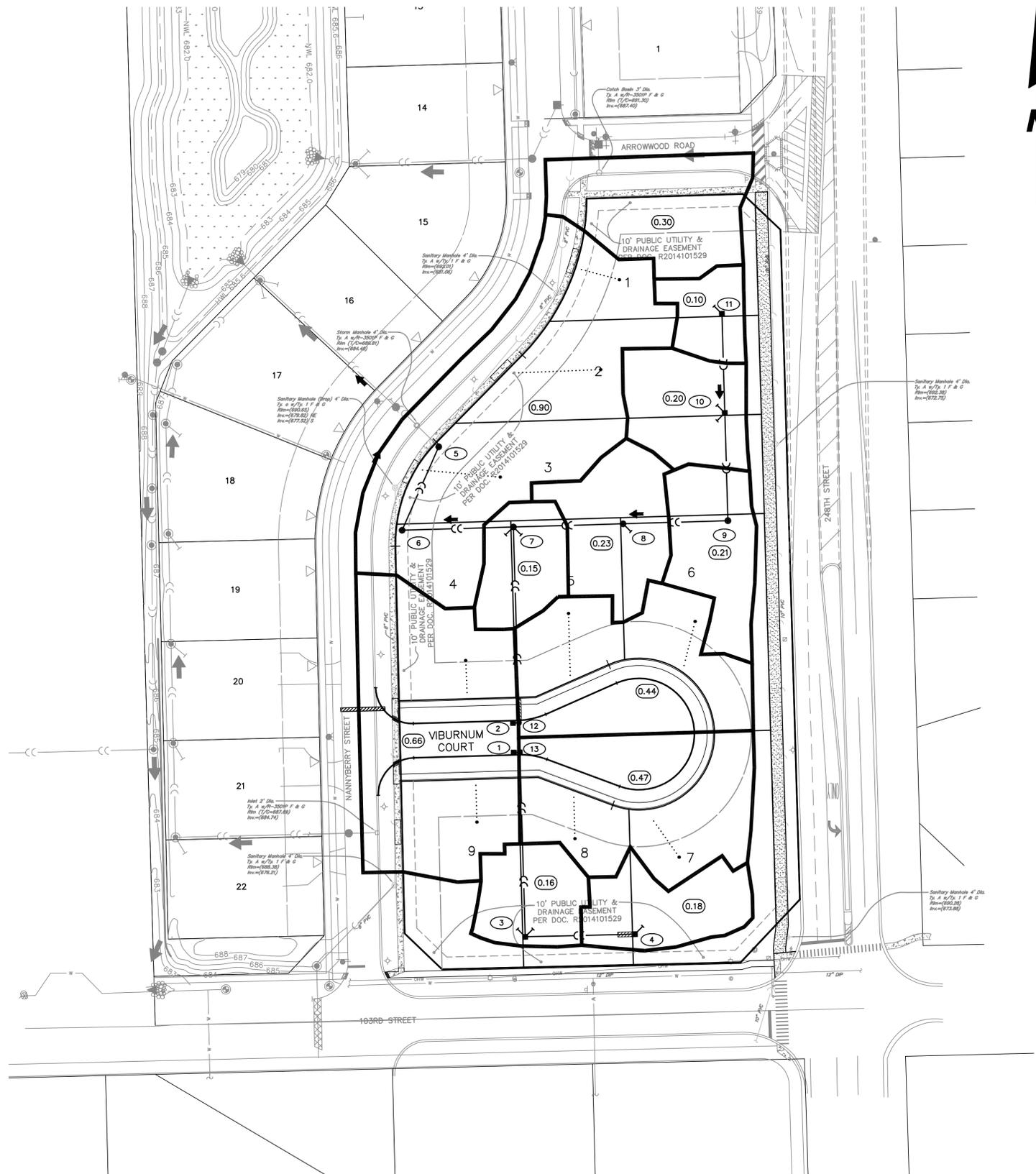
FILE NAME: DETAILS	DSGN. BY: RWB	JOB NO.: 904.408	F.L.D. BK./PG.: D39/45-53	SHEET NO. 15 of 15
DIR: 904408	DRN. BY: LAL	DATE: 01-12-22	SCALE: 1" = N.T.S.	

EXHIBIT H

PROPOSED CONDITION

CATCHMENT EXHIBIT

PLOT FILE CREATED: 3/10/2022 4:34 PM BY BRANDON DAVID DRAWING LAST SAVED: 3/9/2022 4:40 PM BY KIM DRAWING PATH: P:\904408\DWG\ENG\DRAWINGS\EXHIBITS\CATCHMENT.DWG



LEGEND		DESCRIPTION
○	●	MANHOLE
□	■	CATCH BASIN
▽	◆	INLET
⊥	⊥	CLEANOUT
⊥	⊥	SLOPE INLET BOX
⊥	⊥	HEADWALL
⊥	⊥	END SECTION
⊥	⊥	STORM SEWER
⊥	⊥	TEMPORARY STANDPIPE
(NO)		NUMBERING SYSTEM USED ON PLANS FOR DRAINAGE STRUCTURE IDENTIFICATION
(CNO)		NUMBERING SYSTEM USED ON PLANS FOR CLEANOUT STRUCTURE IDENTIFICATION
(XXX)		DRAINAGE AREA IN ACRES

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PREPARED FOR:
SILVERTHORNE DEVELOPMENT COMPANY
 1827 E. LINCOLN HIGHWAY
 DEKALB, IL 60115
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 Ph: 630.862.2100 Fax: 630.862.2199
 E-Mail: info@cemcon.com Website: www.cemcon.com

REVISIONS					
NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION

CATCHMENT EXHIBIT
ASHWOOD HEIGHTS – PHASE 2

FILE NAME: CATCHMENT	DSGN. BY: RWB	JOB NO.: 904.408	FLD. BK./PG.: D39/45-53	SHEET NO.
DIR: 904408	DRN. BY: LAL	DATE: 01-12-22	SCALE: 1" = 50'	1 of 1

EXHIBIT I

PROPOSED CONDITION

STORMCAD ANALYSIS – 10-YEAR

Calculated Runoff Coefficient - C Value

Job No.: 904.408
Date: January 6, 2022
By: KMM

A	B
Impervious Runoff Coefficient	Pervious Runoff Coefficient
0.95	0.25

Total Area: (D+E)	3.44	AC	C
Total Impervious Area:	0.98	AC	D
Total Pervious Area:	2.46	AC	E
Percent Impervious: [Q/L]	28.5 %		F
Percent Pervious: [R/L]	71.5 %		G

Runoff Coefficient (C): [(F*A) + (G*B)]

0.45

EXHIBIT J

PROPOSED CONDITION

STORMCAD ANALYSIS – 100-YEAR

Storm Sewer Calculations

100-Year Design Storm

UPSTREAM NODE	DOWNSTREAM NODE	LENGTH(FEET)	INLET AREA (ACRES)	RUNOFF COEFFICIENT *	INLET C*A (ACRES)	TOTAL C*A (ACRES)	TIME OF CONCENTRATION (MIN)	SYSTEM FLOW TIME (MIN)	INTENSITY (IN./HR.)	TOTAL RUNOFF (CFS)	PIPE DIAMETER (IN)	SLOPE(%)	PIPE CAPACITY(CFS)	AVERAGE VELOCITY (FT/SEC.)	UPSTREAM RIM	UPSTREAM HGL	UPSTREAM INVERT	DOWNSTREAM RIM	DOWNSTREAM HGL	DOWNSTREAM INVERT
PROJECT NAME																				
EX19	EX18	28	0.30	0.57	0.17	0.17	15.00	15.00	8.02	1.38	12	1.0400	3.63	1.76	691.53	691.41	687.95	691.37	691.37	687.66
EX18	EX17	59	0.30	0.60	0.18	0.35	15.00	15.27	7.98	2.82	12 inch	2.0500	5.10	3.59	691.37	691.37	687.66	691.94	691.94	686.45
EX20	EX17	53	0.65	0.57	0.37	0.37	15.00	15.00	8.02	3.00	12	1.5700	4.46	3.81	692.00	692.00	688.69	691.94	691.94	687.86
EX17	EX16	142	0.84	0.57	0.48	1.20	15.00	15.54	7.93	9.60	12 inch	2.0700	5.13	12.23	691.94	691.94	686.45	687.03	683.77	683.51
EX16	EX15	32	N/A	N/A	N/A	1.20	N/A	15.73	7.90	9.56	15 inch	2.0600	9.28	8.23	687.03	683.77	682.60	685.00	681.94	681.94
4	3	90	0.18	0.45	0.08	0.08	15.00	15.00	8.02	0.65	12	0.5000	2.52	2.20	693.00	690.35	690.00	693.00	690.04	689.55
11	10	81	0.10	0.45	0.05	0.05	15.00	15.00	8.02	0.36	12	0.3000	1.94	1.48	693.00	690.30	690.00	693.00	690.20	689.76
32	EX31	28	0.66	0.45	0.30	0.30	15.00	15.00	8.02	2.40	12	0.5000	2.52	3.06	687.89	687.28	684.74	687.90	687.15	684.60
3	13	149	0.16	0.45	0.07	0.15	15.00	15.68	7.91	1.22	12	0.5000	2.53	2.60	693.00	690.04	689.55	693.20	689.52	688.80
1	13	5	N/A	N/A	N/A	0.00	N/A	0.00	0.00	0.00	12	2.0000	5.04	0.00	693.20	689.70	689.70	693.20	689.52	689.60
10	9	88	0.20	0.45	0.09	0.14	15.00	15.91	7.87	1.07	12	2.0000	5.04	2.67	693.00	690.20	689.76	693.00	688.63	688.00
EX31	EX30	138	0.55	0.57	0.31	0.61	15.00	15.15	8.00	4.92	15 inch	0.6200	5.07	4.01	687.90	687.15	684.60	686.35	686.35	683.75
2	12	5	N/A	N/A	N/A	0.00	N/A	0.00	0.00	0.00	12	2.0000	5.04	0.00	693.20	689.70	689.70	693.20	689.37	689.60
13	12	28	0.47	0.45	0.21	0.36	15.00	16.64	7.76	2.85	12	1.0000	3.56	4.35	693.20	689.52	688.80	693.20	689.37	688.52
9	8	86	0.21	0.45	0.09	0.23	15.00	16.46	7.78	1.80	12	0.5000	2.52	3.30	693.00	688.63	688.00	693.00	688.26	687.57
EX30	EX29	77	0.13	0.57	0.07	0.68	15.00	15.73	7.90	5.45	15	0.4300	4.23	4.44	686.35	686.35	683.75	686.22	686.22	683.42
12	7	158	0.44	0.45	0.20	0.56	15.00	16.74	7.74	4.39	15	1.0600	6.64	4.46	693.20	689.37	688.52	693.00	687.91	686.85
8	7	90	0.23	0.45	0.10	0.33	15.00	16.89	7.71	2.59	12	0.8000	3.19	3.89	693.00	688.26	687.57	693.00	687.91	686.85
EX29	EX28	82	0.10	0.57	0.06	0.74	15.00	16.02	7.86	5.87	15	0.2300	3.11	4.79	686.22	686.22	683.42	686.22	686.22	683.23
7	6	91	0.15	0.45	0.07	0.96	15.00	17.33	7.64	7.42	18	1.0000	10.50	6.01	693.00	687.91	686.85	691.30	686.99	685.94
EX28	EX27	89	0.15	0.57	0.09	0.83	15.00	16.30	7.81	6.51	15	0.1300	2.37	5.31	686.22	686.22	683.23	686.38	686.06	683.11
6	5	74	N/A	N/A	N/A	0.96	N/A	17.59	7.60	7.38	18	1.0000	10.50	6.00	691.30	686.99	685.94	691.00	686.20	685.20
EX27	EX26	87	0.14	0.57	0.08	0.91	15.00	16.58	7.77	7.10	15	0.5300	4.70	5.79	686.38	686.06	683.11	686.31	685.01	682.65
5	EX24	25	N/A	N/A	N/A	0.96	N/A	17.79	7.57	7.35	18	1.1200	11.12	5.06	691.00	686.20	685.15	689.86	686.16	684.87
EX26	EX25	52	0.13	0.57	0.07	0.98	15.00	16.83	7.72	7.64	18	0.3700	6.35	4.32	686.31	685.01	682.65	686.38	684.73	682.46
EX24	EX23	28	0.90	0.59	0.53	1.49	15.00	17.87	7.56	11.38	18 inch	3.0700	18.41	6.83	689.86	686.16	684.87	689.83	685.42	684.01
EX25	EX22	98	N/A	N/A	N/A	0.98	N/A	17.03	7.69	7.61	18	0.2300	5.09	4.31	686.38	684.73	682.46	686.78	684.22	682.23
EX23	EX22	149	0.68	0.57	0.39	1.88	15.00	17.94	7.55	14.31	21 inch	1.1900	17.32	6.43	689.83	685.42	684.01	686.78	684.22	682.23
EX22	EX21	25	N/A	N/A	N/A	2.86	N/A	18.33	7.48	21.59	21	0.7200	13.44	9.12	686.78	684.22	682.23	685.00	682.05	682.05

EXHIBIT K

**ENGINEER'S OPINION OF
PROBABLE CONSTRUCTION COST**

CEMCON, Ltd.
ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

PROJECT: Ashwood Heights Unit 2

JOB NO.: 904.408

DATE: March 10, 2022
 REVISED: March 25, 2022

NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
I. <u>SWPP PLAN IMPLEMENTATION</u>					
1	Stabilized Construction Entrance w/ Maintenance	1	EA.	\$ 800.00	\$ 800.00
2	Silt Fence w/ Maintenance	2,045	L.F.	3.00	6,135.00
3	Inlet or MH Filter Inserts	13	EA.	250.00	3,250.00
4	Temporary Concrete Washout Station	1	EA.	1,500.00	1,500.00
5	Hydroseed & Mulch Berms	2,200	S.Y.	1.80	3,960.00
Sub-Total SWPP Plan Implementation					\$ 15,645.00
II. <u>EARTHWORK & GRADING IMPROVEMENTS</u>					
1	Earth Excavation - Topsoil (Stockpile)	750	C.Y.	\$ 12.00	\$ 9,000.00
2	Earthwork Excavation - Clay (to Containment Berms)	1,860	C.Y.	10.00	18,600.00
3	Topsoil Placement Berms (from Stockpile)	450	C.Y.	14.00	6,300.00
Sub-Total Earthwork & Grading Improvements					\$ 33,900.00
III. <u>DEMOLITION</u>					
1	Sawcut & Remove P.C.C. Sidewalk	725	S.F.	\$ 3.00	\$ 2,175.00
2	Sawcut & Remove Curb & Gutter	88	L.F.	4.00	352.00
Subtotal Demolition					\$ 2,527.00
IV. <u>SANITARY SEWER MAIN & SERVICE IMPROVEMENTS</u>					
1	Sanitary MH 4' Dia. TyA w/ Ty1 FR & SS Lid (Intercept Existing)	1	EA.	\$ 4,800.00	4,800.00
2	Sanitary MH 4' Dia. TyA w/ Ty1 FR & SS Lid	1	EA.	3,600.00	3,600.00
3	Sanitary Sewer Main 8" SDR 26	249	L.F.	34.00	\$ 8,466.00
4	Sanitary Sewer Service, 6" SDR 26	305	L.F.	28.00	8,540.00
5	6" x 8" Saddle Tee Connection w/ Riser	3	EA.	800.00	\$2,400.00
6	Trench Backfill, CA-6*	450	C.Y.	32.00	14,400.00
* Trench Spoil to Berms					
Sub-Total Sanitary Sewer Main & Service Improvements					\$ 42,206.00

CEMCON, Ltd.
ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

PROJECT: Ashwood Heights Unit 2

JOB NO.: 904.408

DATE: March 10, 2022
 REVISED: March 25, 2022

NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
V. WATERMAIN & WATER SERVICE IMPROVEMENTS					
1	8" Watermain, DIWM CL 52 w/ Polyethylene Encasement	500	L.F.	\$ 54.00	\$ 27,000.00
2	6" Watermain, DIWM CL 52 w/ Polyethylene Encasement	32	L.F.	46.00	1,472.00
3	12" x 8" Tapping Valve & Vault (Pressure Connection), 5' Dia. w/ STD FR & Closed Lid	2	EA.	6,800.00	13,600.00
4	Auger Section w/ Casing	36	L.F.	110.00	3,960.00
5	1.5" Copper Type K Water Service	407	L.F.	22.00	8,954.00
6	Directional Bore for Water Services	165	L.F.	60.00	9,900.00
7	Trench Backfill, CA-6*	240	C.Y.	32.00	7,680.00
8	Parkway Restoration (Nannyberry)	56	S.Y.	20.00	1,120.00
	* Trench Spoil to Berms				
	Sub-Total Watermain & Service Improvements				\$ 73,686.00
VI. STORM SEWER & DRAINAGE IMPROVEMENTS					
1	Storm Sewer, RCP Ty2 12"	622	L.F.	\$ 28.00	\$ 17,416.00
2	Storm Sewer, RCP Ty2 15"	158	L.F.	34.00	5,372.00
3	Storm Sewer, RCP Ty2 18"	165	L.F.	40.00	6,600.00
4	Storm MH TyA 4' Dia. w/ Ty1 FR & O.L.	4	EA.	3,000.00	12,000.00
5	Storm MH TyA 5' Dia. w/ Ty1 FR & O.L.	1	EA.	3,800.00	3,800.00
6	Inlet TyA 2' Dia. w/ Ty1 FR & O.L.	3	EA.	2,100.00	6,300.00
7	Inlet TyB 3' Dia. w/ Ty1 FR & O.L.	1	EA.	2,400.00	2,400.00
8	Inlet TyA 2' Dia. w/ R-3501P FR. & GR.	2	EA.	2,300.00	4,600.00
9	Inlet TyB 3' Dia. w/ R-3501P FR. & GR.	1	EA.	2,500.00	2,500.00
10	Catch Basin, Ty. A 4' Dia. w/ R-3501P FR. & GR.	1	EA.	2,800.00	2,800.00
11	Connect to Existing 18" Stub	1	EA.	400.00	400.00
12	Trench Backfill, CA-6*	40	C.Y.	32.00	1,280.00
13	6" PVC Sump Line	90	L.F.	18.00	1,620.00
	* Trench Spoil to Berms				
	Subtotal Storm Sewer & Drainage Improvements				\$ 67,088.00
VII. PAVEMENT & SIDEWALK IMPROVEMENTS					
1	Fine Grading of Sub-Grade	1,365	S.Y.	2.00	\$ 2,730.00
2	Curb & Gutter Depressed	88	L.F.	30.00	2,640.00
3	Curb & Gutter Type M3.12	698	L.F.	30.00	20,940.00
4	Agg. Base Course Type B, 4"	131	S.Y.	18.00	2,358.00
5	Agg. Base Course Type B, 12"	1,098	S.Y.	18.00	19,764.00
6	Prime Coat	330	GAL	2.00	660.00
7	HMA Binder Course (2.5")	160	TONS	90.00	14,400.00
8	HMA Binder Course (1.5")	95	TONS	100.00	9,500.00
9	P.C.C. Sidewalk Replacement	725	S.F.	8.00	5,800.00
10	P.C.C. Sidewalk 103rd Street w/ 4" Sub-Base CA-6	520	S.F.	8.00	4,160.00

CEMCON, Ltd.
ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

PROJECT: Ashwood Heights Unit 2

JOB NO.: 904.408

DATE: March 10, 2022
 REVISED: March 25, 2022

NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
11	Detectable Warning Strip	2	EA.	400.00	800.00
12	Multi-Use Trail 248th Street	6,170	S.F.	6.00	37,020.00
13	Traffic Control & Protection	1	L.S.	850.00	850.00
Subtotal Pavement & Sidewalk Improvements					\$ 121,622.00

VIII. STREET LIGHTING IMPROVEMENTS

1	Davit Arm Street Light w/ Pole 23 MH	1	EA.	\$ 16,000.00	\$ 16,000.00
2	Sch 40 HDPE Conduit w/ Conductors (Connect to Existing Circuit)	235	L.F.	6.00	1,410.00
Subtotal Street Lighting Improvements					\$ 17,410.00

SUMMARY

I. SWPP PLAN IMPLEMENTATION	\$ 15,645.00
II. EARTHWORK & GRADING IMPROVEMENTS	\$ 33,900.00
III. DEMOLITION	\$ 2,527.00
IV. SANITARY SEWER MAIN & SERVICE IMPROVEMENTS	\$ 42,206.00
V. WATERMAIN & WATER SERVICE IMPROVEMENTS	\$ 73,686.00
VI. STORM SEWER & DRAINAGE IMPROVEMENTS	\$ 67,088.00
VII. PAVEMENT & SIDEWALK IMPROVEMENTS	\$ 121,622.00
VIII. STREET LIGHTING IMPROVEMENTS	\$ 17,410.00
TOTAL IMPROVEMENT	\$ 374,084.00

PROFESSIONAL ENGINEER'S CERTIFICATION

STATE OF ILLINOIS)
 COUNTY OF DUPAGE)

I, RANDALL W. BUS, A LICENSED PROFESSIONAL ENGINEER OF ILLINOIS, HEREBY CERTIFY THAT THIS TECHNICAL SUBMISSION WAS PREPARED ON BEHALF OF THE ROMAN CATHOLIC DIOCESE OF JOLIET TRUST AND SILVERTHORNE DEVELOPMENT COMPANY BY CEMCON, LTD. UNDER MY PERSONAL DIRECTION.

DATED THIS 25th DAY OF March, AD., 2022

ILLINOIS LICENSED PROFESSIONAL ENGINEER NO. 062-0032381
 MY LICENSE EXPIRES ON NOVEMBER 30, 2023

PROFESSIONAL DESIGN FIRM LICENSE NO. 184-002937, EXPIRES APRIL 30, 2023



NOTE: UNLESS THIS DOCUMENT BEARS THE ORIGINAL SIGNATURE AND IMPRESSED SEAL OF THE DESIGN PROFESSIONAL ENGINEER, IT IS NOT A VALID TECHNICAL SUBMISSION.