SITE AND UTILITY PLAN

PROJECT NARRATIVE

THE PROJECT IS LOCATED AT 3301 23RD STREET SE, WASHINGTON, DC. THE SITE PROPERTY IS COMPOSED OF THREE PARCELS OPERATING AS A RESIDENTIAL APARTMENT COMPLEX. THE EXISTING APARTMENTS BUILDINGS WILL BE RAZED, INCLUDING THE EXISTING PARKING AREA, AND A NEW 4–STORY APARTMENT BUILDING WITH UNDERGROUND PARKING WILL BE CONSTRUCTED. THERE ARE 130 RESIDENTIAL UNITS PROPOSED AS PART OF THIS PROJECT.

THE EXISTING BUILDING HAS EXISTING ELECTRIC, TELECOM, WATER AND SANITARY SEWER SERVICES. ALL OF THESE EXISTING SERVICES WILL BE ABANDONED OR REMOVED.

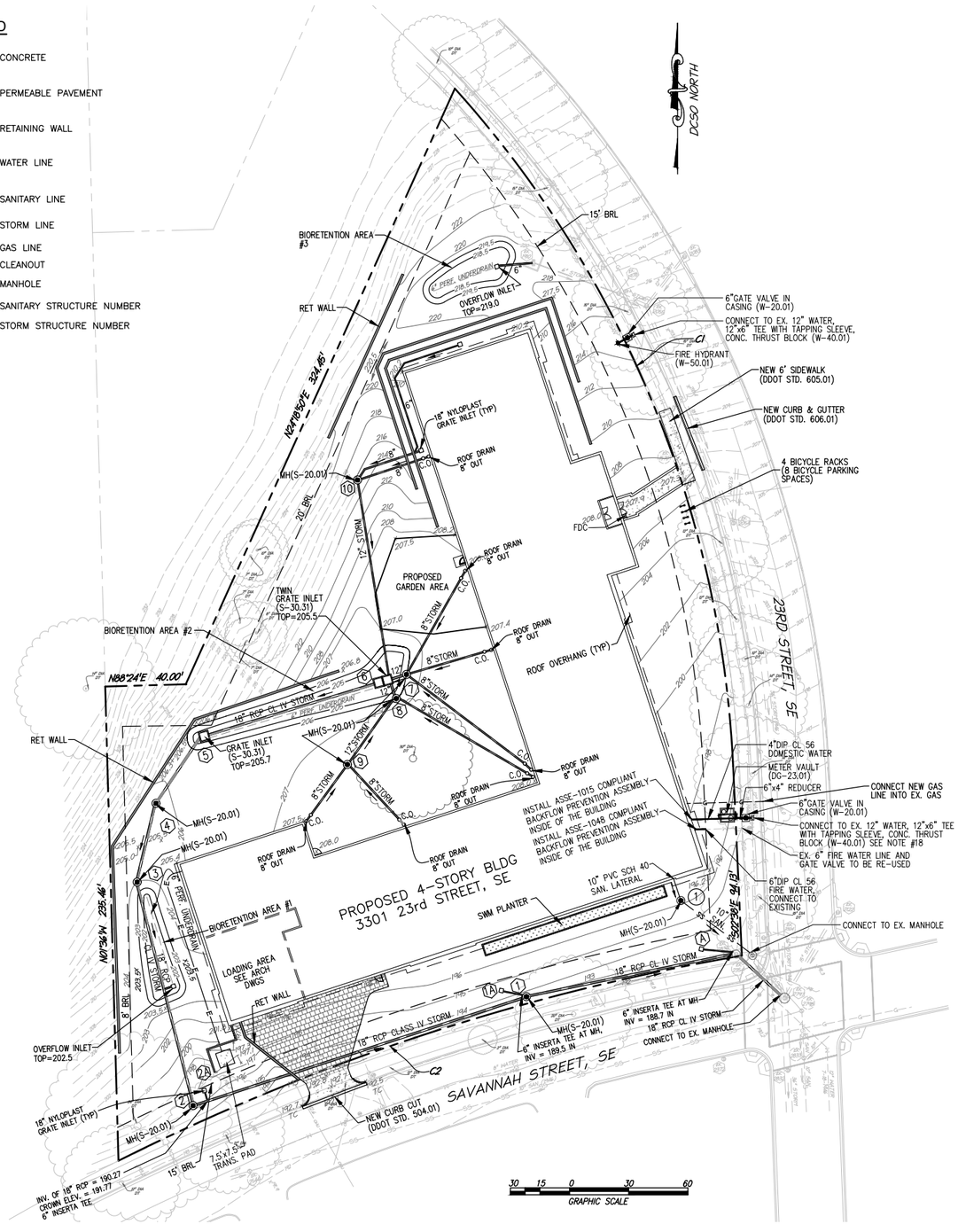
NEW UTILITIES WILL BE PROVIDED TO SERVICE THE PROPOSED APARTMENT BUILDING AS PART OF THIS PROJECT, WHICH INCLUDES A NEW DOMESTIC WATER LINE, A NEW FIRE WATER LINE, NEW STORM AND SANITARY LATERALS, AND NEW ELECTRIC SERVICE.

THE SITE DRAINS FROM THE NORTHWEST TO THE SOUTHEAST WITH EXISTING SLOPES MOSTLY IN THE RANGE OF 8 TO 15% ONSITE AND SOME ADJOINING SLOPES UP TO 40%. THE EXISTING SOILS ONSITE HAVE BEEN ALTERED BY PREVIOUS DEVELOPMENT AND PREDOMINATELY CONSIST OF KEPORT URBAN LAND COMPLEX AND UDORTHANTS. THE ADJOINING STEEP SLOPES CONSIST OF CHRISTIANA–URBAN LAND COMPLEX AND CROOM VERY GRAVELLY SANDY LOAM. ONSITE SOIL TESTING INDICATES PERCOLATION RATES THAT WILL REQUIRE SWM/BMP MEASURES TO HAVE UNDERDRAINS.

THERE ARE NO EXISTING STORMWATER MANAGEMENT (SWM) FACILITIES ON THE PROPERTY. PROPOSED SWM MEASURES AS PART OF THIS PROJECT INCLUDE GREEN ROOF, BIORETENTION FACILITIES AND PLANTING LARGE TREES.

PROPOSED LEGEND

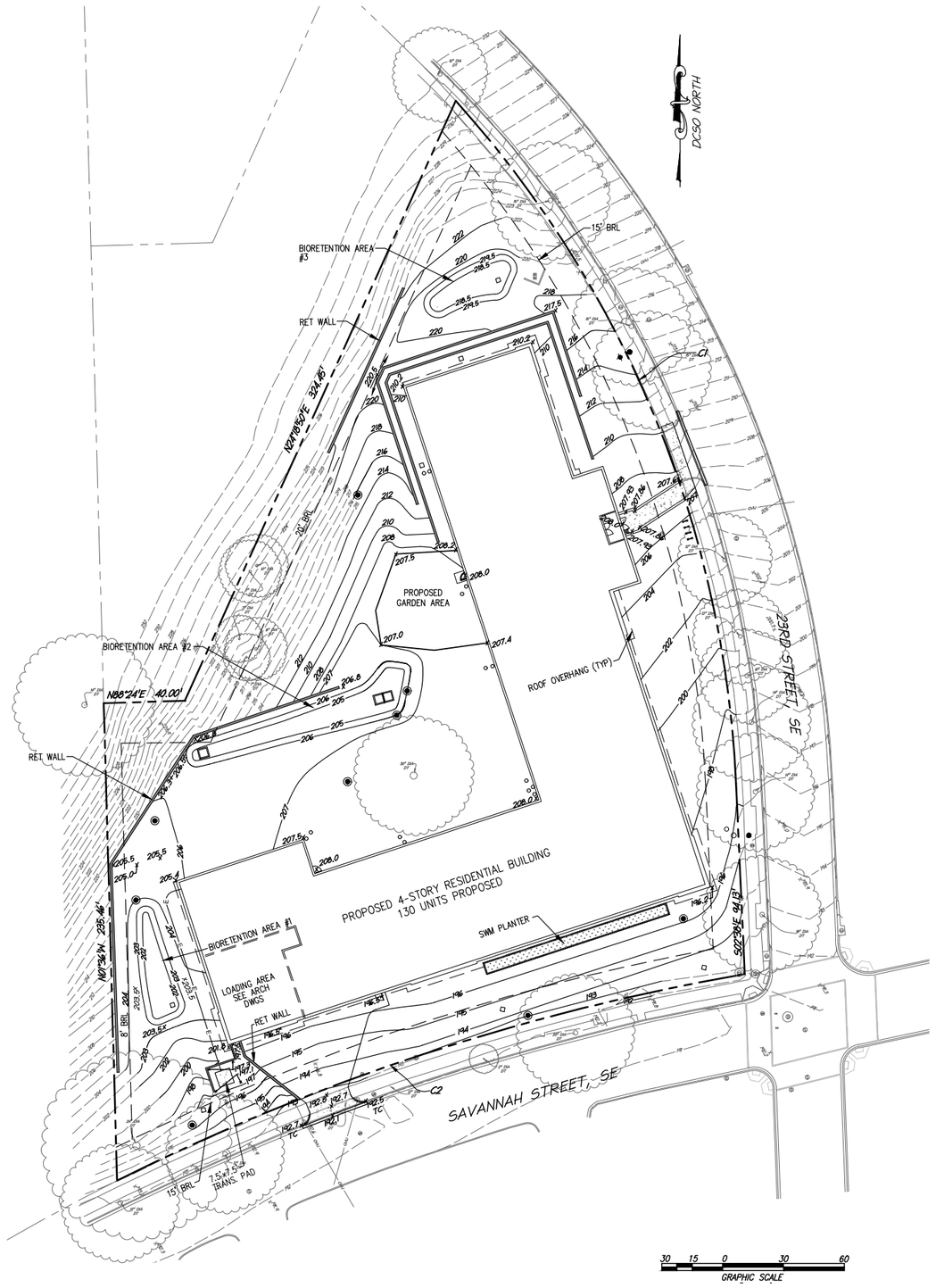
- PROPOSED CONCRETE
- PROPOSED PERMEABLE PAVEMENT
- PROPOSED RETAINING WALL
- 4"DIP CL 56 DOM. WATER — PROPOSED WATER LINE
- 6" PVC SCH 40 SAN. SS — PROPOSED SANITARY LINE
- 12" PVC SCH 40 STORM — PROPOSED STORM LINE
- PROPOSED GAS LINE
- C.O. — PROPOSED CLEANOUT
- MH — PROPOSED MANHOLE
- (1) — PROPOSED SANITARY STRUCTURE NUMBER
- (2) — PROPOSED STORM STRUCTURE NUMBER



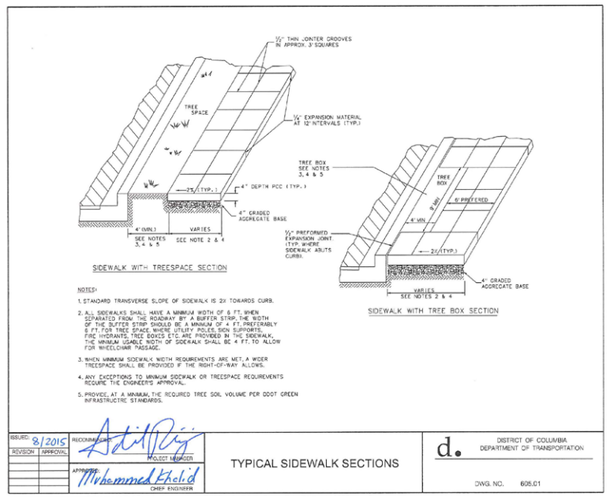
NOTES

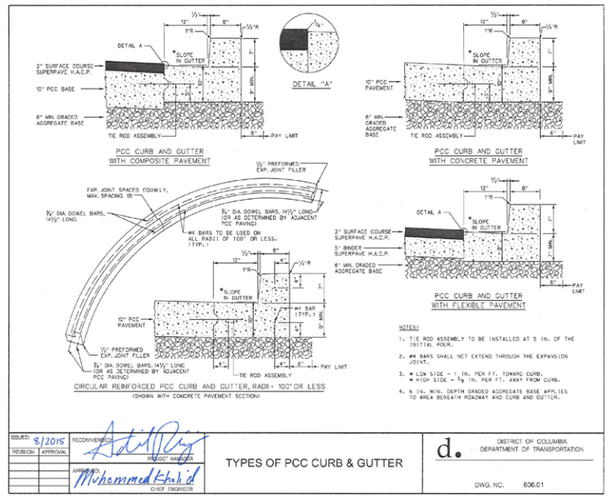
1. WHERE NEW WORK MEETS EXISTING, NOTE FIELD LOCATIONS AND ELEVATIONS OF EXISTING FEATURES BEFORE BEGINNING CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ARCHITECT OR ENGINEER.
2. DIMENSIONS ARE TO FACE OF WALL AND CURB, EDGE OF WALK OR PAVEMENT, CENTERLINE OF PIPE OR UTILITY STRUCTURE, UNLESS OTHERWISE NOTED.
3. FRAMES AND COVERS OF EXISTING STRUCTURES TO BE ADJUSTED TO MATCH NEW FINISHED GRADES AS NEEDED.
4. OMISSIONS AND/OR ADDITIONS OF UTILITIES FOUND DURING CONSTRUCTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OR ENGINEER IMMEDIATELY IF ANY INFORMATION CONCERNING FOUND UTILITY IS NOT SHOWN ON PLANS.
5. EXISTING SURFACE CONDITIONS DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED TO MATCH EXISTING CONDITIONS. CONTRACTOR TO COORDINATE EXTENT WITH ARCHITECT OR ENGINEER.
6. TEST PITS ARE REQUIRED AT ALL LOCATIONS WHERE PROPOSED UTILITIES CROSS EXISTING UTILITIES. INVESTIGATIONS TO IDENTIFY HORIZONTAL LOCATIONS, ELEVATION AND SIZE OF EXISTING UTILITIES. THE ENGINEER IS TO BE NOTIFIED OF THIS INFORMATION.
7. IF A 1' MINIMUM VERTICAL CLEARANCE CANNOT BE MAINTAINED AT UTILITY CROSSINGS, THE CONTRACTOR IS TO NOTIFY THE ENGINEER BEFORE PROCEEDING WITH WORK.
8. TRANSITION CURB, GUTTER, PAVING AND SIDEWALK TO MEET EXISTING IN LINE AND GRADE OR AS DIRECTED BY ENGINEER.
9. ALL DEBRIS AND EXCESS MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR AT AN APPROVED OFF–SITE LOCATION.
10. ALL NEW WATER LINES TO HAVE A MINIMUM COVER OF 4 FEET. WATER FITTINGS SHALL BE PROPERLY TIED AND ANCHORED PER DC WATER STANDARDS AND SPECIFICATIONS.
11. WHERE PORTIONS OF EXISTING BITUMINOUS OR CONCRETE PAVING ARE TO BE REMOVED, THE EXISTING PAVEMENT SHALL BE SAW–CUT.
12. NOTIFY WASHINGTON GAS AT 202–750–4205, 48 HOURS PRIOR TO AN EXCAVATION IN THE VICINITY OF ANY GAS TRANSMISSION MAIN. FOR FURTHER INFORMATION OR PROBLEMS, CONTACT CHUCK WHITLEY AT WASHINGTON GAS AT 703–750–4205.
13. PROVIDE A MINIMUM OF 5 FEET OF HORIZONTAL AND 1 FOOT VERTICAL CLEARANCE BETWEEN 12" DIAMETER AND SMALLER DISTRIBUTION EXISTING GAS FACILITIES AND PROPOSED FACILITIES.
14. ALL PROPOSED WORK TO BE CONSTRUCTED IN ACCORDANCE WITH LATEST STANDARDS AND SPECIFICATIONS OF DDOT AND DC WATER.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING SIDEWALK, DRIVEWAYS, CURB AND GUTTER THAT IS TO REMAIN OR TO REPLACE SIDEWALK, DRIVEWAYS, AND/OR CURB AND GUTTER DAMAGED DURING CONSTRUCTION.
16. EXISTING FULL DEPTH PAVEMENT SECTION, CURB AND GUTTER TO BE REMOVED AND REPLACED TO EXTENT NECESSARY TO FACILITATE CONSTRUCTION OF NEW UTILITIES. MATERIALS TO COMPLY WITH DDOT STANDARDS AND SPECIFICATIONS.
17. ALL STORM DRAINS 12" IN DIAMETER OR SMALLER SHALL BE SCHEDULE 40 PVC PIPE. ALL STORM DRAINS OVER 12" IN DIAMETER SHALL BE REINFORCED CONCRETE PIPE, CLASS IV.
18. CONTRACTOR TO VERIFY IN THE FIELD THAT THE INSTALLATION OF DOMESTIC WATER LINE CONNECTION AT THE MAIN WILL NOT IMPACT THE UNDISTURBED SOIL BEHIND THE THRUST BLOCK AT THE TEE CONNECTION OF THE EXISTING FIRE WATER LINE THAT IS TO REMAIN. COORDINATE WITH THE CIVIL ENGINEER IF IT MAY BE NECESSARY TO SHIFT THE DOMESTIC LINE A LITTLE BIT FURTHER TO THE NORTH.
19. CONTRACTOR TO CLEAN THE EXISTING YARD INLET AND EXISTING 6" STORM SEWER OUTFALL PIPE ALL THE WAY OUT TO EXISTING STORM STRUCTURE #1978 LOCATED WITHIN PUBLIC SPACE. CONTRACTOR TO NOTIFY ENGINEER AND OWNER SHOULD THEY DISCOVER THAT EITHER THE INLET OR STORM PIPE ARE COMPROMISED AFTER CLEANING. IF SO, CONTRACTOR TO PROVIDE OWNER WITH AN ALTERNATE PRICE TO REPLACE THE INLET AND/OR STORM PIPE UP TO STRUCTURE #1978.

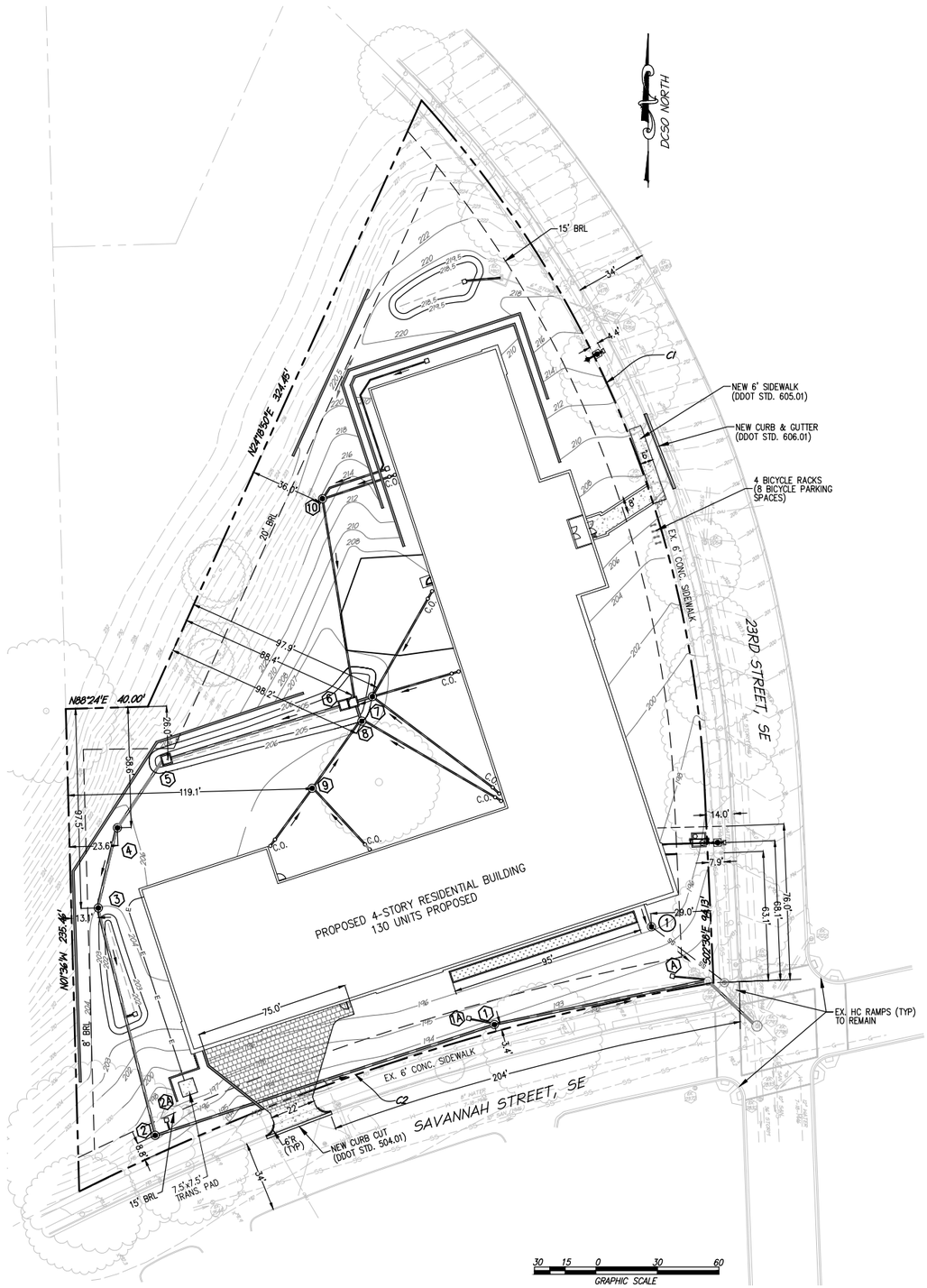
GRADING PLAN

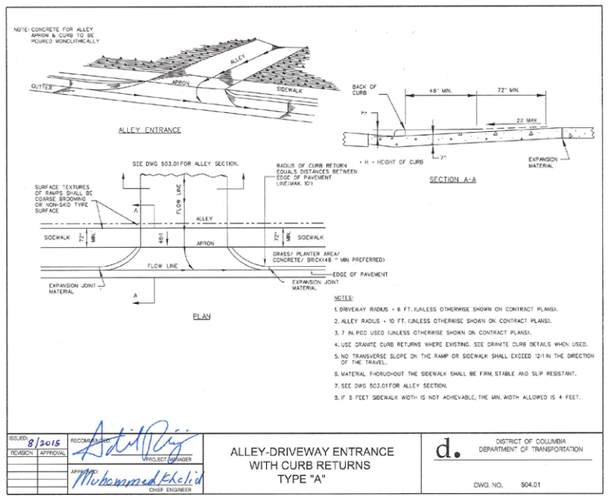


SHEET 5-4









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STORMWATER MANAGEMENT PLAN AND NARRATIVE

STORMWATER MANAGEMENT NARRATIVE

THE EXISTING TERRACE MANOR APARTMENT BUILDINGS AND THE EXISTING PARKING LOT AREA ON THE PROPERTY WILL BE DEMOLISHED. THE PROJECT PROPOSES A NEW APARTMENT BUILDING AS WELL AS UNDERGROUND PARKING. THIS WORK IS CONSIDERED A MAJOR LAND DISTURBING ACTIVITY AND SHALL PROVIDE ON-SITE RETENTION OF THE FIRST 1.2 INCHES OF RAINFALL FOR THE ENTIRE AMOUNT OF DISTURBED AREA (93,470 SF). THESE NUMBERS WERE USED FOR THE STORMWATER MANAGEMENT COMPUTATIONS. ALSO, THE PROPERTY IS ZONED RA-1 (FORMER R-5-A), THEREFORE, GREEN AREA REQUIREMENTS APPLY TO THIS PROJECT AND REQUIRES A MINIMUM GREEN AREA RATIO SCORE OF 0.40.

THE SITE IS LOCATED IN THE MS4 (SEPARATE SEWER SYSTEM AREA) AND IS WITHIN THE ANACOSTIA RIVER WATERSHED. HOWEVER, THE SITE IS LOCATED OUTSIDE OF THE ANACOSTIA WATERFRONT DEVELOPMENT ZONE (AWDZ). THERE WILL BE A DECREASE IN STORM RUNOFF WHEN THE PROJECT IS CONSTRUCTED AND ALL STORMWATER MANAGEMENT MEASURES IMPLEMENTED WHEN COMPARED TO CURRENT EXISTING CONDITIONS.

THE GENERAL RETENTION COMPLIANCE CALCULATOR WAS USED IN DOEE'S SWM DATABASE TO DEMONSTRATE THE REQUIRED AMOUNT OF STORMWATER RETENTION HAS BEEN PROVIDED. THE SITE'S STORMWATER RETENTION VOLUME (SWRv) IS BASED UPON 93,470 SF OF "MAJOR LAND DISTURBING ACTIVITY" WHICH UTILIZES A 1.2" REGULATORY RAIN EVENT. THIS RESULTS IN A SWRv OF 4,654 CF (35,328 GALLONS) THAT MUST BE PROVIDED FOR ON-SITE.

PROPOSED SWM CONTROLS INCLUDE A LARGE AMOUNT OF EXTENSIVE GREEN ROOF, THREE BIORETENTION AREAS, LARGE TREE PLANTINGS, PERMABLE PAVEMENT TO TREAT VEHICULAR TRAFFIC AND A STORMWATER MANAGEMENT PLANTER ALONG THE SOUTH SIDE OF THE BUILDING.

NOTES

1. SEE SHEET C-402 FOR PLANT LIST AND SPECIFIC BIORETENTION DETAILS, INCLUDING BIORETENTION MATERIAL SPECIFICATIONS AND BIORETENTION PLANT LISTS.
2. DC WATER REQUIRES A MINIMUM 6-FOOT CLEARANCE FROM A WATER MAIN TO A TREE BODY, AND WILL NOT ALLOW ANY NEW TREES TO BE PLANTED ALONG THE WESTERN SIDE OF 23RD STREET RIGHT-OF-WAY DUE TO THE CLOSE PROXIMITY OF THE EXISTING 12" WATER MAIN.
3. REFER TO LANDSCAPE DRAWINGS FOR ALL PROPOSED LANDSCAPING, GREEN AREA RATIO, ETC.

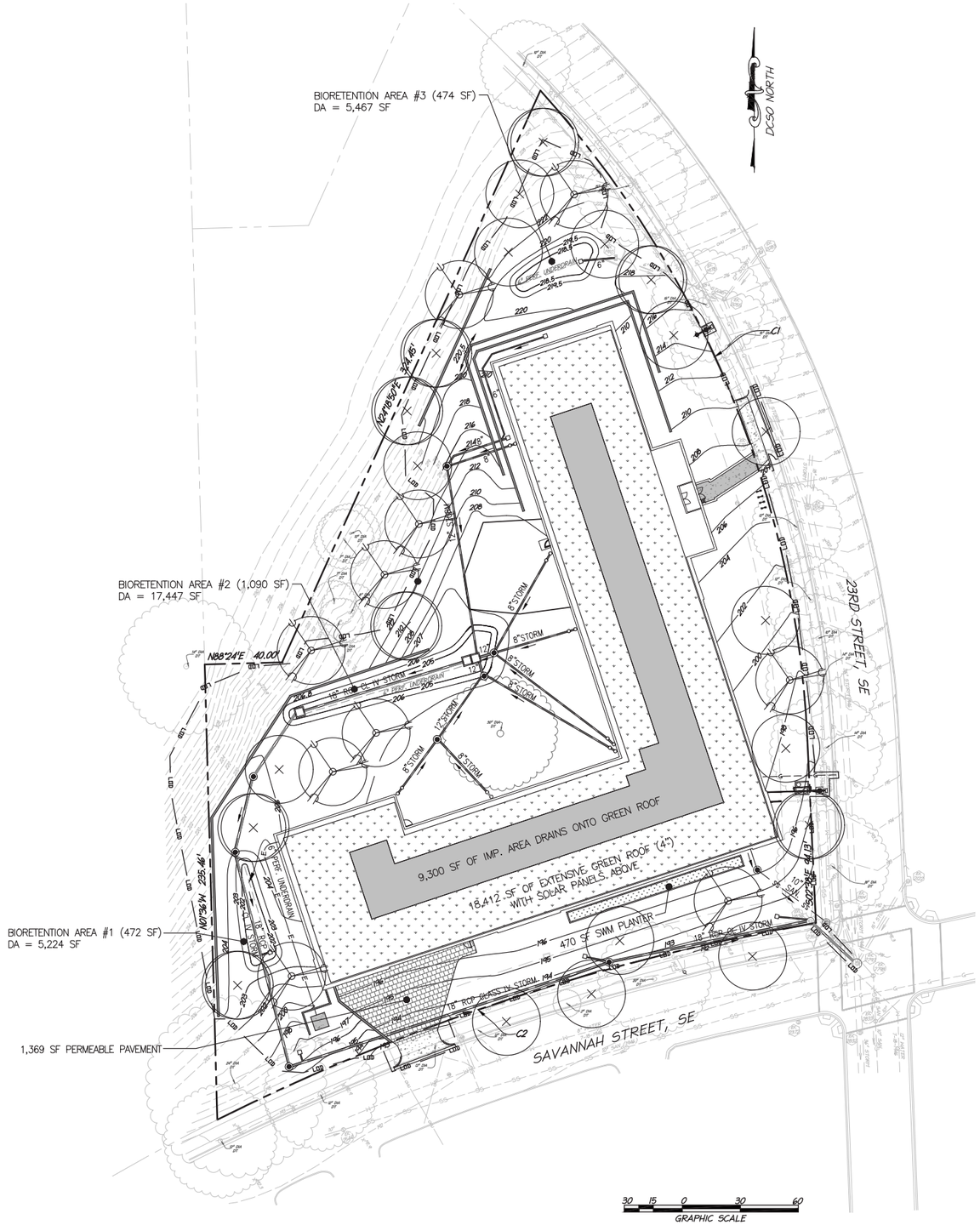
LEGEND

EXISTING TREE TO REMAIN

LOD — LIMITS OF DISTURBANCE

PROPOSED ON-SITE IMPERVIOUS AREA

PROPOSED LARGE TREES (35' CANOPY) PROVIDING SWM RETENTION CREDIT



Stormwater Management Plan Compliance Data

Site Address	3301 23rd Street SE		Plan number	6008	
Stormwater Management Plan?	Yes		Green Area Ratio?	Yes	
Soil Erosion and Sediment Control?	Yes		Floodplain Review?	No	
Type of Activity	Major Land Disturbing		AWDZ?	Non-AWDZ	
Is the entire site in the CSS?	No				

	Total Area (sf)	Site Area	PROW
Natural	0	0	0
Compacted	60,738	60,363	375
Impervious	13,284	12,659	625
BMP	20,448	20,448	0
Total	94,470	93,470	1,000

Curve Numbers

☐ Additional Detention Provided

Pre-development	70	2-year storm adjusted CN	66
Pre-project	92	15-year storm adjusted CN	72
		100-year storm adjusted CN	75

Requirements Summary (total is the sum of PROW and Parcel)	PROW (ft³)	Parcel (ft³)	Total (ft³)	Total (Gallons)
SWRv	69	4,654	4,723	35,328
WQTv	0	0	0	0
On-site retention achieved	70	4,822	4,892	36,596
On-site treatment achieved	0	405	405	3,032
% of SWRv met on-site	102%	104%	103.59%	103.59%
SRC eligibility				1,268
Offv				0

Site Drainage Area Compliance Data

Site Drainage Area ID	Public Right of Way	Total area (square feet)	Natural (square feet)	Compacted (square feet)	Impervious (square feet)	BMP (square feet)	Vehicular access area	SWRv (cubic feet)	WQTv (cubic feet)	Volume retained (cubic feet)	Volume treated (cubic feet)	2-year storm adjusted Curve Number	15-year storm adjusted Curve Number	100-year storm adjusted Curve Number	SDA Minimum Compliance
6008-4	☐	5,467		4,993		474		170		241		40	58	64	Yes
6008-3	☐	11,950		11,650	300			320		160		72	73	73	Yes
6008-1	☐	76,053		43,720	12,359	19,974	2,845	4,165		4,422	405	67	73	76	Yes

Site BMP Compliance Data

BMP ID number	Type	Total CDA (square feet)	Natural (square feet)	Compacted (square feet)	Impervious (square feet)	BMP (square feet)	Total Post project vehicular access area	Volume received from upstream BMPs (cubic feet)	Max volume received by BMP (cubic feet)	Storage volume (cubic feet)	Retention calculation	Volume retained (cubic feet)	Volume treated (cubic feet)	Downstream BMP ID Numbers
6008-1-1	Extensive green roof	27,716			9,304	18,412			3,730	3,304	100% of storage volume	3,304		
6008-1-2	Traditional bioretention - Standard	5,224		4,752		472			232	685	60% of storage volume	232		
6008-1-3	Traditional bioretention - Standard	17,447		16,357		1,090			726	1,576	60% of storage volume	726		
6008-1-4	Proprietary practice	3,480		635	2,845		2,845		405	699			405	
6008-1-5	Tree preservation										20 cubic feet per tree	20		
6008-1-6	Tree planting										10 cubic feet per tree	140		
6008-3-1	Tree planting										10 cubic feet per tree	160		
6008-4-1	Traditional bioretention - Standard	5,467		4,993		474			241	644	60% of storage volume	241		

PROW Drainage Area Compliance Data

Site Drainage Area ID	Public Right of Way	Total area (square feet)	Natural (square feet)	Compacted (square feet)	Impervious (square feet)	BMP (square feet)	Vehicular access area	SWRv (cubic feet)	WQTv (cubic feet)	Volume retained (cubic feet)	Volume treated (cubic feet)
6008-2	☒	1,000		375	625			69		70	

PROW BMP Compliance Data

BMP ID number	Type	Total CDA (square feet)	Natural (square feet)	Compacted (square feet)	Impervious (square feet)	BMP (square feet)	Total Post project vehicular access area	Volume received from upstream BMPs (cubic feet)	Max volume received by BMP (cubic feet)	Storage volume (cubic feet)	Retention calculation	Volume retained (cubic feet)	Volume treated (cubic feet)	Downstream BMP ID Numbers
6008-2-1	Tree preservation										20 cubic feet per tree	40		
6008-2-2	Tree planting										10 cubic feet per tree	30		

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EROSION AND SEDIMENT CONTROL PLAN

E&S LEGEND

- LOD — LIMITS OF DISTURBANCE
- SCE — STABILIZED CONSTRUCTION ENTRANCE DWG. No. 201.1
- SSF — SUPER SILT FENCE DWG. No. 302.1
- DF — DIVERSION FENCE DWG. No. 401.1
- IP — CURB INLET PROTECTION DWG. No. 307.3
- SP — SUMP PIT DWG. No. 702.1
- PST — PORTABLE SEDIMENT TANK DWG. No. 703.1
- TP — TREE PROTECTION
- PROPERTY LINE

NOTE: WHEN EXCAVATION IS PROPOSED IMMEDIATELY ADJACENT TO THE CRZ, ROOTS MUST FIRST BE PRUNED AT THE EDGE OF THE EXCAVATION WITH A TRENCHING MACHINE, VIBRATORY KNIFE OR VERTICAL SAW TO A DEPTH OF 18 INCHES.

EROSION & SEDIMENT CONTROL NARRATIVE

1. THE CONTRACTOR SHALL CALL THE DOEE INSPECTIONS & ENFORCEMENT BRANCH, WATERSHED PROTECTION DIVISION, AT (202) 535-2977 FOR A PRE-CONSTRUCTION MEETING 72 HOURS PRIOR TO THE START OF ANY LAND DISTURBING ACTIVITY.
2. INSTALL PERIMETER SEDIMENT CONTROL MEASURES, SILT FENCE, TEMPORARY CONSTRUCTION ENTRANCE AND INLET PROTECTIONS AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN. INSTALL SEDIMENT TANK AND SUMP PIT. RELOCATE AS NECESSARY TO EFFECTIVELY TREAT DIRTY WATER FROM LEAVING THE SITE DURING CONSTRUCTION.
3. DEMOLISH EXISTING BUILDING, PAVEMENT, STAIRS, SIDEWALK, RETAINING WALL, UTILITIES, UTILITY STRUCTURES AND OTHER ITEMS AS SHOWN ON THE DEMOLITION PLAN. ABANDON EXISTING DOMESTIC WATER LINE AT THE MAIN PER DC WATER STANDARDS.
4. STABILIZE DENUDED AREAS.
5. INSTALL ALL PROPOSED NEW UNDERGROUND UTILITIES AND UTILITY STRUCTURES.
6. CONSTRUCT NEW BUILDING, RETAINING WALLS, DRIVEWAY ENTRANCE, AND ALL OTHER NEW WORK SHOWN ON THE SITE PLAN. BIORETENTION AREAS SHALL BE PROTECTED VIA SILT FENCE UNTIL SITE IS FULLY STABILIZED AND FINAL INSPECTION PERFORMED BY DOEE SITE INSPECTOR JUST PRIOR TO BUILDING OCCUPANCY.
7. REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES REQUIRES PRIOR APPROVAL FROM DOEE SITE INSPECTOR.

MAINTENANCE PROGRAM

ALL SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED DAILY BY THE SITE SUPERINTENDENT AND ANY DAMAGED FACILITY IS TO BE REPAIRED BY THE CLOSE OF THE WORKDAY. TRAPS AT STORM STRUCTURES ARE TO BE CLEANED AFTER EACH RAINFALL AND INLET PROTECTION MAY BE REMOVED ONLY AFTER UPSTREAM AREAS HAVE BEEN STABILIZED WITH A PERMANENT SURFACE AND DOEE INSPECTOR APPROVAL. PROVIDE PORTBALE SEDIMENT TANK AND SUMP PIT IF REQUIRED TO DEWATER THE SITE.

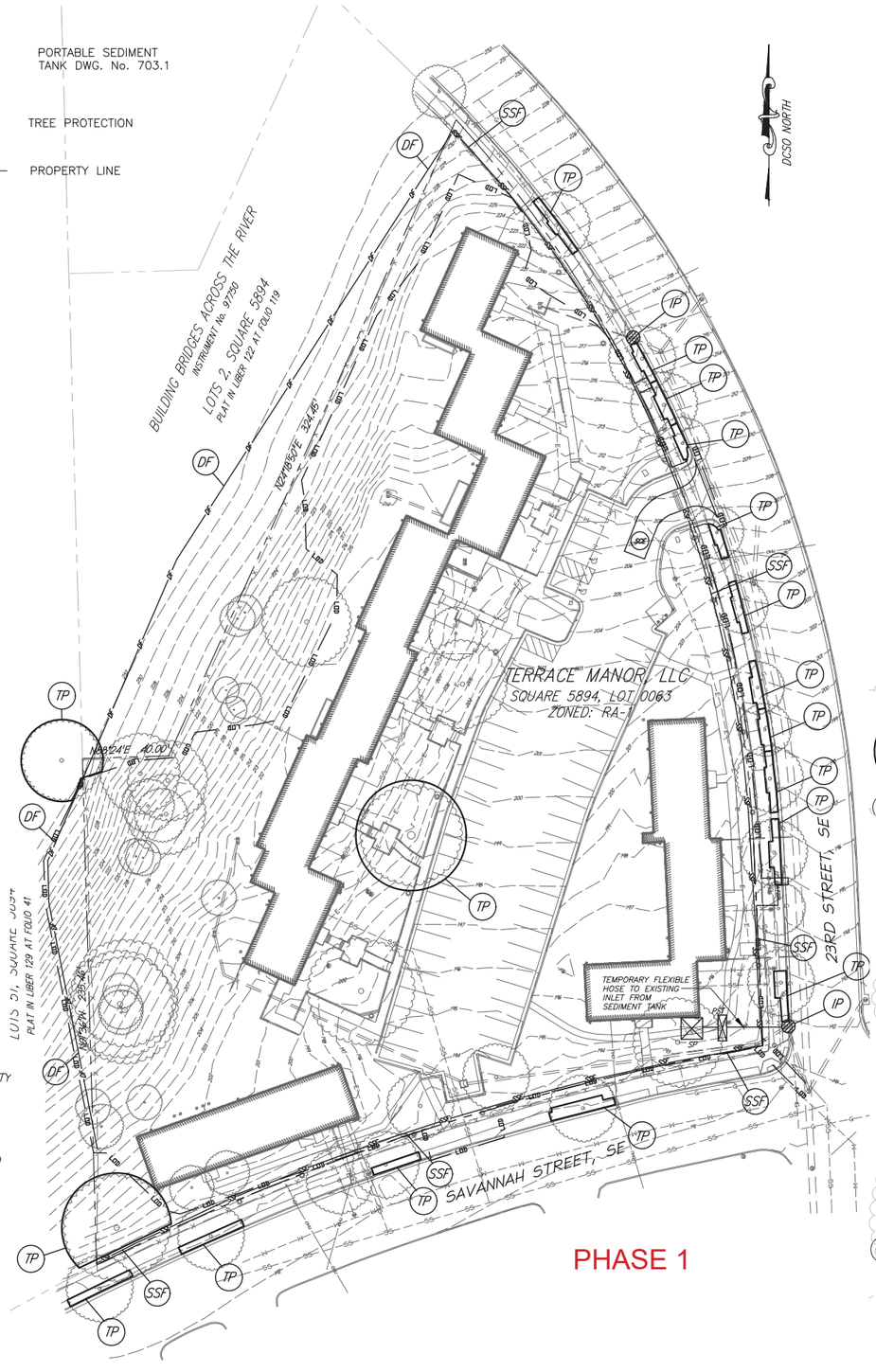
EROSION AND SEDIMENT CONTROL MEASURES

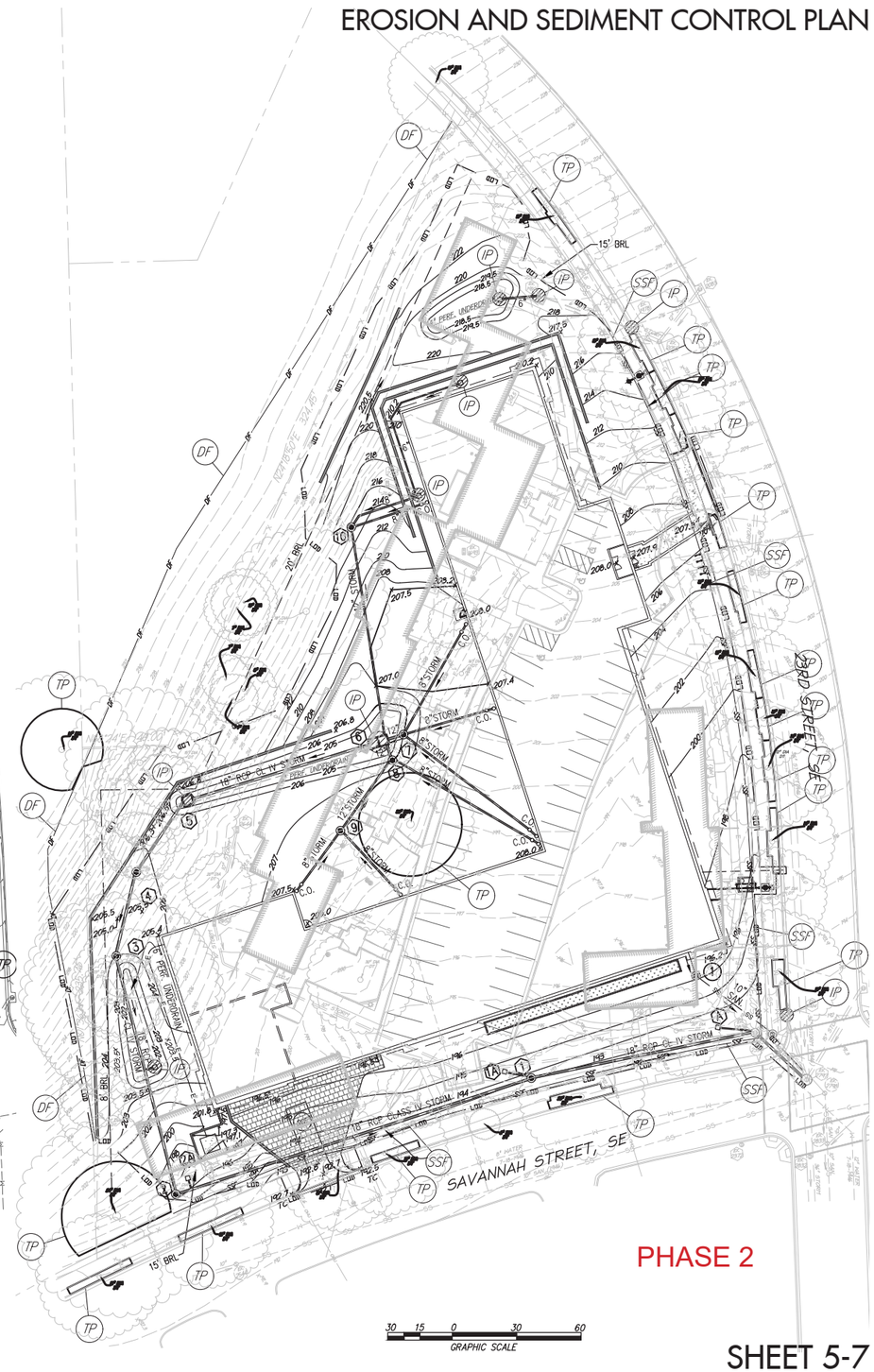
THE FOLLOWING EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH CITY STANDARDS:

1. PROVIDE SUPER SILT FENCE IN LOCATIONS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN. INSTALL SAFETY FENCE AS NEEDED ALONG THE PERIMETER OF THE LIMITS OF DISTURBANCE.
2. STORM DRAIN INLET PROTECTION SHALL BE PROVIDED FOR ALL EXISTING INLETS IN THE VICINITY OF THE PROPERTY THAT ARE TO REMAIN AS SHOWN ON THE SEDIMENT CONTROL PLAN.
3. CONSTRUCTION ENTRANCE – A TEMPORARY, STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH CITY STANDARDS WITH A LENGTH OF AT LEAST 50 LINEAR FEET WILL BE PROVIDED AT THE LOCATION SHOWN ON THE SEDIMENT CONTROL PLAN PLANS. THE ENTRANCE SHALL BE MAINTAINED IN GOOD REPAIR AND SHALL PROVIDED REMOVAL OF DEBRIS FROM VEHICLES PRIOR TO LEAVING THE CONSTRUCTION SITE. WATER FOR THE WASH RACK TO BE PROVIDED BY A WATER TANK TRUCK IF PUBLIC WATER IS NOT AVAILABLE.
4. DUST CONTROL – DUST CONTROL SHALL BE PROVIDED AS NECESSARY DURING DEMOLITION OPERATIONS TO PREVENT SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES AND REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES THAT MAY PRODUCE HEALTH HAZARDS OR TRAFFIC SAFETY PROBLEMS.
5. IF AT ANY TIME DURING SITE DEMOLITION THERE IS ANY EXPOSED SOIL, IT SHALL BE STABILIZED WITH TEMPORARY SEEDING. SEEDING MIXTURES AND SURFACE TREATMENT SHALL BE BASED UPON RECOMMENDATIONS LISTED ON SHEET C-801 AND SHALL BE VERIFIED WITH THE CITY INSPECTOR BASED UPON CONSTRUCTION DATES.

UTILITY INSTALLATION NOTES

- PLACE EXCAVATED MATERIALS UPSLOPE OF THE TRENCH.
- FILTER WATER PUMPED FROM EXCAVATIONS PRIOR TO DISCHARGING TO THE STORM SEWER SYSTEM.
- PROVIDE STABILIZATION (INTERIM OR PERMANENT) AFTER THE TRENCH IS REFILLED.





SHEET 5-7

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