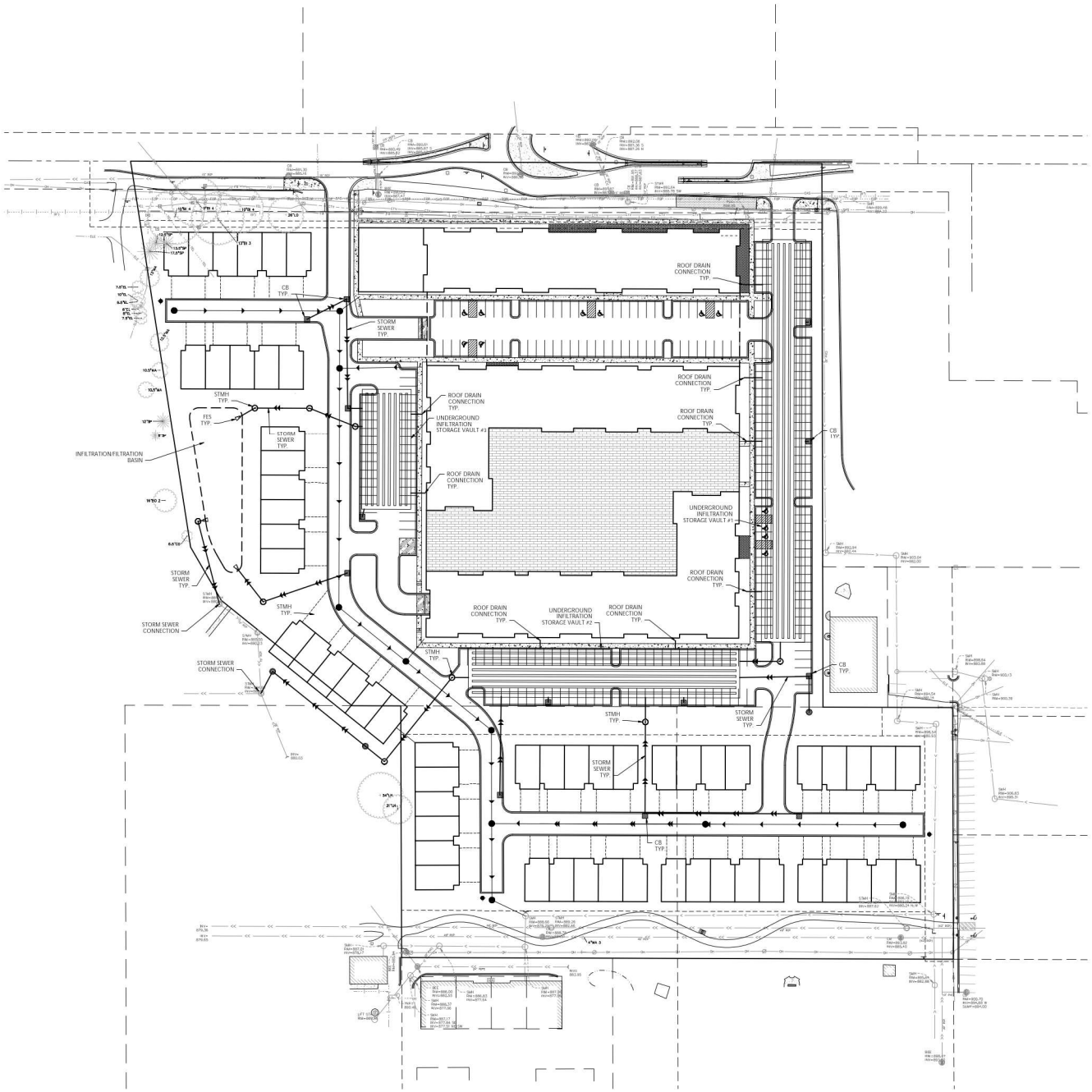

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
BM	BENCHMARK	
	SOIL BORING	
2	PARKING STALL COUNT	2
	ACCESSIBLE PARKING STALL	
	STORM SEWER	
	DRAINTILE	
	SANITARY SEWER	
	FORCEMAIN	
	WATERMAIN	
	SANITARY SEWER SERVICE	
	WATER SERVICE	
	UNDERGROUND ELECTRIC	
	UNDERGROUND FIBER OPTIC	
	UNDERGROUND GAS	
	UNDERGROUND TELEPHONE	
	OVERHEAD UTILITY	
	FENCE	
	CHAIN LINK FENCE	
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
913	CONTOUR	913
972.5	SPOT ELEVATION	972.5
0.75%	DIRECTION OF FLOW	0.75%
	TREE LINE	
	PARKING SETBACK LINE	
	BUILDING SETBACK LINE	

STORMWATER MANAGEMENT

EXISTING SITE
SITE AREA: 545,297 SF
IMPERVIOUS AREA: 292,875 SF (53.7%)
PERVIOUS AREA: 252,422 SF (46.3%)

PROPOSED SITE
SITE AREA: 545,297 SF
IMPERVIOUS AREA: 365,748 SF (67.1%)
PERVIOUS AREA: 179,549 SF (32.9%)

STORMWATER MANAGEMENT REQUIREMENTS

RATE CONTROL - NO NET INCREASE FOR THE 1-YEAR, 10-YEAR, 100-YEAR, & 100-YEAR, 10 DAY SNOWMELT
VOLUME CONTROL - STORMWATER RUNOFF VOLUME RETENTION SHALL BE ACHIEVED ONSITE IN THE AMOUNT EQUIVALENT TO THE RUNOFF GENERATED FROM 1.1" EVENT OVER THE IMPERVIOUS SURFACES OF THE PROPOSED DEVELOPMENT
WATER QUALITY - NO INCREASE IN TOTAL TP & TSS FROM EXISTING SITE TO PROPOSED

VOLUME REQUIRED 365,748 SF X 1.1" X 1/12" = 33,527 CF
ASSUMED INFILTRATION RATE 0.3 HR
DEPTH OF INFILTRATION (5.0-3")HR X 48 HR = 14.4 IN OR 1.2 FT

INFILTRATION VOLUME AREAS

UNDERGROUND INFILTRATION STORAGE VAULT #1 VOLUME AT 1.2 FEET	= 12,509 CF
UNDERGROUND INFILTRATION STORAGE VAULT #1 VOLUME AT 1.2 FEET	= 16,474 CF
UNDERGROUND INFILTRATION STORAGE VAULT #1 VOLUME AT 1.2 FEET	= 5,622 CF
INFILTRATION/FILTRATION BASIN	= 3,000 CF
TOTAL VAULT INFILTRATION FROM VAULTS	= 37,605 CF

RATE CONTROL - WILL BE PROVIDED FROM THE (3) UNDERGROUND INFILTRATION STORAGE VAULTS AND INFILTRATION/FILTRATION BASIN. THERE IS NO EXISTING TREATMENT ON-SITE SO THE THE PROPOSED RATES WILL IMPROVE FROM THE EXISTING RATES.

CALL BEFORE YOU DIG!
Gopher State One Call
TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

N

0 40 80
SCALE IN FEET

COLUMBIA HEIGHTS DEVELOPMENT

800 53rd Ave NE
Columbia Heights, MN 55421

LINCOLN AVENUE COMMUNITIES

401 Wilshire Blvd, 11th Floor
Santa Monica, California 90401

LOUCKS
PLANNING
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL

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CADD QUALIFICATION

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SUBMITTAL/REVISIONS

05/05/25 ..... SD - CITY SUBMITTAL

PROFESSIONAL SIGNATURE

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

License No. 49933
Date

PJ Duck - PE

QUALITY CONTROL

Loucks Project No.	230228C
Project Lead	PJD
Drawn By	DDL
Checked By	PJD
Review Date	05/05/25

SHEET INDEX

C1-1 ..... EXISTING CONDITIONS
C2-1 ..... SITE PLAN
C3-1 ..... GRADING PLAN
C4-1 SANITARY & WATERMAIN PLAN
C4-2 ..... STORM SEWER PLAN

STORM SEWER PLAN

C4-2

Plotted: 05/05/2025 - 1:17PM W:\2023\230228C\CADD\PLAN SHEETS\Plan Sheets\Final\C3-1GRADING PLAN & C4-2STORMSEWER PLAN