Old Georgetown Board

401 F Street NW

Suite 312

Washington, DC 20001

Dear Old Georgetown Board,

At the request of our client, we are writing to you about the proposed underpinning and site work at 1524 33rd St NW, 3314 Volta Pl NW, and 3314 ½ Volta Pl NW.

We have successfully underpinned dozens of sites throughout DC, both historic and non-historic. We are very familiar with the delicate process involved in underpinning our neighbors' walls and practice extreme caution. We understand the unique challenges that come with working on historic buildings and are confident that we can execute this project in a manner that respects the historic integrity of the structure.

Our client has hired an extremely knowledgeable and experience team of architects and engineers who will draft and permit the underpinning plans. We operate by a detailed construction plan that includes periodic and milestone inspections, traffic control, dust mitigation, soil management, constant monitoring of adjacent structures, OSHA compliance, and sediment and erosion control. Throughout construction, the site and all activities will be overseen by an experienced, full time, construction supervisor to ensure site safety and cleanliness. Additionally, our team will be in constant communication with the neighbors to alert them of any construction activities that may affect them.

We understand the importance of preserving the historic character of Georgetown and are committed to ensuring that any work we do on a historic property is in compliance with industry best practices, building code, and all city guidelines.

Thank you,

James Prud'homme

James Prud'homme

Project Manager

OX Builders, LLC

3314 VOLTA PLACE NW

PROPERTY INFORMATION

OWNER:	1524 33rd St NW LLC jay@cobadc.com 202-681-8126
ADDRESS:	3314 VOLTA PLACE NW WASHINGTON, DC 20007
LOT:	0889
SQUARE:	1254

BUILDING DATA

USE GROUP:	RESIDENTIAL GROUP R-3
DWELLING UNITS:	1
CONSTRUCTION TYPE:	TYPE 5
SPRINKLERED:	YES
SMOKE DETECTORS:	YES - HARDWIRED & INTERCONNECTED WITH BATTERY BACKUP, ON SEPARATE CIRCUIT FROM MAIN PANEL.

ZONING DATA

GENERAL

ZONING DISTRICT:	RESIDENTIAL R-20
WARD:	2
ANC:	2E
SMD:	2E03

LOT:

EXIST. LOT AREA:	N/A
LOT AREA:	2023.50 FT²
EXISTING BUILDING AREA:	N/A FT²
PROPOSED BUILDING AREA:	753.33 FT²
MAXIMUM LOT OCCUPANCY:	60.0%
EXISTING LOT OCCUPANCY:	N/A
PROPOSED LOT OCCUPANCY:	37.23%

BUILDING

MAXIMUM HEIGHT:	35 FT (40 IF ADJACENT BUILDING IS ALREADY 40 FT OR GREATER)
EXISTING HEIGHT:	N/A
PROPOSED HEIGHT:	33'-4 3/4"
MAXIMUM STORIES:	3
EXISTING STORIES:	N/A
PROPOSED STORIES:	3 + CELLAR

SETBACKS

MINIMUM FRONT YARD SETBACK:	CONSISTENT W/ AT LEAST ONE ADJACENT PROPERTY
EXISTING FRONT YARD SETBACK:	N/A
PROPOSED FRONT YARD SETBACK:	1.5 FT
MINIMUM REAR YARD SETBACK:	20.0 FT
EXISTING REAR YARD SETBACK:	N/A
PROPOSED REAR YARD SETBACK:	56.41 FT
MINIMUM SIDE YARD SETBACK:	5.0 FT IF PROVIDED
EXISTING WEST:	N/A
PROPOSED WEST:	0 FT
EXISTING EAST:	N/A
PROPOSED EAST:	0 FT

PERVIOUS SURFACE

MINIMUM PERVIOUS SURFACE:	20.0%
EXISTING PERVIOUS SURFACE:	N/A
PROPOSED PERVIOUS SURFACE:	39.5%

CONSULTANTS

ARCHITECT

OVERMYER ARCHITECTS
CONTACT: DENNIS HORNICK
3213 P STREET NW
WASHINGTON, DC 20007
(202) 333-5596 ext. 6
dennis@overmyerarcitects.com

STRUCTURAL ENGINEER

GRIGGS ENGINEERING
CONTACT: DAVID GRIGGS
408 S DALLAS ST
BALTIMORE MD. 21231
(202) 790-4350
david@griggsengineering.com

MEP ENGINEER

KKE ENGINEERING, LLC
CONTACT: KHALID KHALIFA
S8850 COLUMBIA 100 PARKWAY
SUITE 316
COLUMBIA, MD. 21045
(443) 393-1070 EXT 1003
kkhalifa@kkedesign.com

CIVIL ENGINEER

CAS ENGINEERING
CONTACT: DAVID LANDSMAN
4836 MACARTHUR BLVD, NW
2ND FLOOR, WDC 20007
(202) 393-7200
david@cas-dc.com

SCOPE OF WORK

- NEW 3 STORY + CELLAR ROW HOUSE DWELLING
- UNDERPIN PARTY WALL W/ 3312 VOLTA PLACE NW AS REQ'D
- SHEET & SHORE AS REQ'D ALONG FRONT PROPERTY AS REQ'D

VICINITY PLAN

SHEET INDEX

OVERMYER
ARCHITECTS

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DISTRICT OF COLUMBIA
DALE D OVERMYER
No. ARC4894
LICENSED ARCHITECT

NEW
ROW HOUSE

3314 VOLTA PLACE NW
WASHINGTON, DC 20007

LOT: 228 SQUARE: 1254

COVER PAGE

001

DATE: 03-31-2023

3308-3312 VOLTA PLACE NW

LOCATION OF PROPOSED NEW LOTS

3316 VOLTA PLACE NW

WEST ELEVATION OF 3312 VOLTA PLACE NW
& EXISTING PAVED PARKING ADJACENT TO
VOLTA PLACE NW @ REAR OF LOT 0889

EXISTING CURB CUT TO REAR
OF LOT 0889, LOCATION OF PROPOSED
NEW LOTS

EXISTING CONCRETE DRIVE &
PAVED PARKING

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NEW
ROW HOUSE

3314 VOLTA PLACE NW
WASHINGTON, DC 20007

LOT: 228 SQUARE: 1254

EXISTING PHOTOS

002

DATE: 03-31-2023

EXISTING CONCRETE DRIVE AT REAR OF EXISTING LOT

EXISTING PAVED PARKING BETWEEN
3312 & 3316 VOLTA PLACE NW, LOCATION
PROPOSED NEW LOTS

EXISTING REAR ELEVATION OF 1524 33RD ST NW,
LOCATION OF FUTURE ADDITION

EXISTING POOL & PATIO LOOKING WEST

EXISTING POOL & PATIO LOOKING SOUTH

EXISTING POOL PATIO LOOKING NORTHEAST

EXISTING POOL & PATIO LOOKING NORTH

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NEW ROW HOUSE

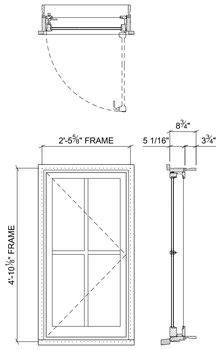
3314 VOLTA PLACE NW
WASHINGTON, DC 20007

LOT: 228 SQUARE: 1254

EXISTING PHOTOS

003

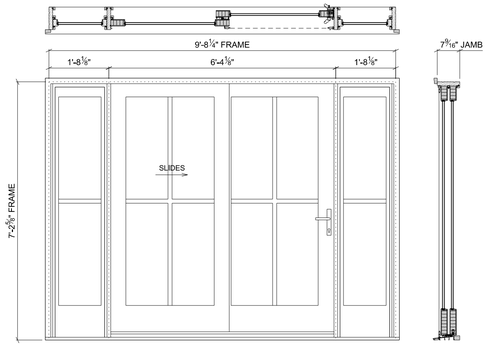
DATE: 03-31-2023



004-W1

DESCRIPTION: WOOD PUSH OUT CASEMENT WINDOW

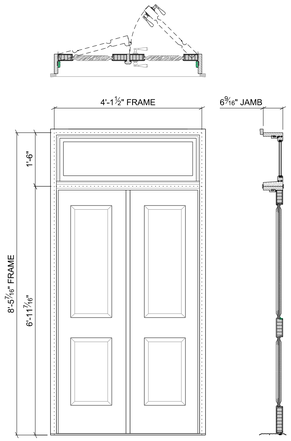
TYPE: LEPAGE POC100-11 NON FINGER-JOINTED PINE PUSH OUT CASEMENT
OPERATION: PUSH-OUT CASEMENT, TYPE 4 HINGE CODE
FRAME: 1 1/4" THICK, DEPTH 5 1/16" W/ 3 3/4" INTERIOR JAMB EXTENSION
SASH: 2 1/4" THICK, 2" STILES, TOP RAIL & BOTTOM RAIL, PUTTY GLAZE PROFILE EXT
INTERIOR FINISH: PRIMED WHITE
EXTERIOR FINISH: PRIMED WHITE
HARDWARE: CLASSIC HANDLE, CASEMENT STAY, OIL RUBBED BRONZE FINISH
GLASS: TEMPERED DOUBLE GLAZE 3/4", ARGON, W/ CLEAR LOW-E 272 GLAZING BRONZE SPACER BAR
U-FACTOR: .25
SHGC: .41
SCREEN: INVISIBLE FIBERGLASS MESH W/ WOOD SCREEN SURROUND
GRILLES: 2W2H, 1-1/4" TDL PUTTY GLAZE EXT, DAVIS TDL GLASS STOP INT
CASING: 908 BRICK MOULD
SILL NOSING: DS-072 SILL NOSING



006-D1

DESCRIPTION: WOOD PATIO SLIDING DOOR

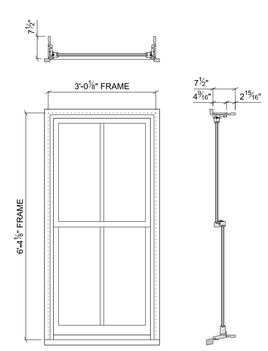
TYPE: LEPAGE WOOD 2-1/4" PANEL QUADRUPLE SLIDING DOOR PATIO DOOR (SIDELIGHT) NON-FINGER JOINTED PINE
OPERATION: SLIDING PATIO DOOR
FRAME: 1 1/4" THICK, DEPTH 7 9/16"
PANEL: 2 1/4" THICK, 3 5/8" STILES & TOP RAIL & 9" BOTTOM RAIL, PUTTY GLAZE PROFILE EXT
INTERIOR FINISH: PRIMED WHITE
EXTERIOR FINISH: PRIMED WHITE
HARDWARE: OIL RUBBED BRONZE FINISH
GLASS: TEMPERED DOUBLE GLAZE 3/4", ARGON, W/ CLEAR LOW-E 272 GLAZING BRONZE SPACER BAR
U-FACTOR: .25
SHGC: .41
SLIDING SCREEN: INVISIBLE FIBERGLASS MESH W/ WOOD SCREEN SURROUND
GRILLES: SLIDING DOOR 2W2H, SIDELITES 1W2H, 1-1/4" SDL PUTTY GLAZE EXT, DAVIS TDL GLASS STOP INT
CASING: 908 BRICK MOULD



101-D1

DESCRIPTION: WOOD INSWING RAISED PANEL ENTRY DOOR W/ TRANSOM

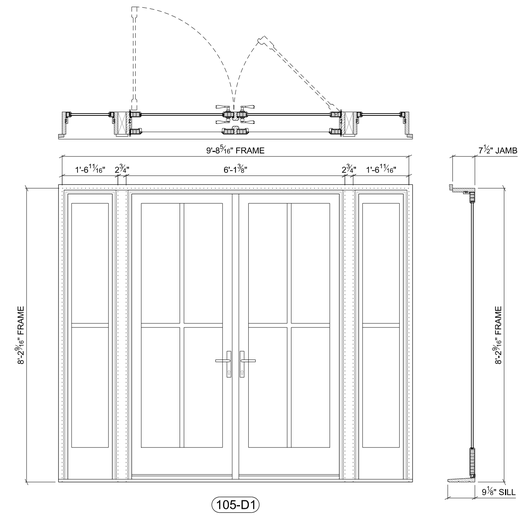
TYPE: LEPAGE 2-1/4" WF2A RED GRANDIS INSWING ENTRY DOOR PAIR W/ ASTRAGRAL W/ FACTORY MULLED TRANSOM W/ SASH MODULAR ASSEMBLY ABOVE
OPERATION: INSWING DOOR W/ TYPE 6 VENTING CONFIG.
FRAME: 1 1/4" THICK, DEPTH 6 9/16"
PANEL: 2-1/4" THICK, 5" STILES & TOP RAIL, 9" BOTTOM RAIL, W/ (2) SIDED RAISED PANEL COLONIAL PROFILE EXT. & DAVIS INT. STOP
INTERIOR FINISH: PRIMED WHITE
EXTERIOR FINISH: PRIMED WHITE
HARDWARE: 4 1/2" X 4 1/2" SQUARE CORNER BALL BEARING HINGES W/ OIL RUBBED BRONZE FINISH & TRADIONAL HANDLE SET
TRANSOM GLASS: TEMPERED DOUBLE GLAZE 3/4", ARGON, W/ BRONZE SPACER. CLEAR LOW-E 272 GLAZING
U-FACTOR: .25
SHGC: .41
GRILLES: N/A
CASING: 908 BRICK MOULD
SILL: HANDICAP SILL TO MATCH EXTERIOR JAMB EXTENSION



101-W1 101-W2

DESCRIPTION: WOOD DOUBLE HUNG WINDOW

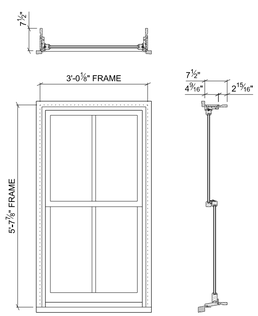
TYPE: LEPAGE H-100 HUNG, NON-FINGER JOINTED PINE
OPERATION: DOUBLE HUNG
FRAME: 1 1/4" THICK, DEPTH 4 9/16" W/ 2 15/16" INTERIOR JAMB EXTENSION
SASH: 1 3/4" THICK, COLONIAL PROFILE INT., PUTTY GLAZE EXT.
INTERIOR FINISH: PRIMED WHITE
EXTERIOR FINISH: PRIMED WHITE
HARDWARE: SURFACE MOUNT, OIL RUBBED BRONZE
GLASS: DOUBLE GLAZE 3/4", ARGON, W/ CLEAR LOW-E 272 GLAZING BRONZE SPACER
U-FACTOR: .25
SHGC: .41
SCREEN: INVISIBLE FIBERGLASS MESH W/ ALUMINUM SURROUND WHITE COLOR
GRILLES: 2W1H EACH SASH, 1-1/4" TDL PUTTY GLAZE EXTERIOR, COLONIAL INTERIOR
CASING: 908 BRICK MOULD
SILL EXTENSION: HISTORIC SILL EXTENSION GB-036



105-D1

DESCRIPTION: WOOD INSWING FRENCH DOOR PAIR W/ WOOD SCREEN DOORS & FIXED SIDELITES

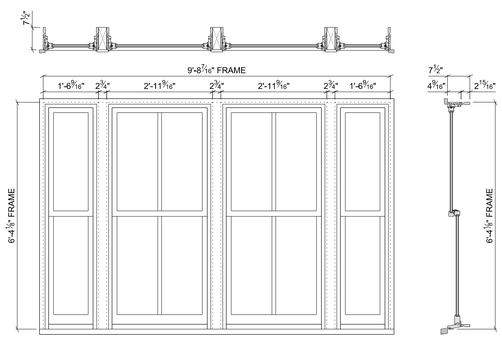
TYPE: LEPAGE WF2A NON-FINGER JOINTED PINE INSWING FRENCH DOOR PAIR W/ ASTRAGRAL, SL-11 SIDELITES, & WS-01 WOOD SCREEN DOORS W/ ASTRAGRAL
OPERATION: INSWING DOOR W/ TYPE 5 VENTING CONFIG.
FRAME: 1 1/4" THICK, DEPTH 7-1/2" W/ 2-3/4" FACTORY MULLED BLOCKING BETWEEN FRENCH DOORS & FIXED SIDELITES
DOOR PANEL: 1 3/4" THICK, 3 5/8" STILES & TOP RAIL, 9" BOTTOM RAIL, PUTTY GLAZE EXTERIOR, COLONIAL PROFILE INTERIOR
SIDELITE PANEL: 1 3/4" THICK, 3 5/8" TOP RAIL, 9" BOTTOM RAIL, 1-3/4" SIDE RAILS, W/ PUTTY GLAZE EXTERIOR, COLONIAL PROFILE INTERIOR.
INTERIOR FINISH: PRIMED WHITE
EXTERIOR FINISH: PRIMED WHITE
HARDWARE: 4 1/2" X 4 1/2" SQUARE CORNER BALL BEARING HINGES, TRADITIONAL HANDLE SET W/ OIL RUBBED BRONZE FINISH W/ CLASSIC BRASS
GLASS: TEMPERED DOUBLE GLAZE 3/4", ARGON, W/ BRONZE SPACER. CLEAR LOW-E 272 GLAZING
U-FACTOR: .25
SHGC: .41
SCREEN: WOOD SCREEN PANEL 13/4" W/ HINGES
GRILLES: FRENCH DOOR, 2W2H, SIDELITES 1W2H, 1-1/4" SDL PUTTY GLAZE EXTERIOR, W/ COLONIAL INTERIOR
CASING: 908 BRICK MOULD
SILL: 9-14" FRAME- ANODISED SILL + EXT 3" PVC THERMAL BREAK



203-W1 204-W1 209-W1

DESCRIPTION: WOOD DOUBLE HUNG WINDOW

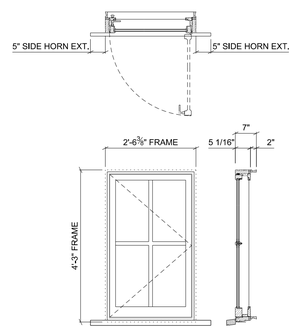
TYPE: LEPAGE H-100 HUNG, NON-FINGER JOINTED PINE
OPERATION: DOUBLE HUNG
FRAME: 1 7/16" THICK, DEPTH 4 9/16" W/ 2 15/16" INTERIOR JAMB EXTENSION
SASH: 1 3/4" THICK, COLONIAL PROFILE INT., PUTTY GLAZE EXT.
INTERIOR FINISH: PRIMED WHITE
EXTERIOR FINISH: PRIMED WHITE
HARDWARE: SURFACE MOUNT, OIL RUBBED BRONZE
GLASS: DOUBLE GLAZE 3/4", ARGON, W/ CLEAR LOW-E 272 GLAZING
U-FACTOR: .25
SHGC: .41
SCREEN: INVISIBLE FIBERGLASS MESH W/ ALUMINUM SURROUND WHITE COLOR
GRILLES: 2W1H EACH SASH, 1-1/4" TDL PUTTY GLAZE EXTERIOR, COLONIAL INTERIOR
CASING: 908 BRICK MOULD
SILL EXTENSION: HISTORIC SILL EXTENSION GB-036



208-W1

DESCRIPTION: 4 WIDE WOOD DOUBLE HUNG WINDOW

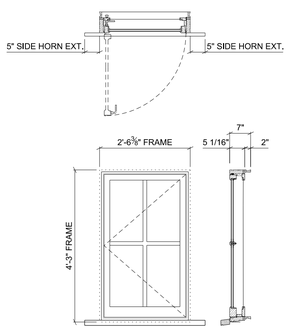
TYPE: LEPAGE 4 WIDE WOOD H-100 HUNG, NON-FINGER JOINTED PINE FACTORY MULLED TIGHT W/ 2-3/4" SPREAD MULLIONS
OPERATION: DOUBLE HUNG
FRAME: 1 7/16" THICK, DEPTH 4 9/16" W/ 2-15/16" INTERIOR JAMB EXTENSION
SASH: 1 3/4" THICK, COLONIAL PROFILE INT., PUTTY GLAZE EXT.
INTERIOR FINISH: PRIMED WHITE
EXTERIOR FINISH: PRIMED WHITE
HARDWARE: SURFACE MOUNT, OIL RUBBED BRONZE
GLASS: DOUBLE GLAZE 3/4", ARGON, W/ BRONZE SPACER. CLEAR LOW-E 272 GLAZING
U-FACTOR: .25
SHGC: .41
SCREEN: INVISIBLE FIBERGLASS MESH W/ ALUMINUM SURROUND WHITE COLOR
GRILLES: 2W1H EACH SASH, 1-1/4" TDL PUTTY GLAZE EXTERIOR, COLONIAL INTERIOR
CASING: 908 BRICK MOULD
SILL EXTENSION: HISTORIC SILL EXTENSION GB-036



302-W1

DESCRIPTION: WOOD PUSH OUT CASEMENT WINDOW

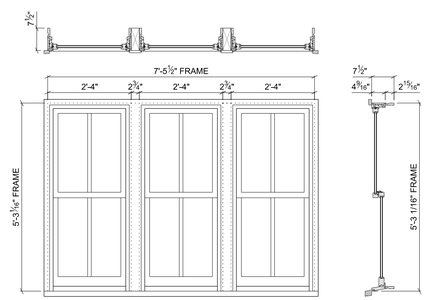
TYPE: LEPAGE POC100-11 NON FINGER-JOINTED PINE PUSH OUT CASEMENT
OPERATION: PUSH-OUT CASEMENT, TYPE 4 HINGE CODE
FRAME: 1 1/4" THICK, DEPTH 5 1/16" W/ 2" INTERIOR JAMB EXTENSION
SASH: 2 1/4" THICK, 2" STILES, TOP RAIL & BOTTOM RAIL, PUTTY GLAZE PROFILE EXT, DAVIS STOP INT.
INTERIOR FINISH: PRIMED WHITE
EXTERIOR FINISH: PRIMED WHITE
HARDWARE: CLASSIC HANDLE, CASEMENT STAY, OIL RUBBED BRONZE FINISH
GLASS: TEMPERED DOUBLE GLAZE 3/4", ARGON, W/ CLEAR LOW-E 272 GLAZING BRONZE SPACER BAR
U-FACTOR: .25
SHGC: .41
SCREEN: INVISIBLE FIBERGLASS MESH W/ WOOD SCREEN SURROUND
GRILLES: 2W2H, 1-1/4" TDL PUTTY GLAZE EXT, DAVIS TDL GLASS STOP INT
CASING: N/A. CONTRACTOR TO INSTALL IN FIELD
SILL NOSING: DS-072 SILL NOSING, 5" SILL HORN EXTENSIONS



302-W2

DESCRIPTION: WOOD PUSH OUT CASEMENT WINDOW

TYPE: LEPAGE POC100-11 NON FINGER-JOINTED PINE PUSH OUT CASEMENT
OPERATION: PUSH-OUT CASEMENT, TYPE 3 HINGE CODE
FRAME: 1 1/4" THICK, DEPTH 5 1/16" W/ 2" INTERIOR JAMB EXTENSION
SASH: 2 1/4" THICK, 2" STILES, TOP RAIL & BOTTOM RAIL, PUTTY GLAZE PROFILE EXT, DAVIS STOP INT.
INTERIOR FINISH: PRIMED WHITE
EXTERIOR FINISH: PRIMED WHITE
HARDWARE: CLASSIC HANDLE, CASEMENT STAY, OIL RUBBED BRONZE FINISH
GLASS: TEMPERED DOUBLE GLAZE 3/4", ARGON, W/ CLEAR LOW-E 272 GLAZING BRONZE SPACER BAR
U-FACTOR: .25
SHGC: .41
SCREEN: INVISIBLE FIBERGLASS MESH W/ WOOD SCREEN SURROUND
GRILLES: 2W2H, 1-1/4" TDL PUTTY GLAZE EXT, DAVIS TDL GLASS STOP INT
CASING: N/A. CONTRACTOR TO INSTALL IN FIELD
SILL NOSING: DS-072 SILL NOSING, 5" SILL HORN EXTENSIONS



304-W1

DESCRIPTION: 3 WIDE WOOD DOUBLE HUNG WINDOW

TYPE: LEPAGE 3 WIDE WOOD H-100 HUNG, NON-FINGER JOINTED PINE FACTORY MULLED TIGHT W/ 2-3/4" SPREAD MULLIONS
OPERATION: DOUBLE HUNG
FRAME: 1 7/16" THICK, DEPTH 4 9/16" W/ 2-15/16" INTERIOR JAMB EXTENSION
SASH: 1 3/4" THICK, COLONIAL PROFILE INT., PUTTY GLAZE EXT.
INTERIOR FINISH: PRIMED WHITE
EXTERIOR FINISH: PRIMED WHITE
HARDWARE: SURFACE MOUNT, OIL RUBBED BRONZE
GLASS: DOUBLE GLAZE 3/4", ARGON, W/ BRONZE SPACER. CLEAR LOW-E 272 GLAZING
U-FACTOR: .25
SHGC: .41
SCREEN: INVISIBLE FIBERGLASS MESH W/ ALUMINUM SURROUND WHITE COLOR
GRILLES: 2W1H EACH SASH, 1-1/4" TDL PUTTY GLAZE EXTERIOR, COLONIAL INTERIOR
CASING: 908 BRICK MOULD
SILL EXTENSION: HISTORIC SILL EXTENSION GB-036

1
C001

WINDOW & DOOR SCHEDULE

SCALE: 1/2" = 1'-0"

SCALE: 1/2" = 1'-0"

0 1' 5' 10'

OVERMYER
ARCHITECTS

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DISTRICT OF COLUMBIA
DALE D OVERMYER
No. ARC4894
LICENSED ARCHITECT

NEW ROW HOUSE

3314 VOLTA PLACE NW
WASHINGTON, DC 20007

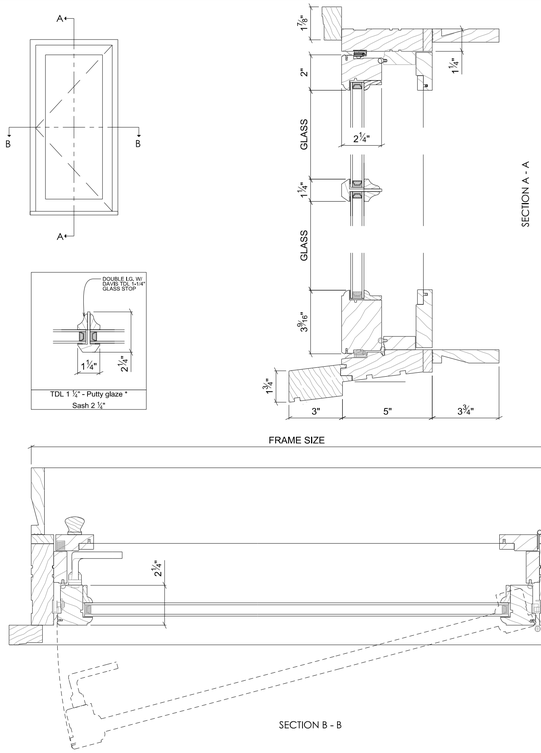
LOT: 228 SQUARE: 1254

WINDOW & DOOR SCHEDULE

C001

DATE: 03-31-2023

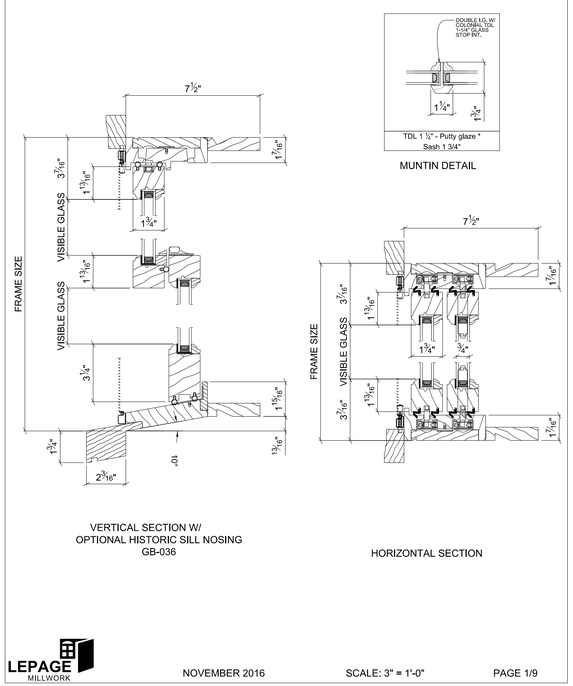
WOOD PUSH OUT CASEMENT WINDOW (2 1/4" SASH, 5 1/16" FRAME)



LEPAGE MILLWORK

DECEMBER 2017 SCALE: 3" = 1'-0" PAGE 4/20

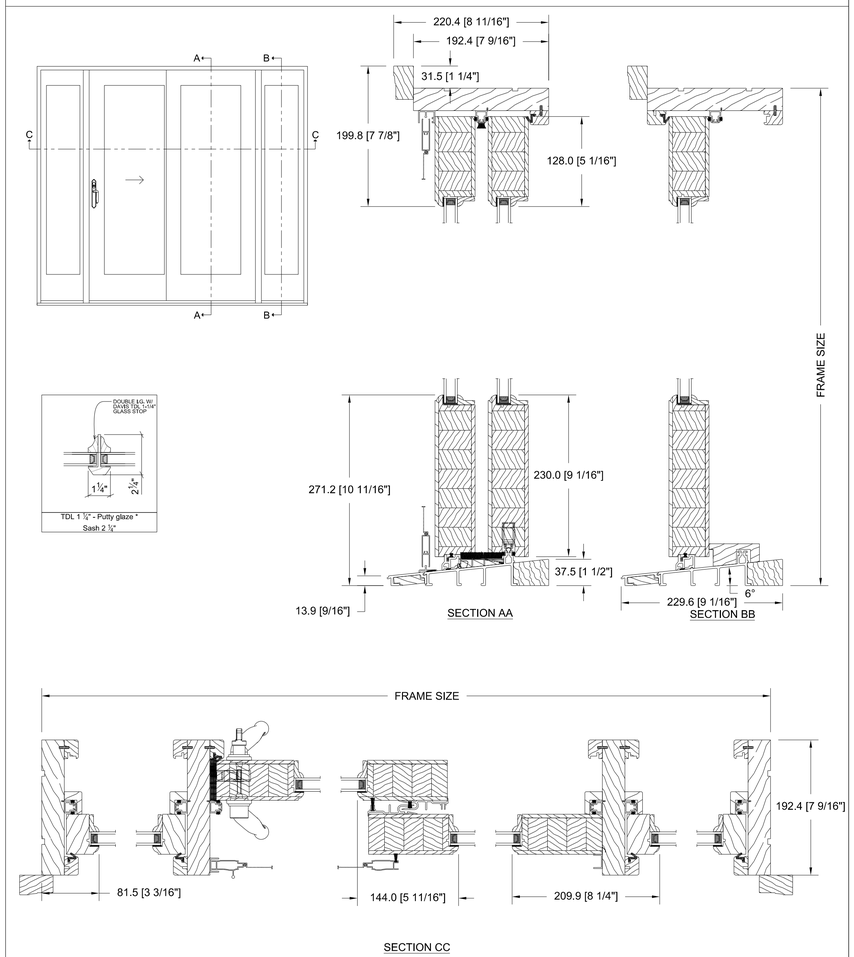
WOOD 1 3/4" SASH DOUBLE HUNG WINDOW WITH BRICK MOULD AND HISTORIC SILL NOSING



LEPAGE MILLWORK

NOVEMBER 2016 SCALE: 3" = 1'-0" PAGE 1/9

WOOD 2 ¼" PANEL QUADRUPLE SLIDING PATIO DOR (SIDELIGHT) WITH 908 BRICKMOULD CASING AND STANDARD 7 $\frac{9}{16}$" FRAME



LEPAGE MILLWORK

SEPTEMBER 2019 SCALE: 3" = 1'-0" PAGE 5/8

OVERMYER ARCHITECTS

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DISTRICT OF COLUMBIA
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LICENSED ARCHITECT

NEW ROW HOUSE

3314 VOLTA PLACE NW
WASHINGTON, DC 20007

LOT: 228 SQUARE: 1254

WINDOW & DOOR DETAILS

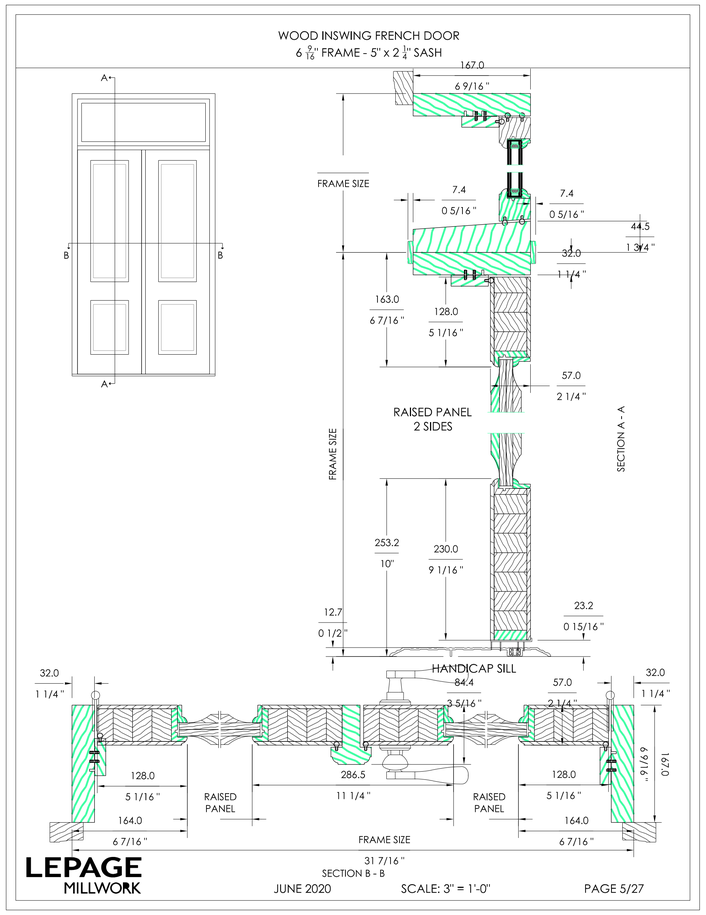
C002

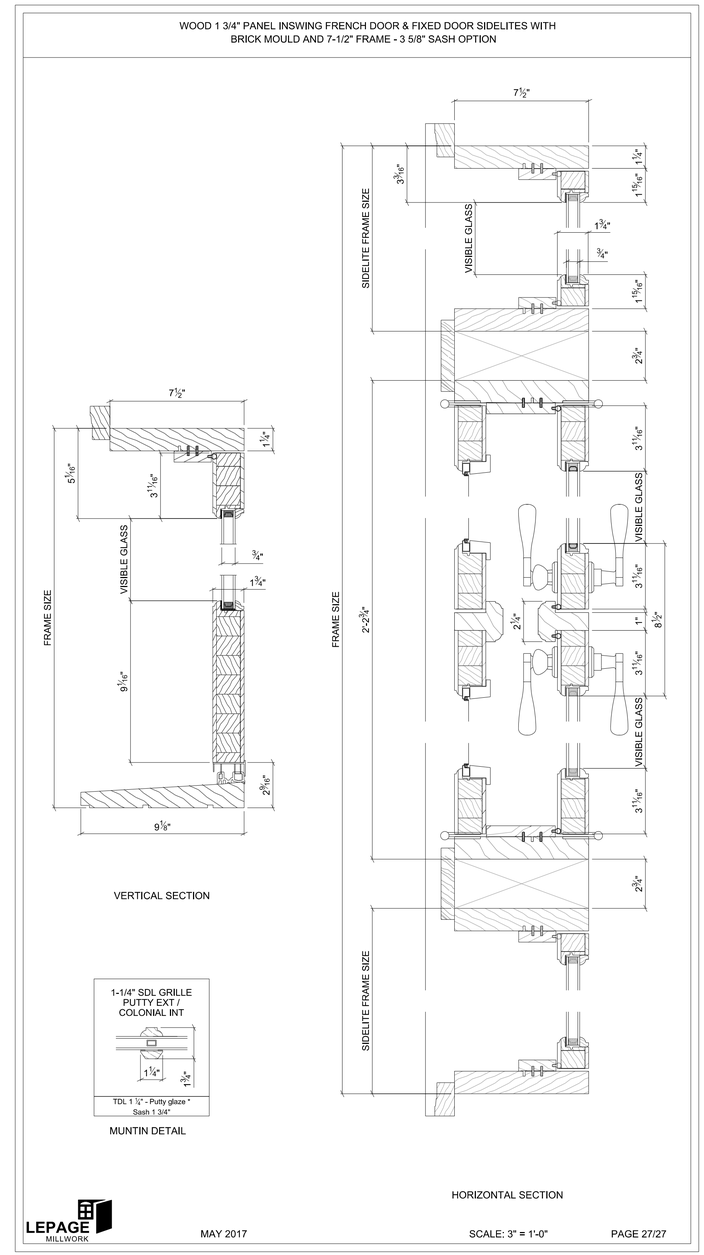
DATE: 03-31-2023

1 / C002 WINDOW & DOOR DETAILS
SCALE: 3" = 1'-0"

SCALE: 3" = 1'-0"

0 6" 1' 2'





1 C003 WINDOW & DOOR DETAILS
SCALE: 3" = 1'-0"

SCALE: 3" = 1'-0"

0 6" 1' 2'

OVERMYER
ARCHITECTS

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FACSIMILE: (202) 333-5598

DISTRICT OF COLUMBIA
DALE D OVERMYER
No. ARC4894
LICENSED ARCHITECT

NEW ROW HOUSE

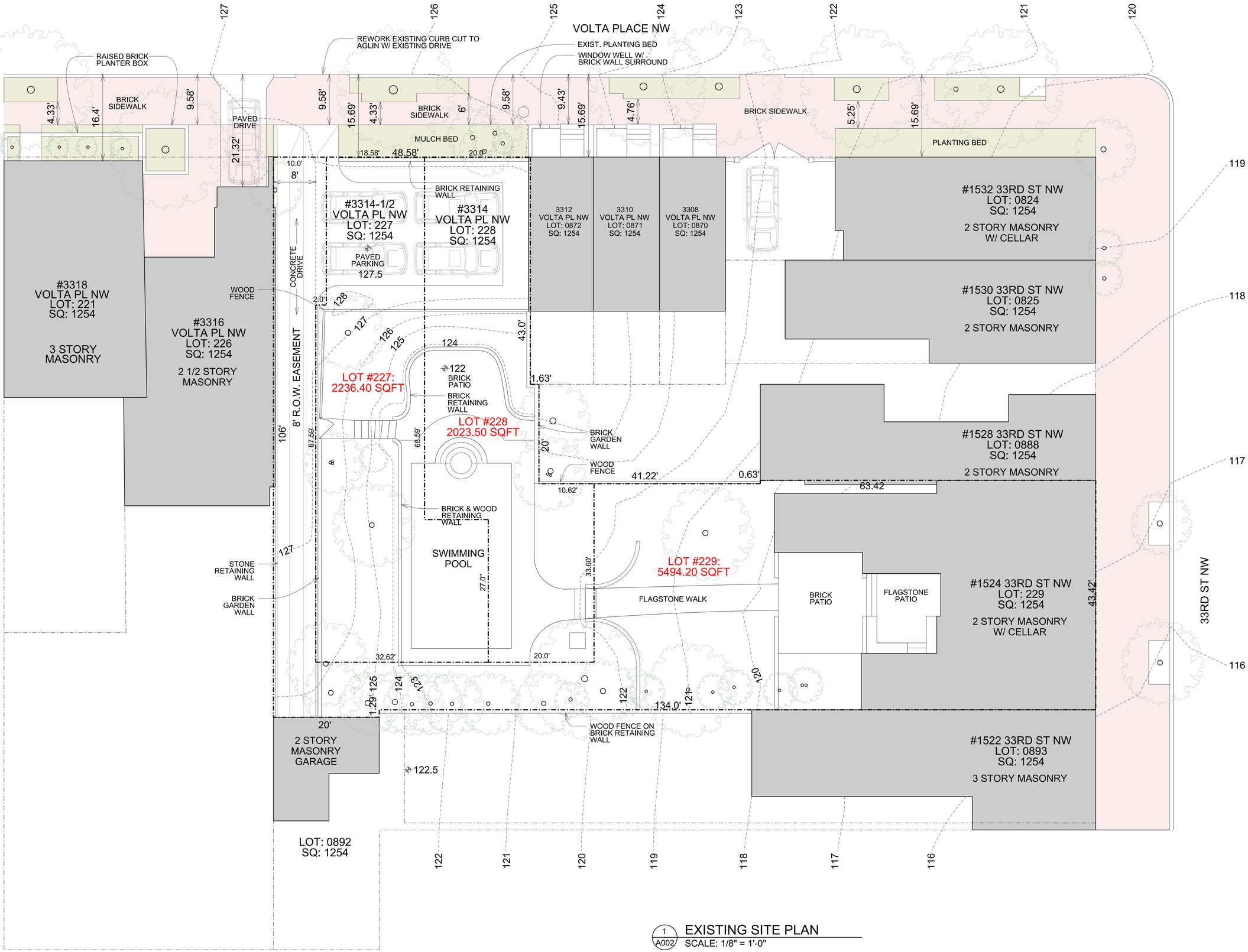
3314 VOLTA PLACE NW
WASHINGTON, DC 20007

LOT: 228 SQUARE: 1254

WINDOW & DOOR DETAILS

C003

DATE: 03-31-2023



1 A002 EXISTING SITE PLAN
SCALE: 1/8" = 1'-0"

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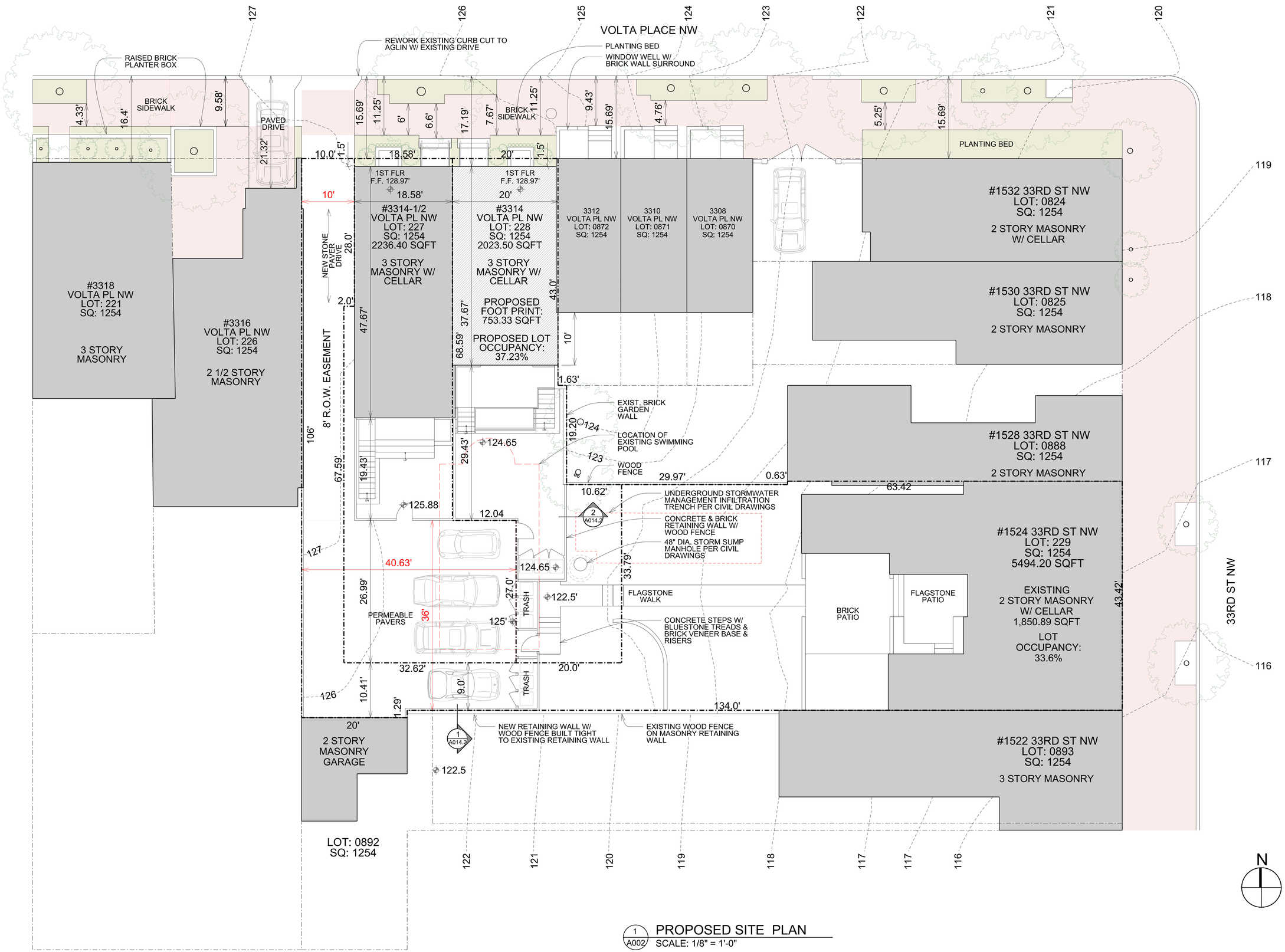
WASHINGTON, DC 20007

LOT: 228 SQUARE: 1254

EXISTING SITE PLAN

A002

DATE: 03-31-2023



1 A002 PROPOSED SITE PLAN
SCALE: 1/8" = 1'-0"

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NEW ROW HOUSE

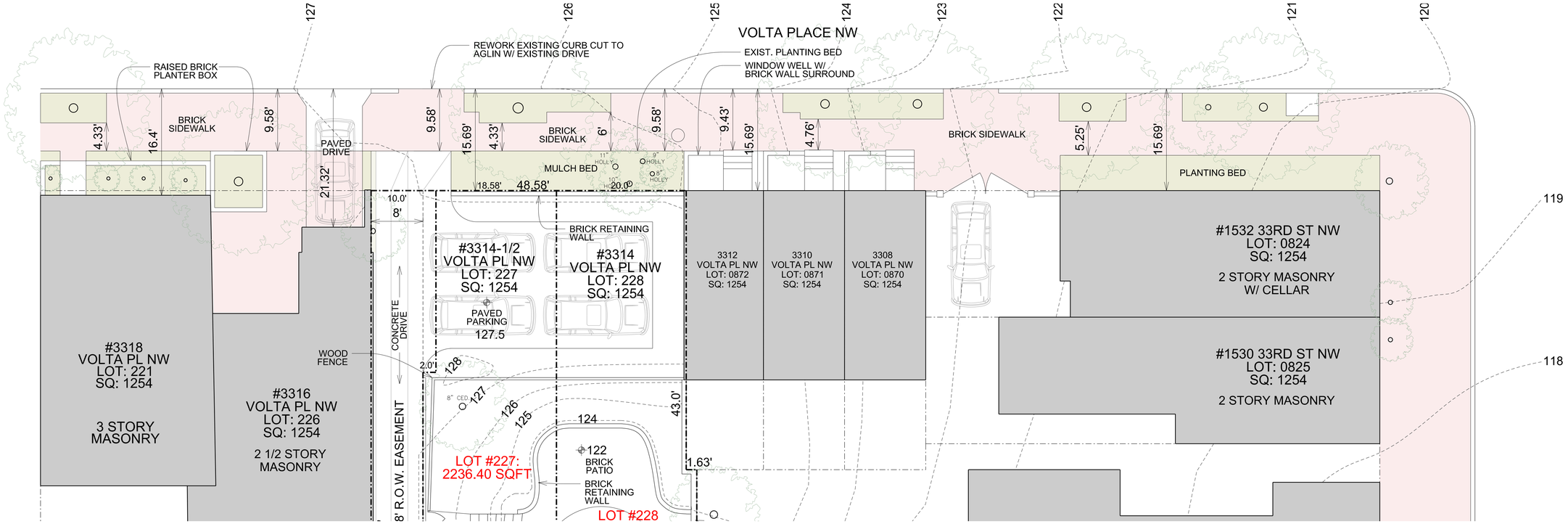
3314 VOLTA PLACE NW
WASHINGTON, DC 20007

LOT: 228 SQUARE: 1254

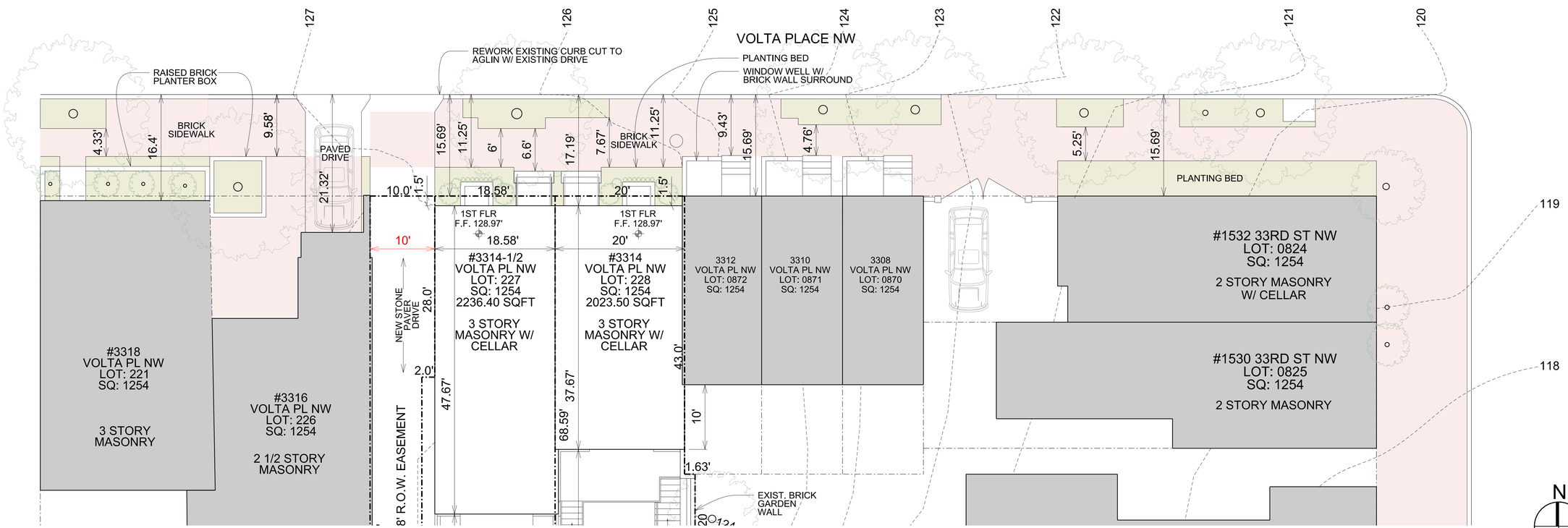
PROPOSED SITE PLAN

A002

DATE: 03-31-2023



1 A002.1 EXISTING SIDEWALK PLAN
SCALE: 1/8" = 1'-0"



2 A002.1 PROPOSED SIDEWALK PLAN
SCALE: 1/8" = 1'-0"

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NEW ROW HOUSE

3314 VOLTA PLACE NW
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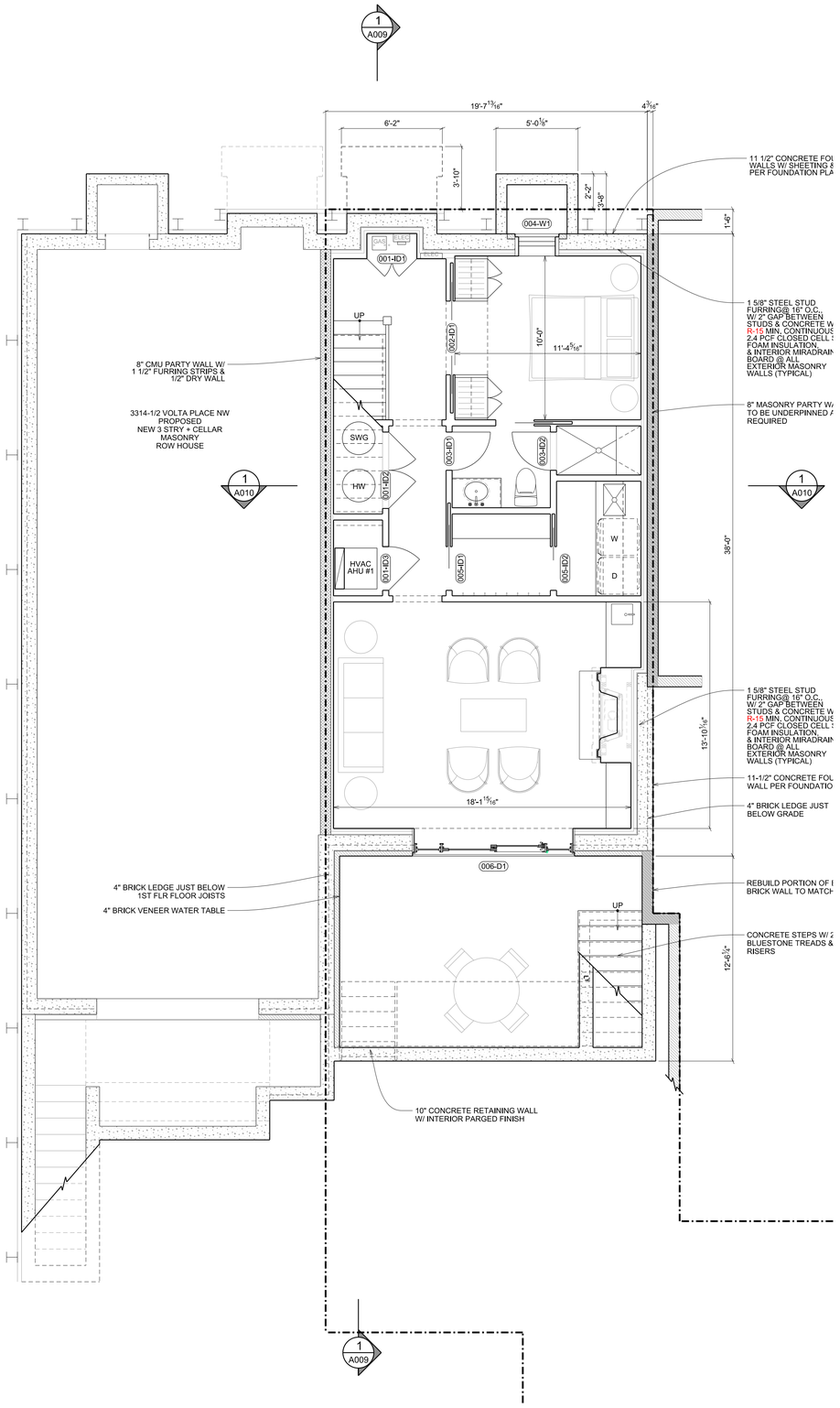
LOT: 228 SQUARE: 1254

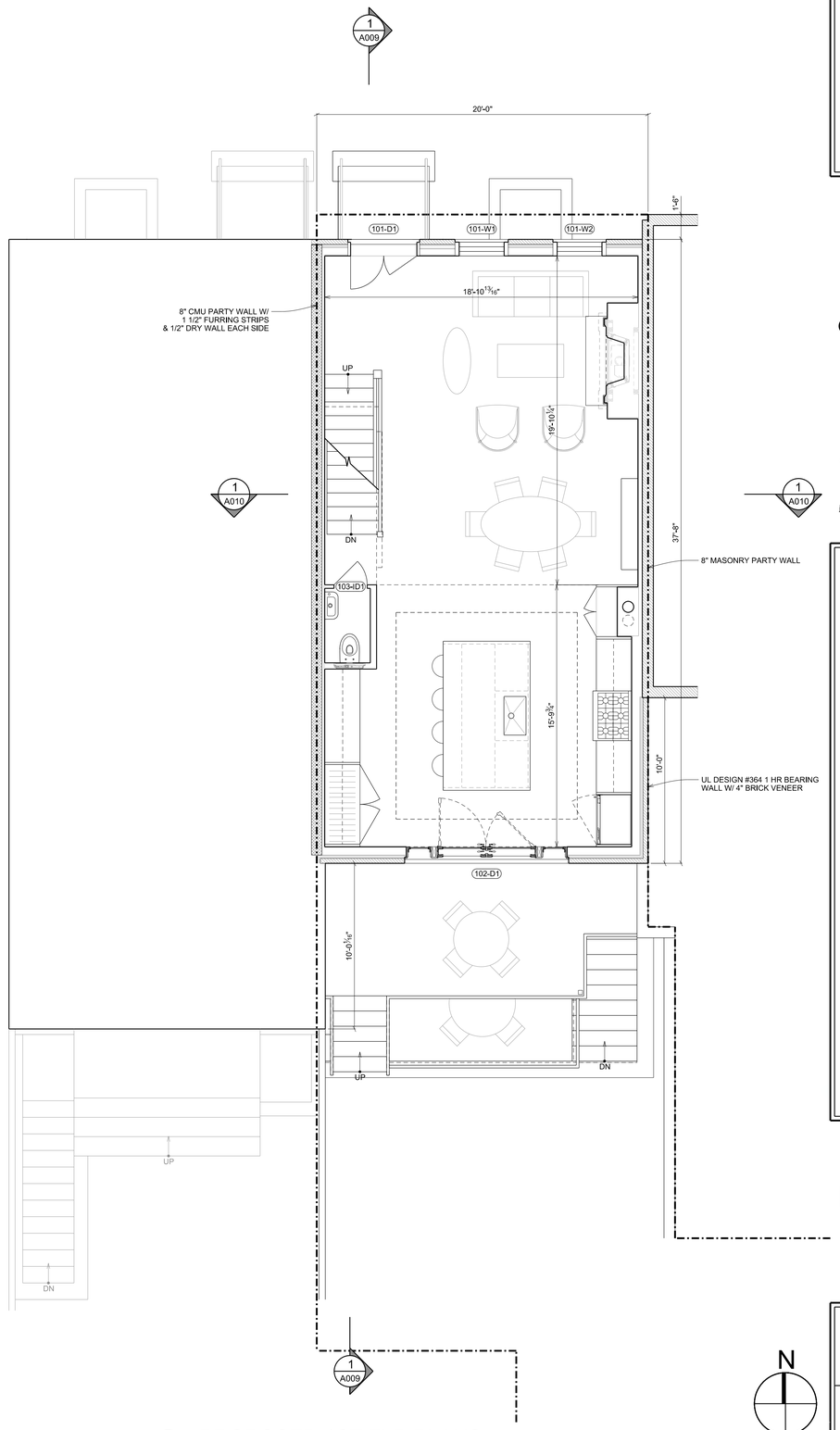
EXISTING & PROPOSED SIDE WALK PLANS

A002.1

DATE: 03-31-2023



1 A003 PROPOSED CELLAR PLANS
SCALE: 1/4" = 1'-0"



2 A003 PROPOSED 1ST FLR PLANS
SCALE: 1/4" = 1'-0"

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NEW ROW HOUSE

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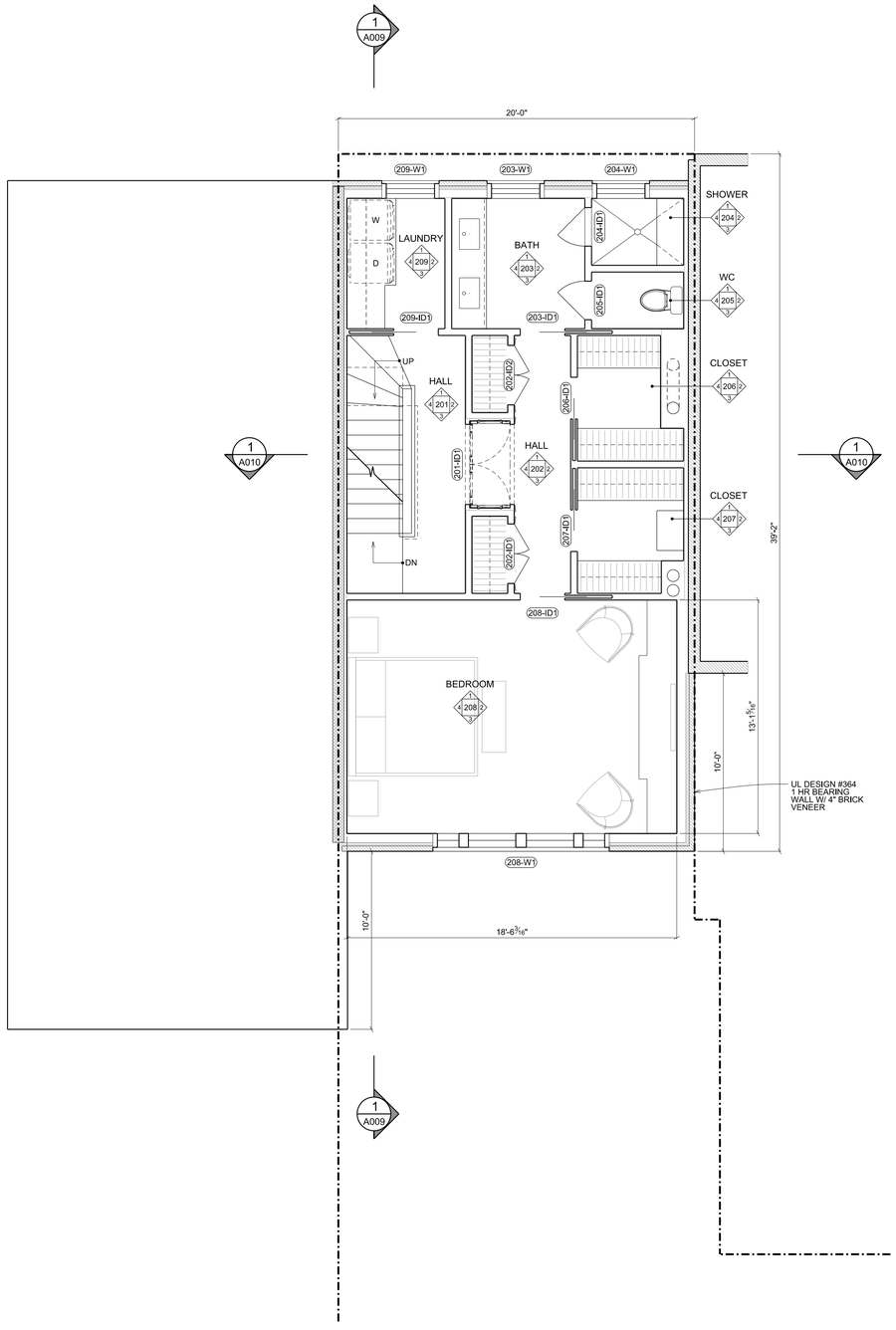
LOT: 228 SQUARE: 1254

N

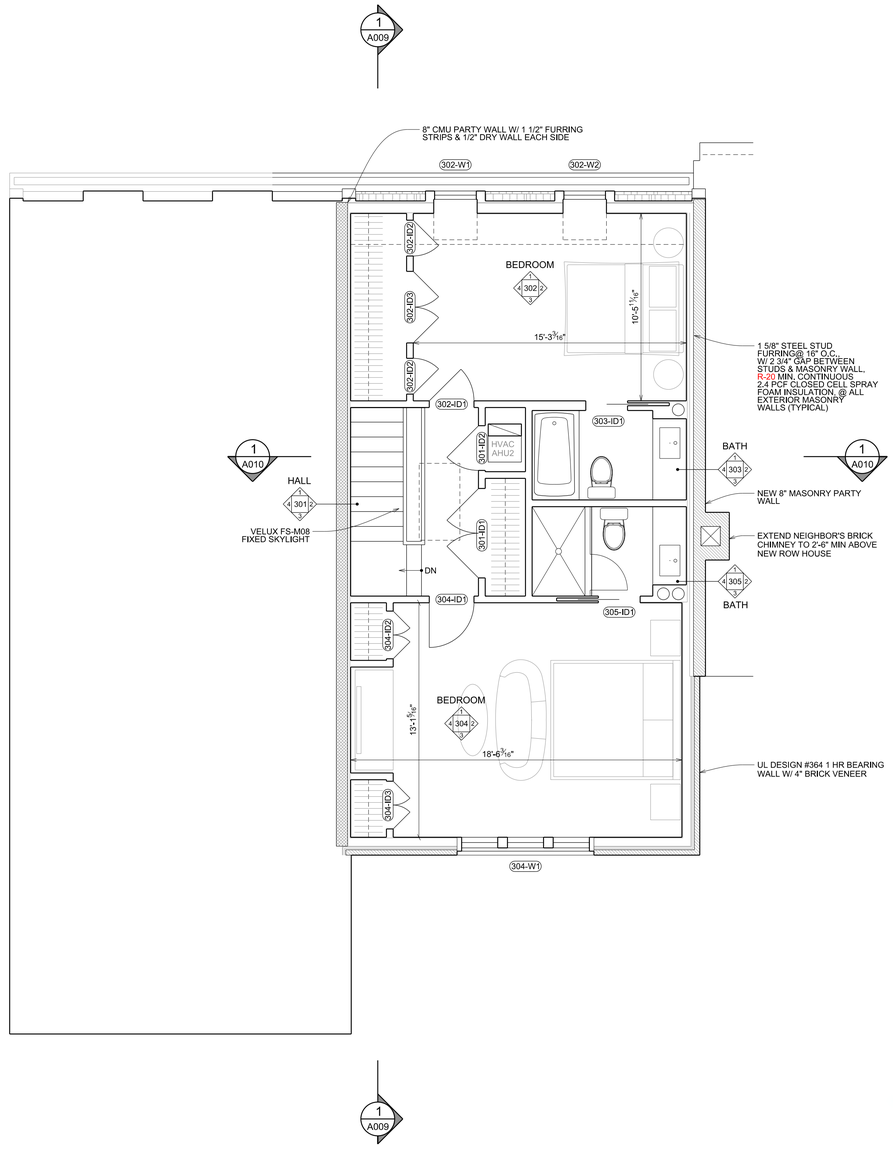
PROPOSED
CELLAR &
1ST FLOOR PLANS

A003

DATE: 03-31-2023



1 A004 PROPOSED 2ND FLR PLANS
SCALE: 1/4" = 1'-0"



2 A004 PROPOSED 3RD FLR PLANS
SCALE: 1/4" = 1'-0"

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NEW ROW HOUSE

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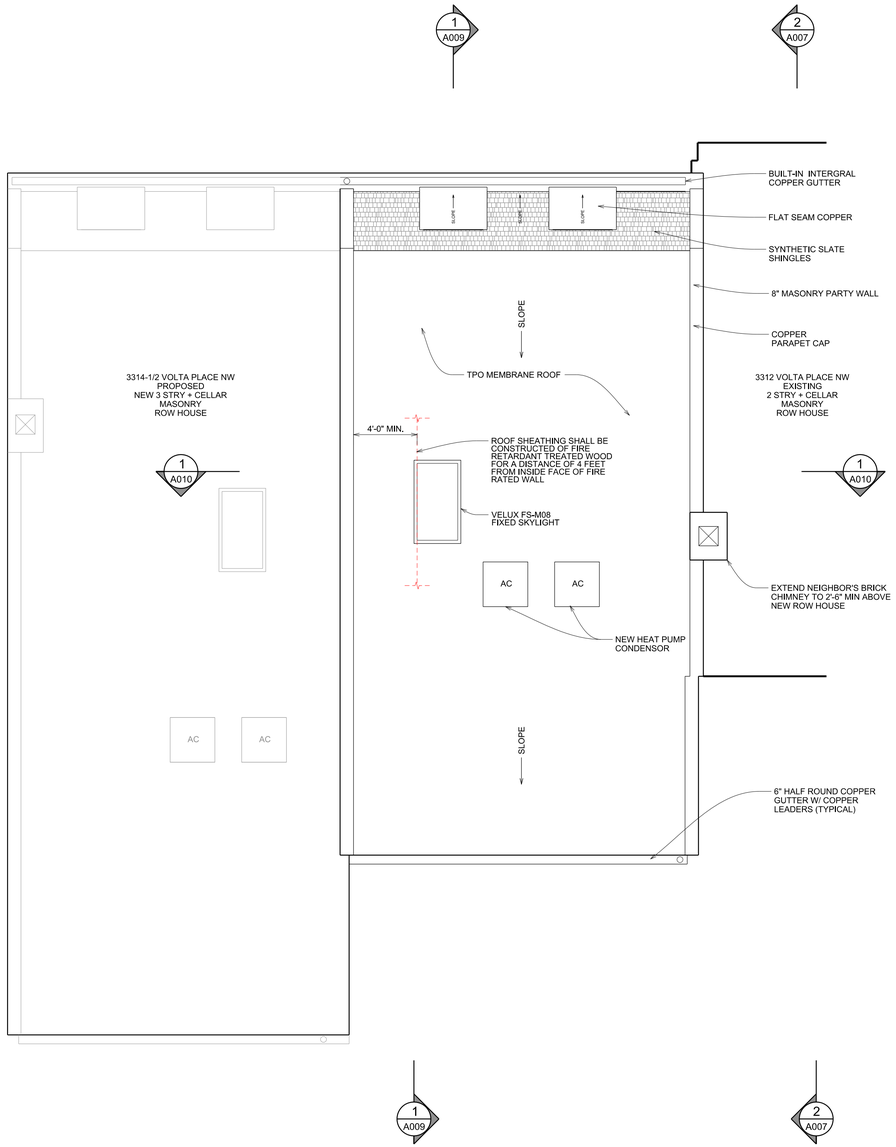
LOT: 228 SQUARE: 1254

N

PROPOSED
2ND & 3RD
FLOOR PLANS

A004

DATE: 03-31-2023



1 A005 PROPOSED ROOF PLAN
SCALE: 1/4" = 1'-0"

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LICENSED
ARCHITECT

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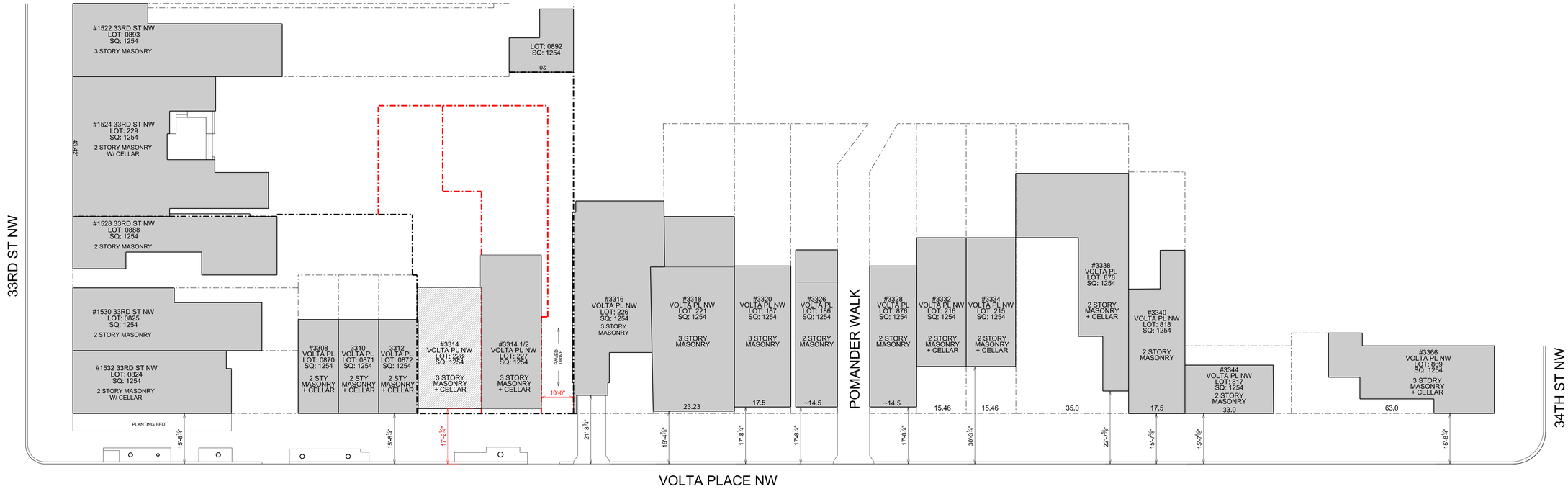
LOT: 228 SQUARE: 1254

N

PROPOSED
ROOF PLAN

A005

DATE: 03-31-2023



1 A006 VOLTA PL NW 3300 BLOCK PLAN
SCALE: 1/16" = 1'

2 A006 VOLTA PL NW 3300 BLOCK ELEVATION
SCALE: 1/16" = 1'

3 A006 PROPOSED NORTH ELEVATIONS
SCALE: 1/8" = 1'

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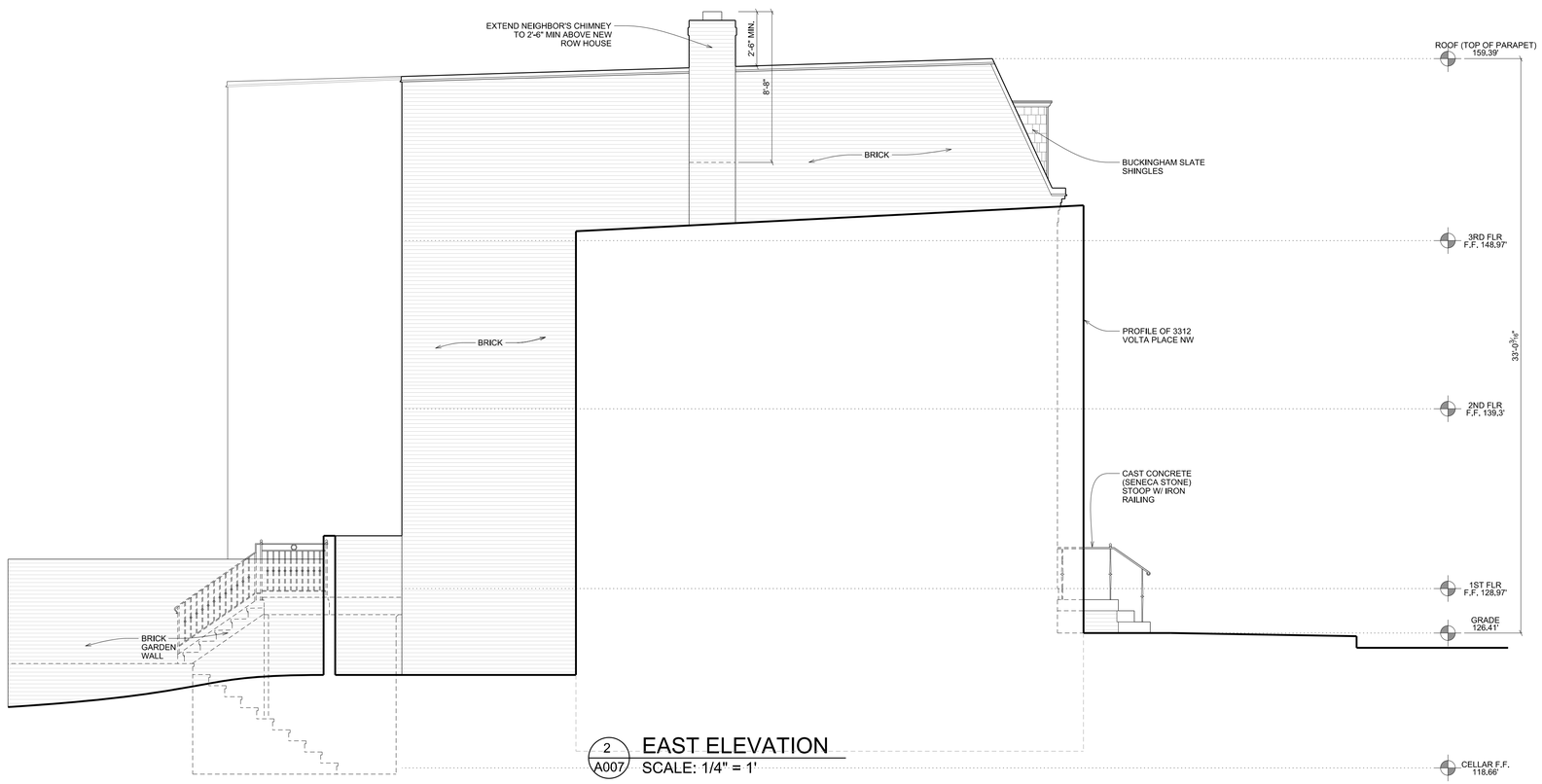
VOLTA PL BLOCK
PLAN & ELEVATIONS

A006

DATE: 03-31-2023

1 A007 NORTH ELEVATION
SCALE: 1/4" = 1'



2 A007 EAST ELEVATION
SCALE: 1/4" = 1'

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NEW ROW HOUSE

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LOT: 228 SQUARE: 1254

PROPOSED NORTH & EAST ELEVATIONS

A007

DATE: 03-31-2023

1 A008 SOUTH ELEVATION
SCALE: 1/4" = 1'

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LICENSED ARCHITECT

NEW ROW HOUSE

3314 VOLTA PLACE NW
WASHINGTON, DC 20007

LOT: 228 SQUARE: 1254

PROPOSED SOUTH ELEVATION

A008

DATE: 03-31-2023

BUILDING THERMAL ENVELOPE SPECIFICATIONS

TABLE R402.1.2
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT[a]

FENESTRATION U-FACTOR[b]	0.30 U-Factor
SKYLIGHT[b] U-FACTOR	0.55 U-Factor
GLAZED FENESTRATION SHGC[b]	0.40 Solar Heat Gain Coefficient (SHGC)
CEILING	R-49

Strike Section R402.2.13 of the International Energy Conservation Code in its entirety and insert new Section R402.2.13 in the Energy Conservation Code-Residential Provisions in its place to read as follows.

R402.2.13 Sunroom insulation. *Sunrooms* enclosing conditioned space shall meet the insulation requirements of this code.

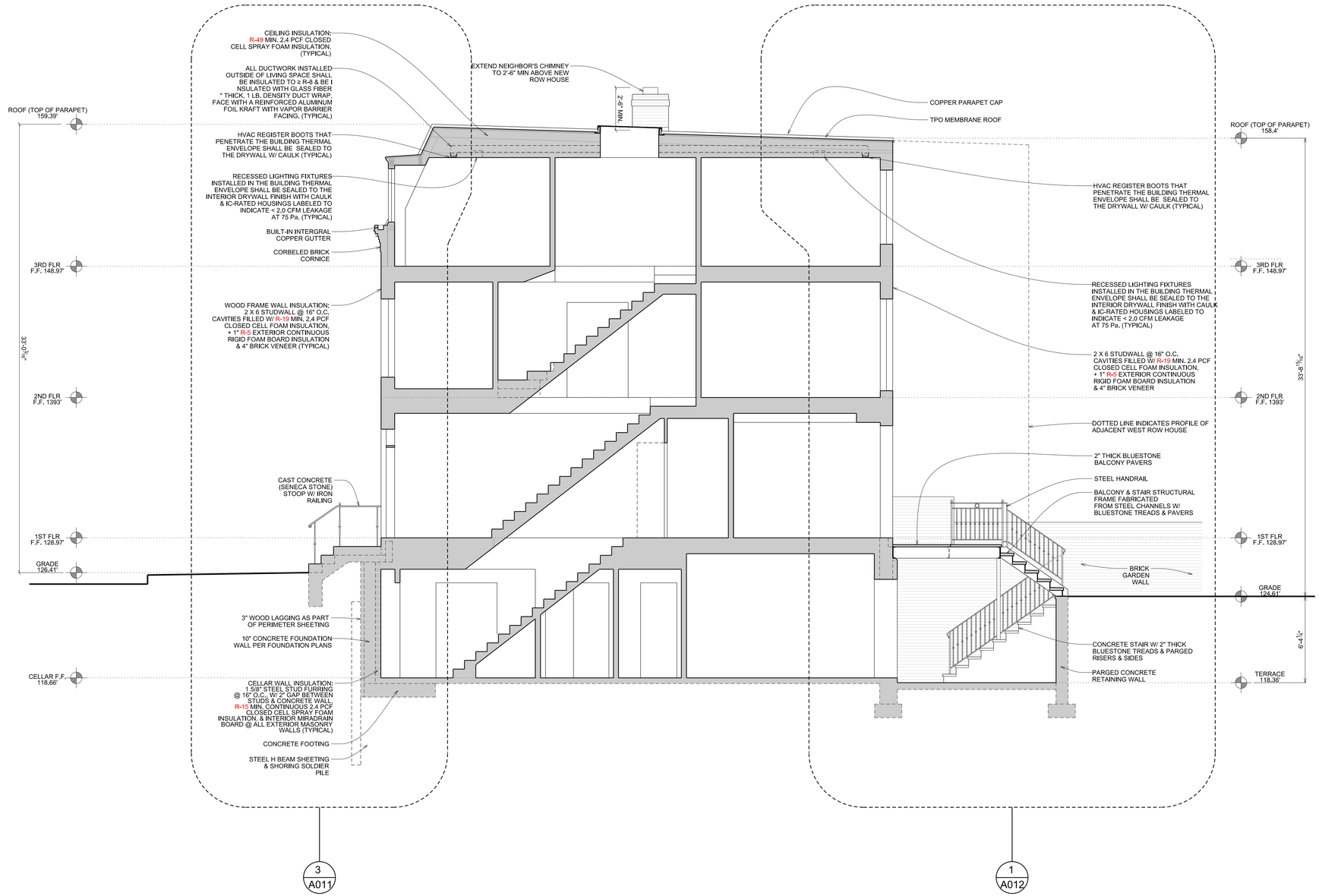
Strike Section R402.3.5 of the International Energy Conservation Code in its entirety and insert new Section R402.3.5 in the Energy Conservation Code-Residential Provisions in its place to read as follows.

R402.3.5 Sunroom fenestration. *Sunrooms* enclosing *conditioned space* shall meet the fenestration requirements of this code.

Strike Table R402.4.1.1 of the International Energy Conservation Code in its entirety and insert new Table R402.4.1.1 in the Energy Conservation Code-Residential Provisions in its place to read as follows.

TABLE R402.4.1.1
AIR BARRIER AND INSULATION INSTALLATION

COMPONENT	AIR BARRIER CRITERIA	INSULATION INSTALLATION CRITERIA
General requirements	A continuous six-sided air barrier shall be installed in the building envelope. The exterior thermal envelope contains a continuous air barrier. Breaks or joints in the air barrier shall be sealed.	Air-permeable insulation shall not be used as a sealing material. All ceiling, wall, floor and slab insulation shall achieve Grade I installation per the RESNET Standards or, alternatively, Grade II for surfaces that contain a layer of continuous, air impermeable insulation > R3.
Ceiling/attic	The air barrier in any dropped ceiling/soffit shall be aligned with the insulation and any gaps in the air barrier shall be sealed. Access openings, drop downstairs or knee wall doors to unconditioned attic spaces shall be sealed.	The insulation in any dropped ceiling/soffit shall be aligned with the air barrier.
Walls	The junction of the foundation and sill plate shall be sealed. The junction of the top plate and the top of exterior walls shall be sealed. Knee walls shall be sealed.	Cavities within corners and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance of R-3 per inch minimum. Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier.
Windows, skylights and doors	The space between window/door jambs and framing, and skylights and framing shall be sealed. Doors adjacent to unconditioned space or ambient conditions shall be made substantially air-tight with weather stripping or equivalent gasket.	Continuous exterior insulation shall continue over window and door headers. Skylight and window chases through unconditioned attic space must be insulated to exterior wall values per table 402.1.2.
Rim joists	Rim joists shall include continuous air barrier.	Rim joists shall be insulated per Table 402.1.2.
Floors (including above garage and cantilevered floors)	The air barrier shall be installed at any exposed edge of insulation.	Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of subfloor decking, or floor framing cavity insulation shall be permitted to be in contact with the top side of sheathing, or continuous insulation installed on the underside of floor framing and extends from the bottom to the top of all perimeter floor framing members.
Crawl space walls	Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder with overlapping joints taped.	Where provided instead of floor insulation, insulation shall be permanently attached to the crawlspace walls.
Shafts, penetrations	Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space shall be sealed.	Duct shafts or chases next to exterior or unconditioned space shall be insulated.
Narrow cavities		Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that on installation readily conforms to the available cavity space.
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.	Walls next to unconditioned garage space shall be insulated.
Recessed lighting	Recessed light fixtures installed in the building thermal envelope shall be sealed to the drywall.	Recessed light fixtures installed in the building thermal envelope shall be air tight and IC rated.
Plumbing and wiring	Seal any plumbing or wiring that penetrates the building envelope.	Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior walls, or insulation that on installation readily conforms to available space shall extend behind piping and wiring.
Shower/tub on exterior wall	The air barrier installed at exterior walls adjacent to showers and tubs shall separate them from the showers and tubs.	Exterior walls adjacent to showers and tubs shall be insulated.
Electrical/phone box on exterior walls	The air barrier shall be installed behind electrical or communication boxes or air-sealed boxes shall be installed.	
Common wall separating dwelling units	Air barrier is installed in common wall between dwelling units.	
HVAC register boots	HVAC register boots that penetrate building thermal envelope shall be sealed to the subfloor or drywall.	
Concealed sprinklers	When required to be sealed, concealed fire sprinklers shall only be sealed in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings.	
Fireplace	An air barrier shall be installed on fireplace walls.	



1 A009 PROPOSED BUILDING SECTION
SCALE: 1/4" = 1'

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NEW ROW HOUSE

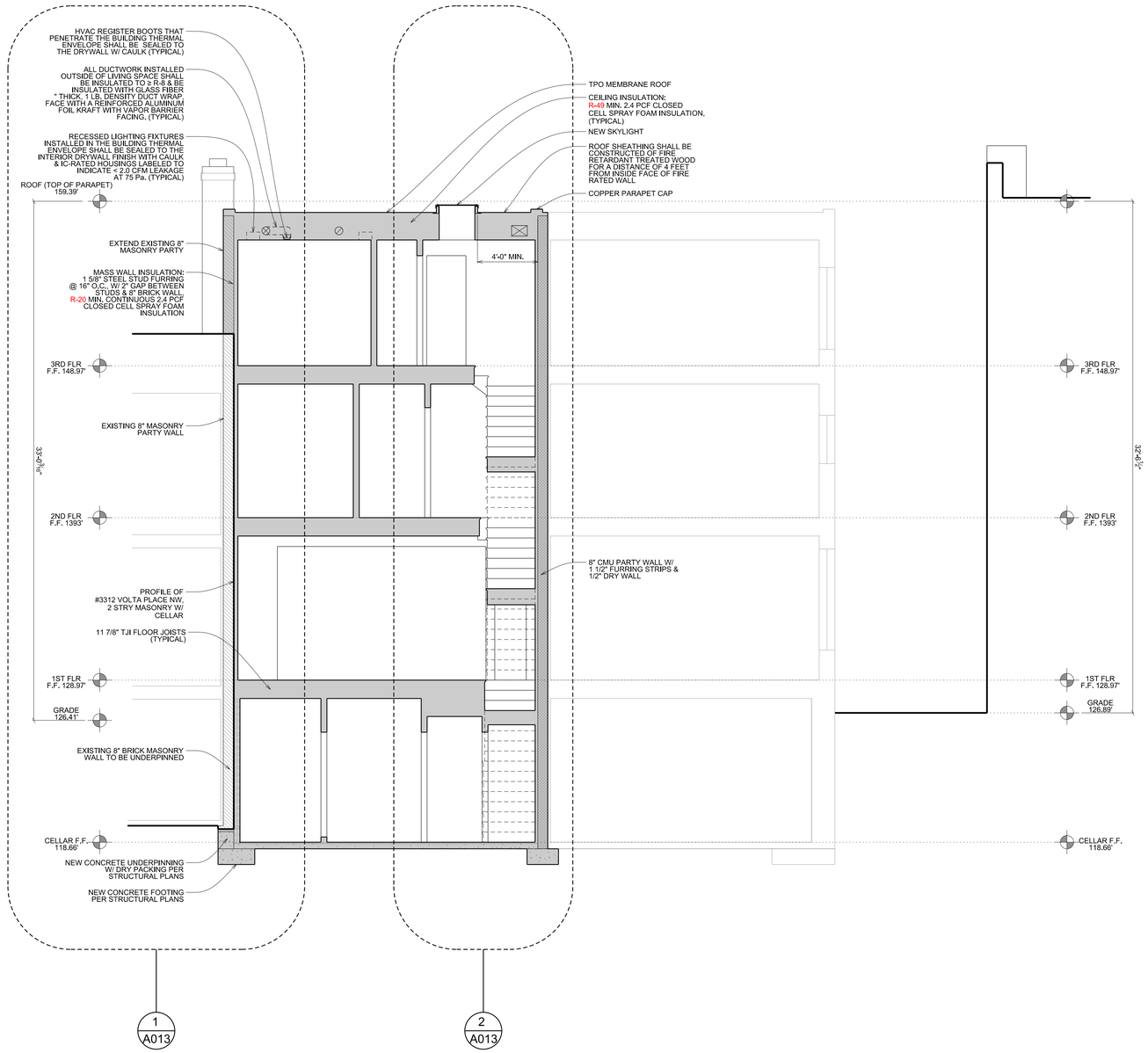
3314 VOLTA PLACE NW
WASHINGTON, DC 20007

LOT: 228 SQUARE: 1254

PROPOSED SECTION

A009

DATE: 03-31-2023



1 A010 PROPOSED BUILDING SECTION
SCALE: 1/4" = 1'

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NEW ROW HOUSE

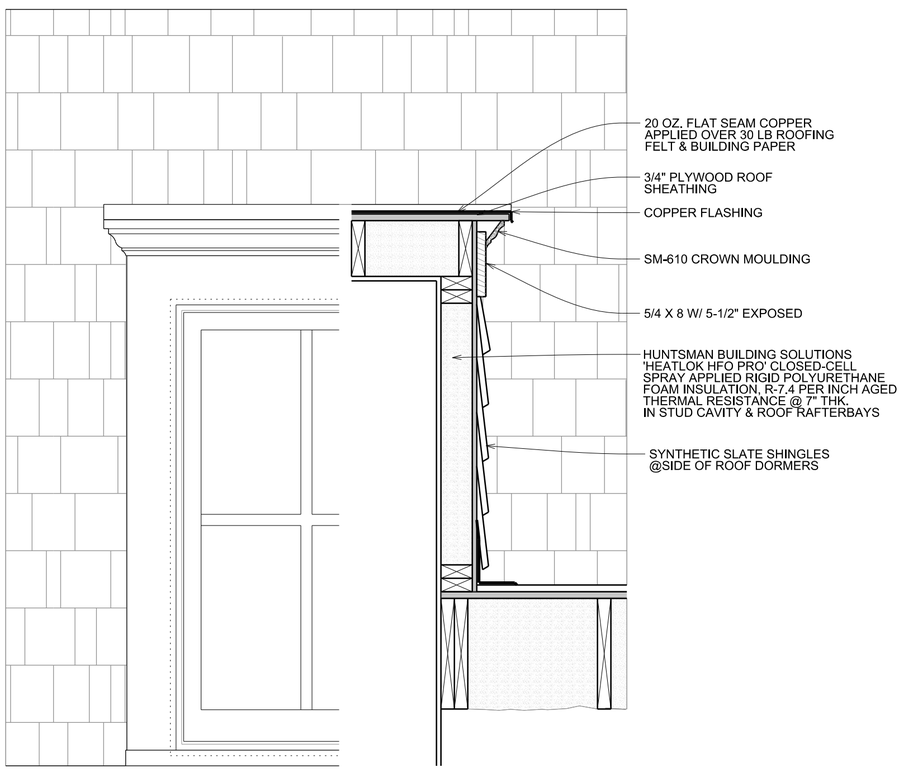
3314 VOLTA PLACE NW
WASHINGTON, DC 20007

LOT: 228 SQUARE: 1254

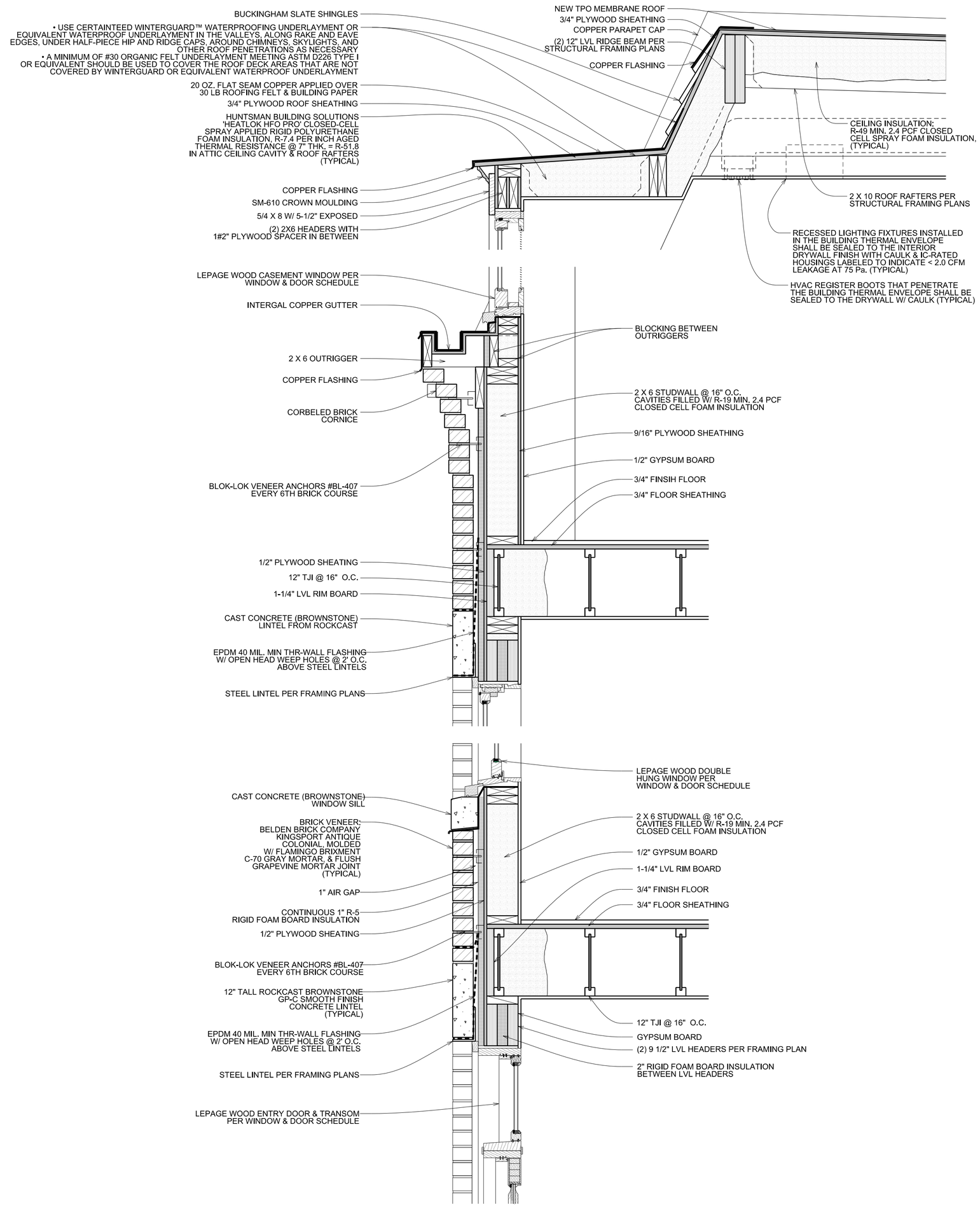
PROPOSED SECTION

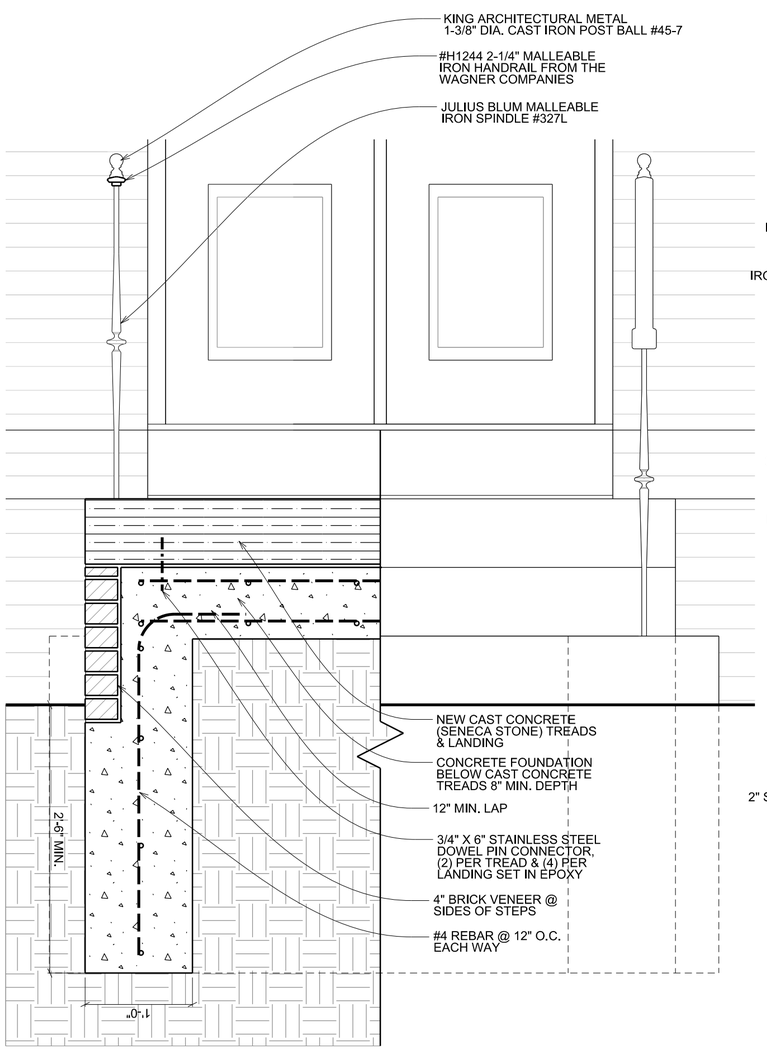
A010

DATE: 03-31-2023

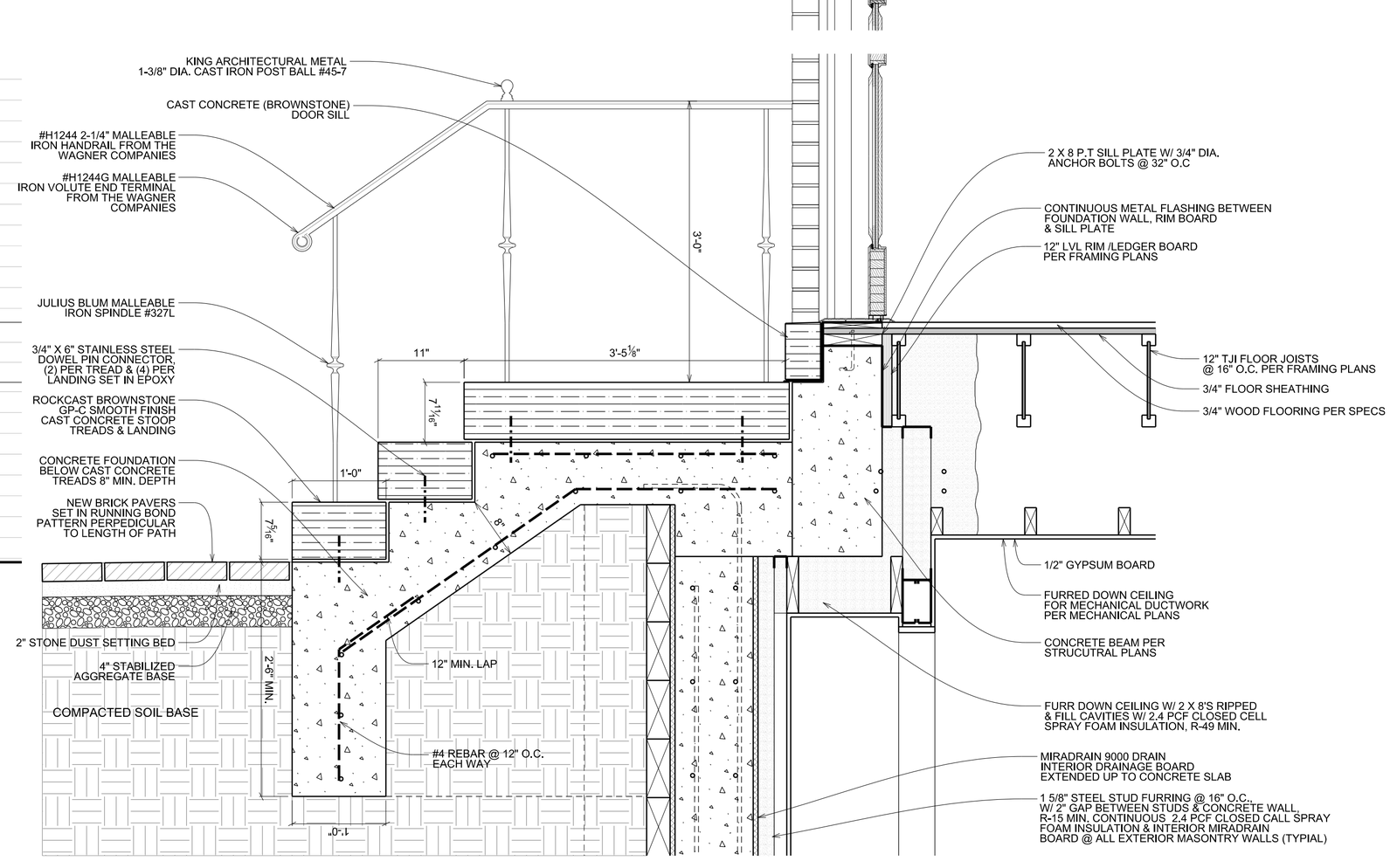


1 A011 ROOF DORMER DETAILS
SCALE: 1" = 1'

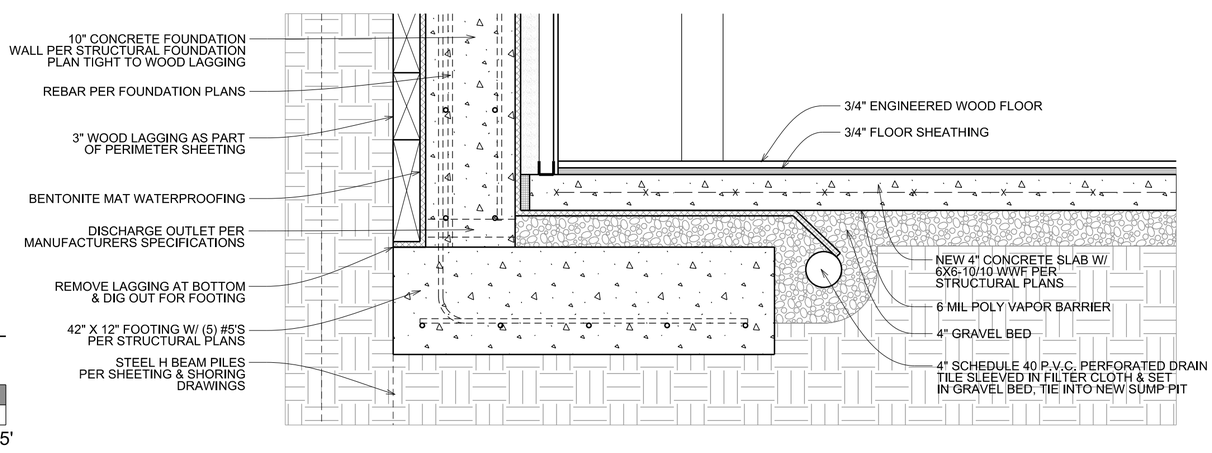




2 A011 FRONT STOOP DETAILS
SCALE: 1" = 1'



3 A011 DETAILED WALL SECTION
SCALE: 1" = 1'



0 1' 2' 5'

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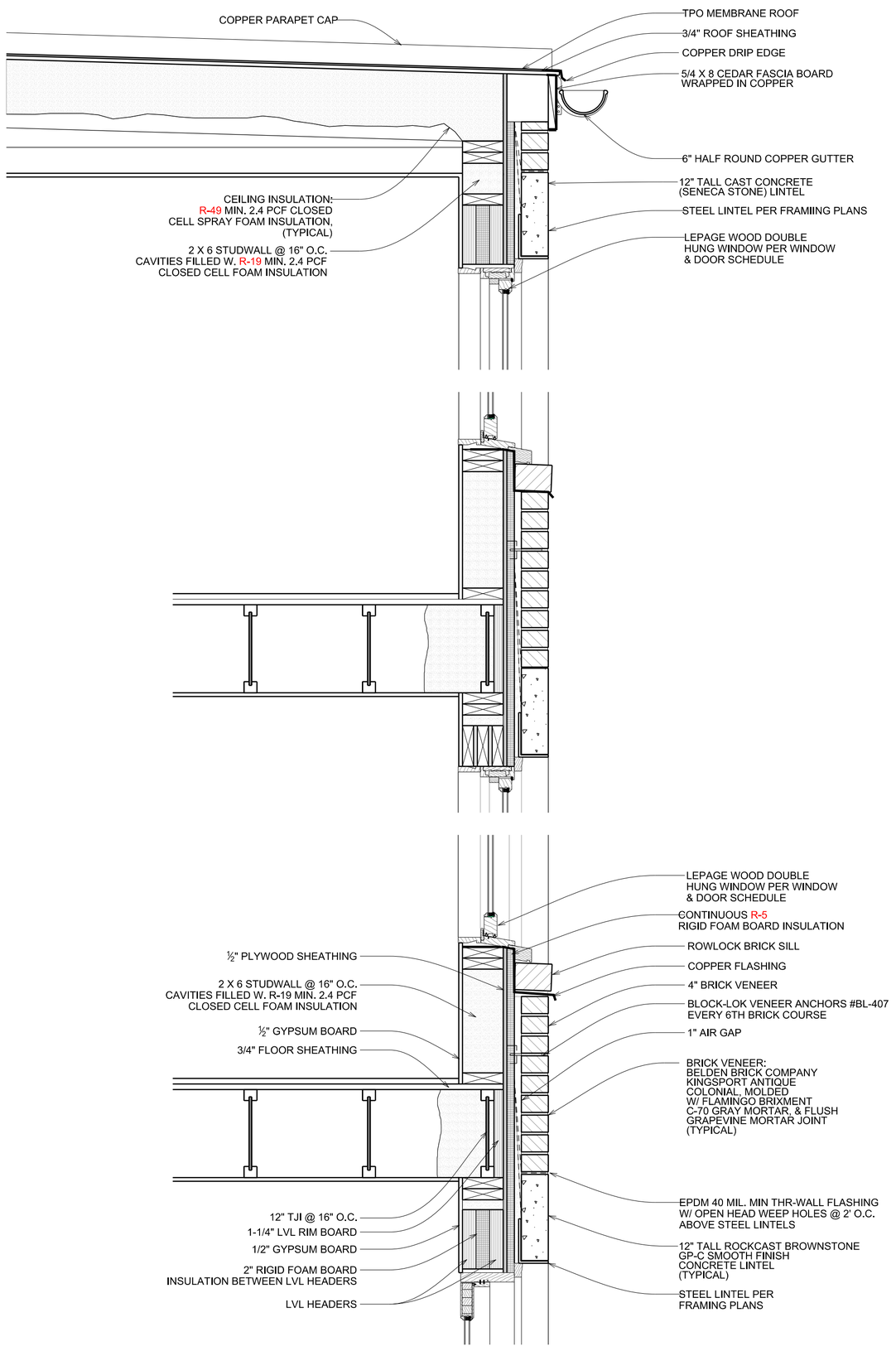
DETAILED WALL SECTIONS
A011
DATE: 03-31-2023



1 / A012 **DETAILED WALL SECTION**
SCALE: 1" = 1'

NEW ROW HOUSE

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WASHINGTON, DC 20007

LOT: 228 SQUARE: 1254

DETAILED WALL SECTIONS

A012

DATE: 03-31-2023

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LICENSED ARCHITECT

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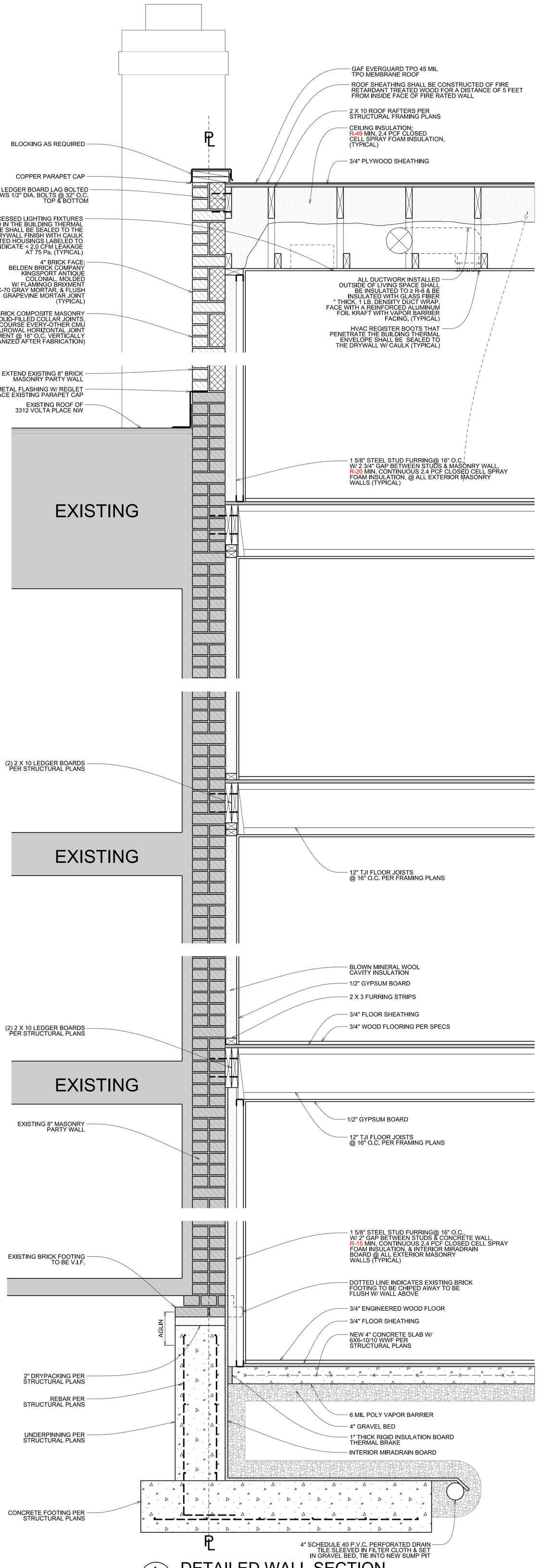
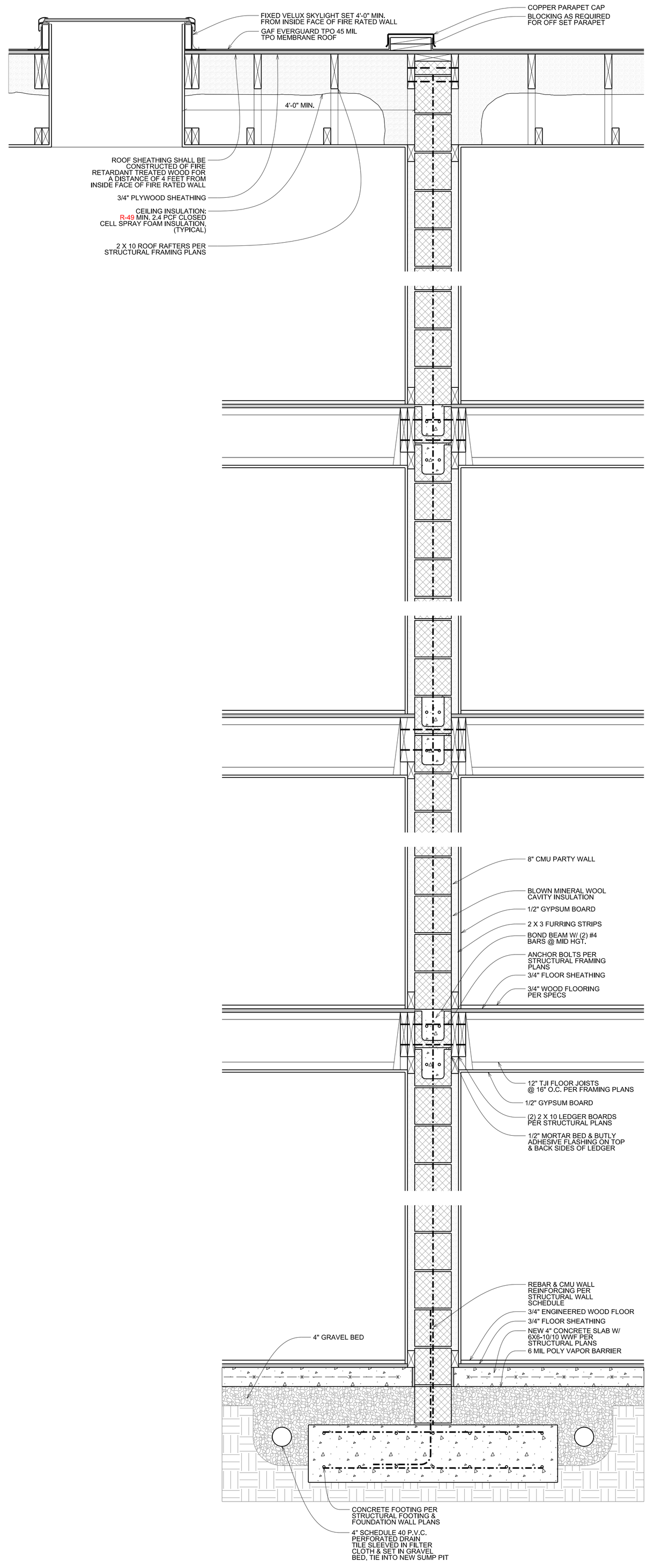


1 A013 DETAILED WALL SECTION
SCALE: 1" = 1'



2 A013 DETAILED WALL SECTION

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LICENSED ARCHITECT

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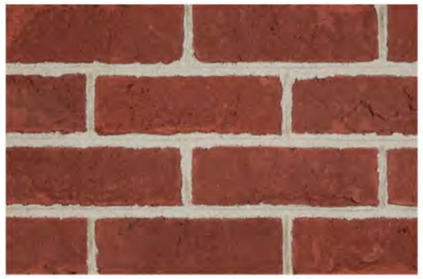
DETAILED WALL SECTIONS

A013

DATE: 03-31-2023



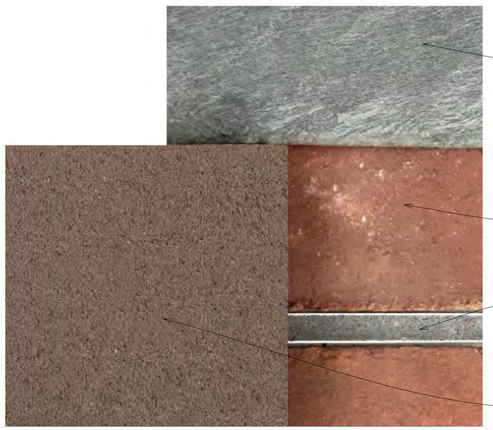
BELDEN BRICK COMPANY

KINGSPORT

Type	Face
Color	Red
Texture	Antique Colonial
Plant	Plant 3
Manufacturing Method	Molded
Coating	Sand

CONTACT:
CRAIG LINEHAN, CBS
POTOMAC VALLEY BRICK & SUPPLY CO.
CELL: (443)-820-6817
DIRECT: (240)-499-2647
clinehan@pvbrick.com

1 / A013.1 BRICK VENEER
SCALE: N/A



BUCKINGHAM SLATE SHINGLES

BRICK VENEER: BELDEN BRICK COMPANY KINGSPORT ANTIQUE COLONIAL, MOLDED

MORTAR: FLAMINGO BRIXMENT C-70 GRAY MORTAR, & FLUSH GRAPEVINE MORTAR JOINT (TYPICAL)

CAST CONCRETE LINTELS, SILLS, & STOOP: ROCKCAST ARCHITECTURAL SERIES CAST CONCRETE BROWNSTONE GP-C SMOOTH FINISH

2 / A013.1 EXTERIOR MATERIAL PALETTE
SCALE: N/A

BRICK VENEER: BELDEN BRICK COMPANY KINGSPORT ANTIQUE COLONIAL, MOLDED

MORTAR: FLAMINGO BRIXMENT C-70 GRAY MORTAR, & FLUSH GRAPEVINE MORTAR JOINT (TYPICAL)

GRAPEVINEjoint

Historically, the grapevine joint was very popular during the colonial era of architecture in the United States. It is made using a grapevine jointer, which is a metal blade with a raised bead that creates a depressed line in the center of the mortar joint. The lines are mostly rough and wavy, which gives the slightly irregular appearance of a grapevine. Typically, mortar joints are straight, so this type of joint offers a very stylized look. This joint is mostly used on antique finish and matte finish brickwork.

3 / A013.1 MORTAR JOINT DETAIL
SCALE: N/A

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LICENSED ARCHITECT

NEW
ROW HOUSE

3314 VOLTA PLACE NW
WASHINGTON, DC 20007

LOT: 228 SQUARE: 1254

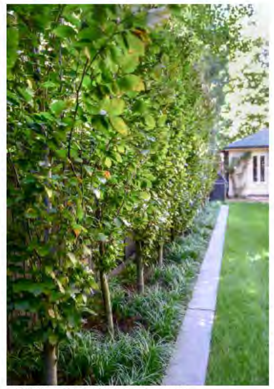
PROPOSED EXTERIOR BUILDING MATERIAL PALETTE

A013.1

DATE: 03-31-2023

PLANT PALETTE


EVERGREEN TREE SCREENING


COLUMNAR DECIDUOUS TREE ROW


SMALL FLOWERING TREE


EVERGREEN SHRUB HEDGE


SHRUB AND PERENNIAL PLANTINGS

HARDSCAPE PALETTE


BRICK RISERS WITH STONE TREADS


BRICK WALLS WITH STONE CAPS

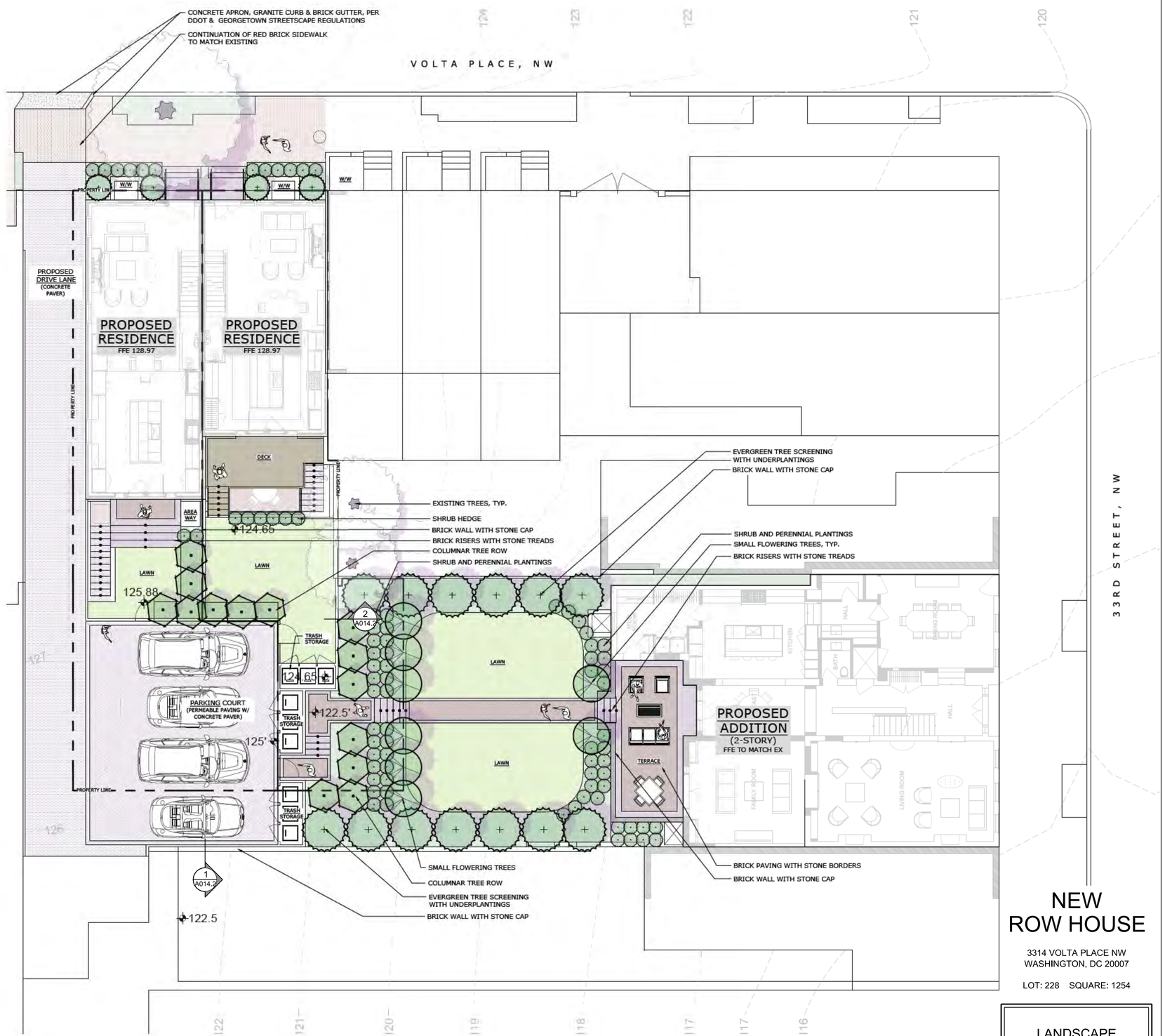

CONCRETE PAVER: TECHO BLOC 'VILLAGIO'


BRICK PAVING WITH STONE BORDERS

MATERIAL SPECIFICATIONS:

DRIVEWAY CONCRETE PAVERS:
TO BE TECHO BLOC 'VILLAGIO' PAVER, IN RUNNING BOND PATTERN, WITH MORTARED JOINTS. PAVER THICKNESS IS 2-3/8", WIDTH IS 5 1/8", AND A BLEND OF LENGTHS (5 1/8", 6 5/16", 7 5/16", AND 8 7/16"). COLOR TO BE 'SHALE GREY'.

PARKING COURT PAVER:
TO BE TECHO BLOC 'VILLAGIO' PAVER (TO MATCH DRIVE), IN HERRINGBONE PATTERN, WITH PERMEABLE GRAVEL JOINTS. PAVER THICKNESS IS 2 3/8", WIDTH IS 5 1/8", AND A BLEND OF LENGTHS (5 1/8", 6 5/16", 7 5/16", AND 8 7/16"). COLOR TO BE 'SHALE GREY'.



1 A014.1 LANDSCAPE PLAN
SCALE: 1/8" = 1'

NEW ROW HOUSE

3314 VOLTA PLACE NW
WASHINGTON, DC 20007

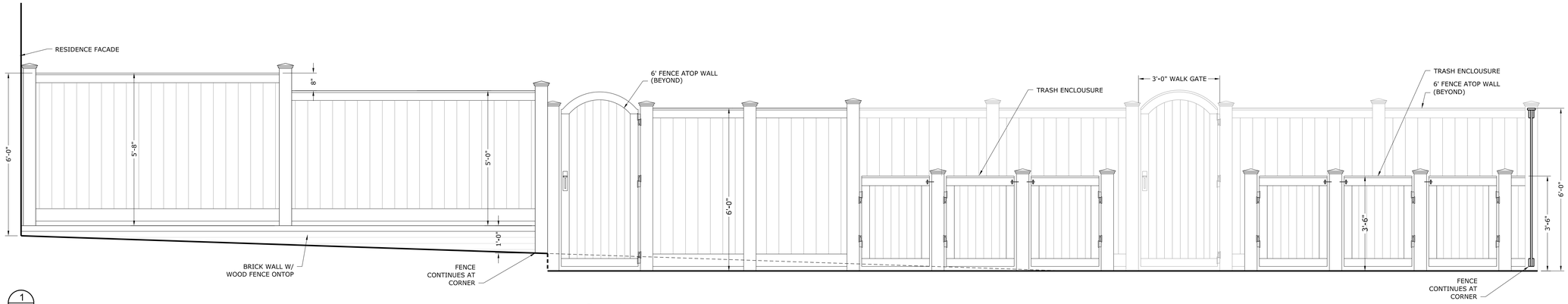
LOT: 228 SQUARE: 1254

LANDSCAPE PLAN

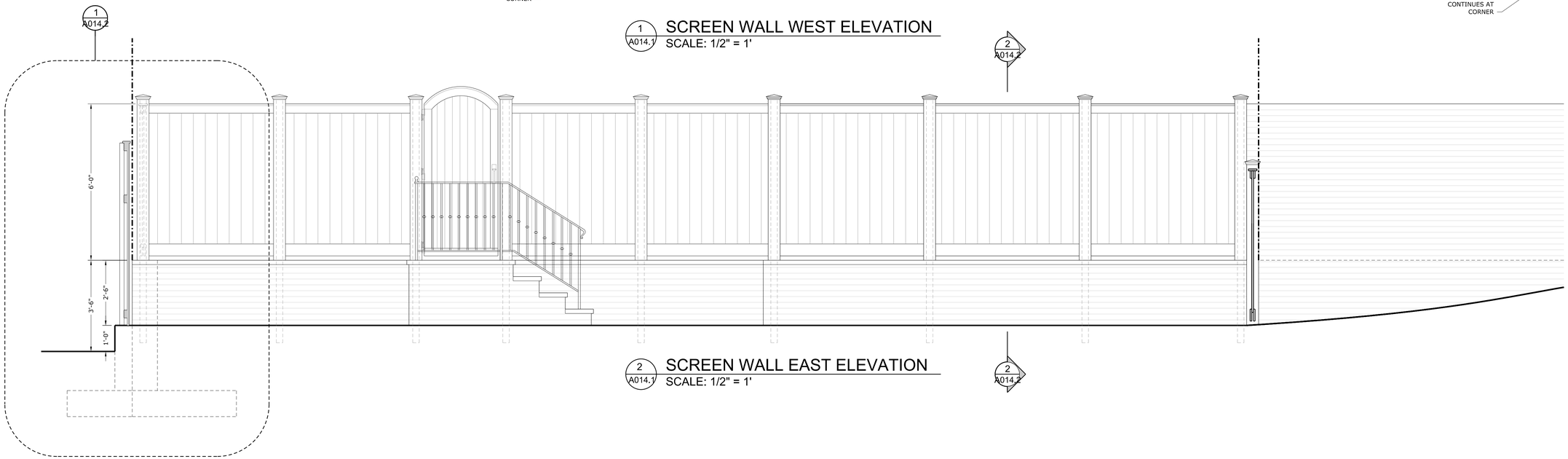
A014

DATE: 03-31-2023

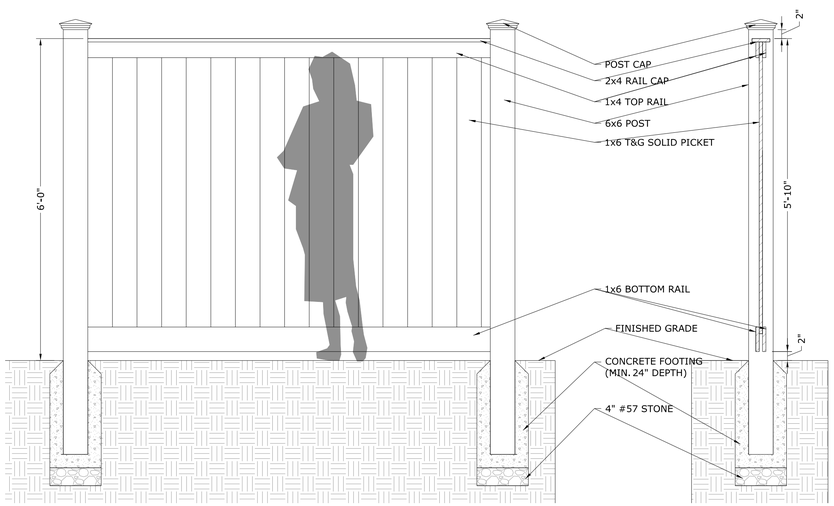
SCALE
1/8" = 1'-0"



1 A014.1 SCREEN WALL WEST ELEVATION
SCALE: 1/2" = 1'

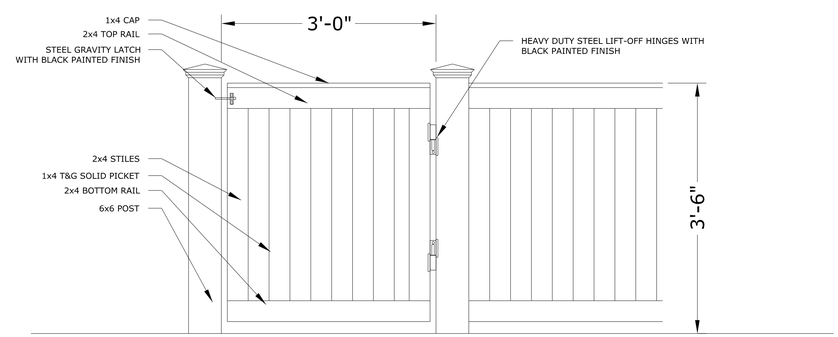


2 A014.1 SCREEN WALL EAST ELEVATION
SCALE: 1/2" = 1'



NOTES:
1. FENCE TO BE PAINTED OR STAINED 'STK' GRADE CEDAR WITH SMOOTH SANDED FINISH, PAINT/STAIN TBD.
2. STEP FENCE EVENLY WITH GRADE CHANGE.

3 A014.1 TYPICAL 6' SCREENING FENCE
SCALE: 3/4" = 1'



NOTES:
1. ENCLOSURE TO BE PAINTED OR STAINED 'STK' GRADE CEDAR WITH SMOOTH SANDED FINISH, PAINT/STAIN TBD.
2. FASTENERS TO BE GALVANIZED AND CONCEALED FROM VIEW.

4 A014.1 TYPICAL TRASH ENCLOSURE
SCALE: 1" = 1'

OVERMYER
ARCHITECTS

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DISTRICT OF COLUMBIA
DALE D OVERMYER
No. ARC4894
LICENSED ARCHITECT

NEW ROW HOUSE

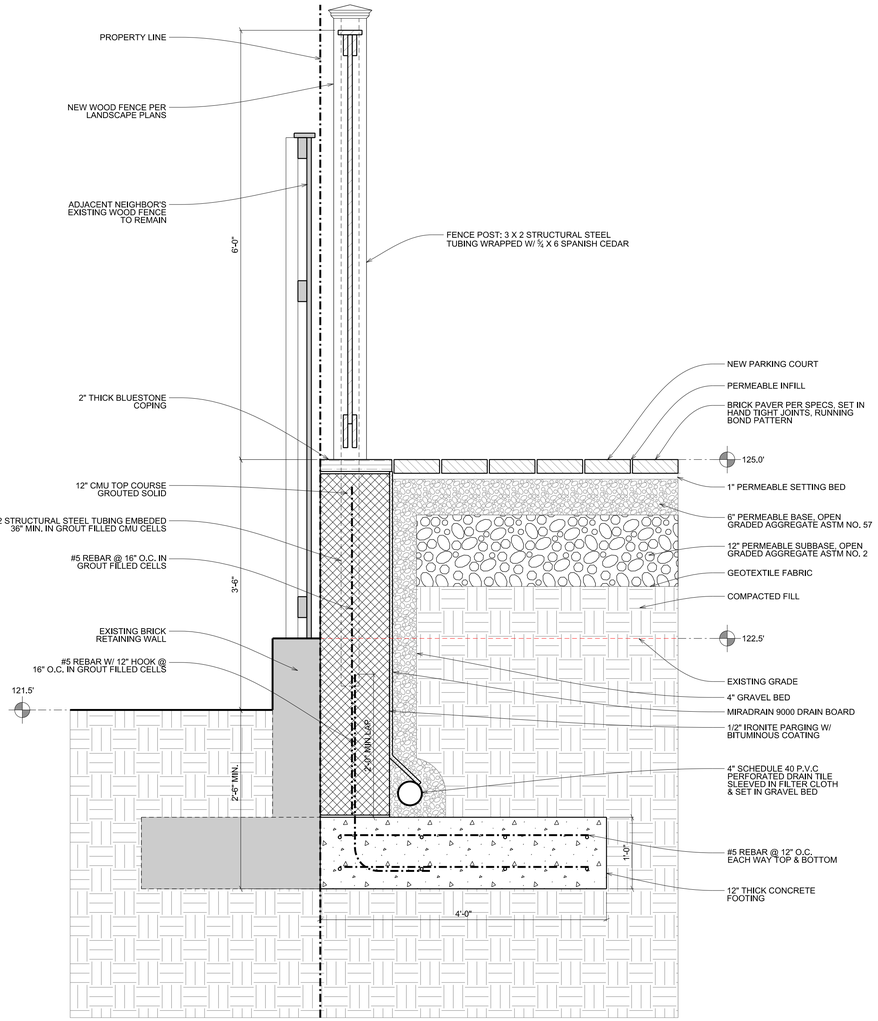
3314 VOLTA PLACE NW
WASHINGTON, DC 20007

LOT: 228 SQUARE: 1254

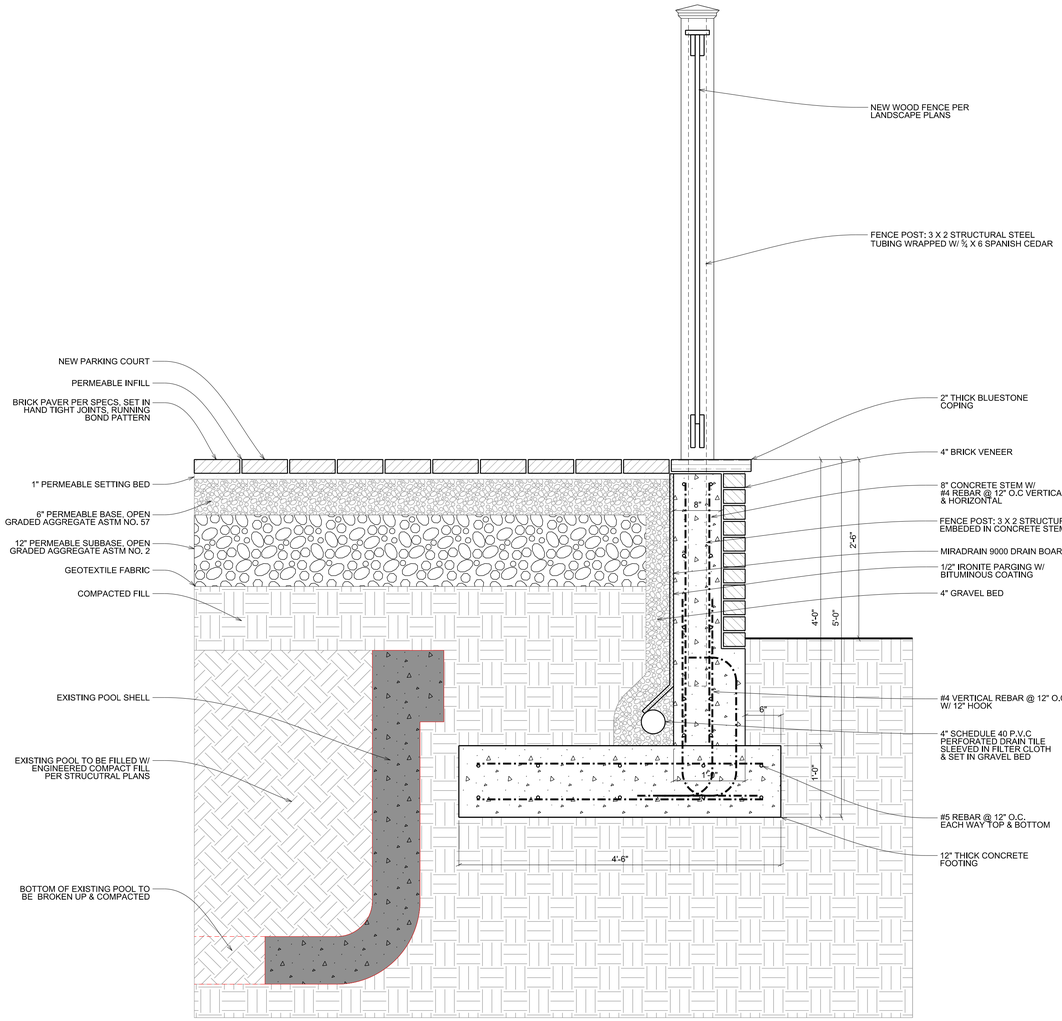
LANDSCAPE ARCHITECTURE FENCE DETAILS

A014.1

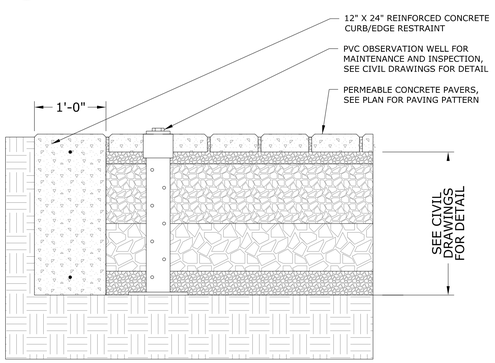
DATE: 03-31-2023



1 A014.2 RETAINING WALL DETAIL
SCALE: 1" = 1'

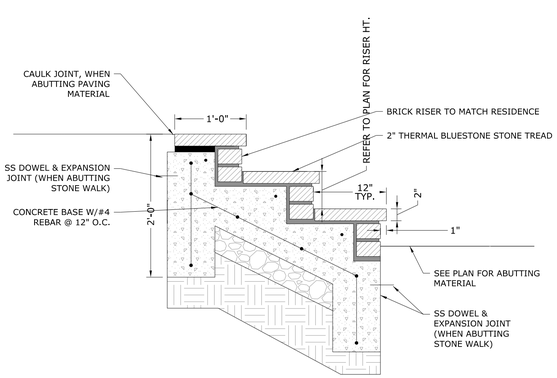


2 A014.2 RETAINING WALL DETAIL
SCALE: 1" = 1'



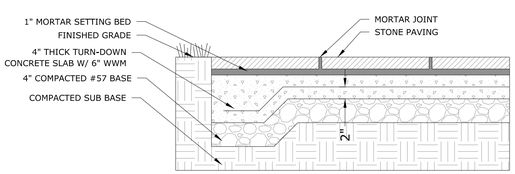
NOTES:
1. PROVIDE EXPANSION JOINTS WHERE CONCRETE IS POURED AGAINST VERTICAL SURFACES AND/OR DIFFERENT PAVING MATERIALS
2. CROSS SLOPE MIN. 1/8" PER FOOT.
3. SEE PLAN FOR PAVING PATTERNS.
4. PERMEABLE PAVER TBD.

3 A014.2 TYPICAL PERMEABLE PAVER DETAIL W/ UNDER DRAIN
SCALE: 1" = 1'



NOTES:
1. SEE PLAN FOR PAVING PATTERNS AND JOINT LOCATIONS.
2. SEE PLAN FOR NUMBER OF RISERS AND RISER HEIGHT.
3. STONE TREAD TO BE PENNSYLVANIA SELECT BLUE WITH THERMAL FINISH AND UNIFORM GRAY/BLUE COLOR. STONE TO BE FREE OF MINERAL STAINS OR OTHER FOREIGN MATTER WITH NO DEFECTS IN APPEARANCE AND DURABILITY. MIN. 36" LENGTHS, THICKNESS TO BE 2".
4. BRICK RISER TO MATCH RESIDENCE IN MATERIAL, SIZE, FINISH, COURSING, AND JOINTING.

4 A014.2 STONE STEP w/ BRICK RISER
SCALE: 1" = 1'



NOTES:
1. PROVIDE EXPANSION JOINTS WHERE CONCRETE IS POURED AGAINST VERTICAL SURFACES AND/OR DIFFERENT PAVING MATERIALS
2. CROSS SLOPE MIN. 1/8" PER FOOT.
3. SEE PLAN FOR PAVING PATTERNS.
4. FLAGSTONE TO BE PENNSYLVANIA FLAGSTONE, FULL RANGE COLOR, RANDOM RECTANGULAR PATTERN. FLAGSTONE TO BE FREE OF MINERAL STAINS OR OTHER FOREIGN MATTER WITH NO DEFECTS IN APPEARANCE AND DURABILITY. THICKNESS TO BE 1".
5. RANDOM RECTANGULAR PATTERNS TO HAVE PIECES RANGING FROM 12" X 12" TO 24" X 36".

5 A014.2 FLAGSTONE WALK (WWM REINFORCED CONCRETE BASE)
SCALE: 1" = 1'

OVERMYER
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LICENSED ARCHITECT

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WASHINGTON, DC 20007

LOT: 228 SQUARE: 1254

LANDSCAPE ARCHITECTURE DETAILS

A014.2

DATE: 03-31-2023

VIEW OF PROPOSED BUILDING FROM VOLTA PLACE NW

VIEW OF PROPOSED BUILDING FROM VOLTA PLACE NW

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NEW ROW HOUSE

3314 VOLTA PLACE NW
WASHINGTON, DC 20007

LOT: 228 SQUARE: 1254

RENDERINGS
NORTH ELEVATION
OPTION B

R1

DATE: 03-31-2023

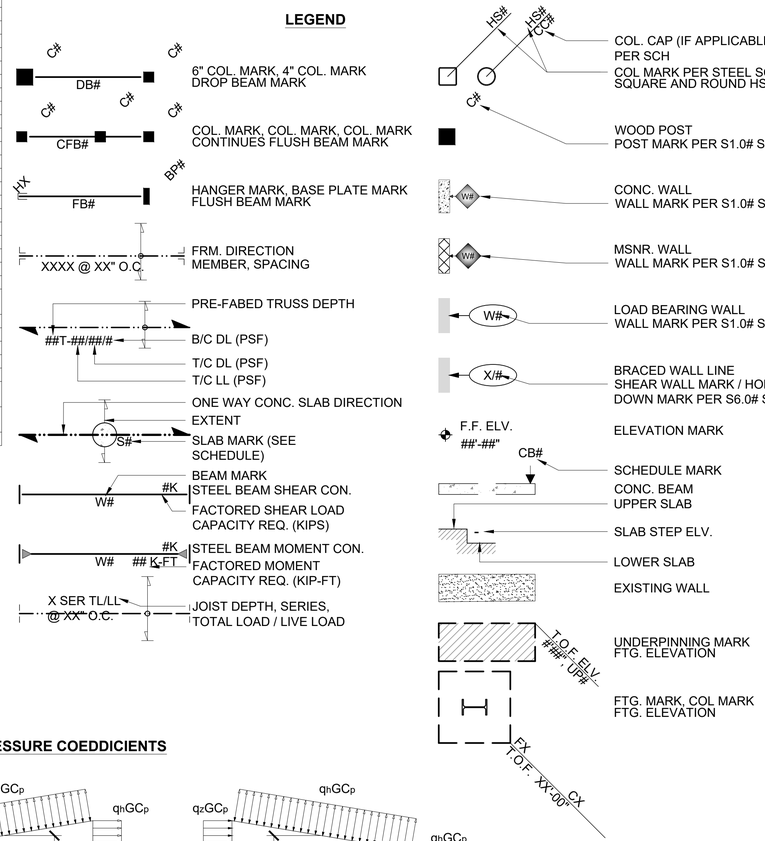
DESIGN LOADS AND PARAMETERS

VARIABLE	VALUE	DESCRIPTION
GOVERNING BUILDING CODE		2015 IRC / DCMR12B
CONSTRUCTION TYPE	VB	
RISK CATEGORY	II	
LIVE LOADS:		
INTER. BEDROOM SPACES	40PSF	
INTER. ALL OTHER SPACES	40PSF	
BALCONIES (BEDROOM)	45PSF	
BALCONIES (ALL OTHER)	60PSF	
STAIRS	100PSF	
ROOF	20PSF	
OCCUPIED ROOF	N/A	
GUARD RAIL	200LBS	POINT LOAD APPLIED NORMAL TO TOP OF RAILING
DEAD LOADS:		
CONCRETE	150PCF	
MASONRY	79PSF	
CMU	42PSF	
FLOOR FRAMING	7PSF	
ROOF FRAMING	7PSF	
2X6 EXTERIOR WALL	12PSF	
FOUNDATION DATA:		
Pa	2000 PSF	ALLOWABLE SOIL STRESS
FROST DEPTH	2'-6"	
SNOW LOADS DATA:		
Is	1	SNOW IMPORTANCE FACTOR
Ce	1	EXPOSURE COEFFICIENT
Ct	1.1&1.2	THERMAL COEFFICIENT
Cs	0.9	ROOF SLOPE FACTOR
Pg	25PSF	GROUND SNOW LOAD
Pf	19.25/21	FLAT ROOF SNOW LOAD
Ps	-	SLOPED ROOF SNOW LOAD
Pm	30PSF	MINIMUM ROOF SNOW LOAD
Lu	-	UPPER ROOF LENGTH
Ll	-	LOWER ROOF LENGTH
H	-	PROJECTION HEIGHT
Hd	-	DRIFT HEIGHT
W	-	DRIFT WIDTH
WIND LOADS DATA:		
EXPOSURE CATEGORY	B	
Vult	115MPH	ULTIMATE WIND SPEED
Vser	90MPH	SERVICE WIND SPEED
GCpi	0.1800	INTERNAL PRESSURE COEFFICIENT
SEISMIC DESIGN DATA:		
ANALYSIS PROCEDURE	N/A	
SEISMIC DESIGN CATEGORY	B	
SOIL SITE CLASSIFICATION	D	
BUILDING LAT. RESISTING SYSTEM		
Ie	1.0	SEISMIC IMPORTANCE FACTOR
R	6.5	RESPONSE MODIFICATION FACTOR
Cs	0.041	SEISMIC RESPONSE COEFFICIENT
Ss	0.134	SHORT PERIOD MSRA
S1	0.043	ONE SEC. PERIOD MSRA
Sds	0.412	SHORT PERIOD DESI. SPECTRAL RESPONSE ACC.
Sd1	0.069	ONE SEC. PERIOD DESI. SPECTRAL RESPONSE ACC.
V	8.2	SEISMIC BASE SHEAR

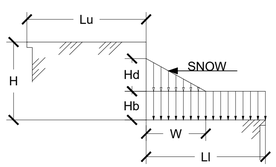
STRUCTURAL CONCRETE MIX DESIGN REQUIREMENTS

PURPOSE	MIN. F'c @ 28 DAYS U.N.O. (psi)	DENSITY (PCF)	W/C MAX.	AIR CONTEN T +/- 1.5	MAX. AGG. SIZE (in.)	DURABILITY REQUIREMENTS (ACI Ch. 4)			
						FREEZING AND THAWING	CORROSION PROTECTION	PERMEABILITY	SULFATE
FOUNDATIONS AND INTERIOR FOUNDATION WALLS	4000	150	0.5	ANY	1	F0	C1	P1	S0
INTERIOR SLAB ON GRADE	4000	150	0.5	5.5	1/2	F0	C1	P1	S0
EXTERIOR RETAINING WALLS AND SLABS	4500	150	0.45	5	3/4	F1	C1	P0	S0
INTERIOR CONCRETE ON METAL DECK	4000	150	0.45	ANY	3/8	F0	CO	P0	S0
LIGHT WEIGHT CONC. FILL: TOPPING SLABS, CURBS, EQUIP. PADS, ETC.	3500	115	0.5	5	3/4	F1	CO	P1	S0
COLUMNS AND BEAMS	6000	150	0.45	5	3/8	F1	C1	P0	S0

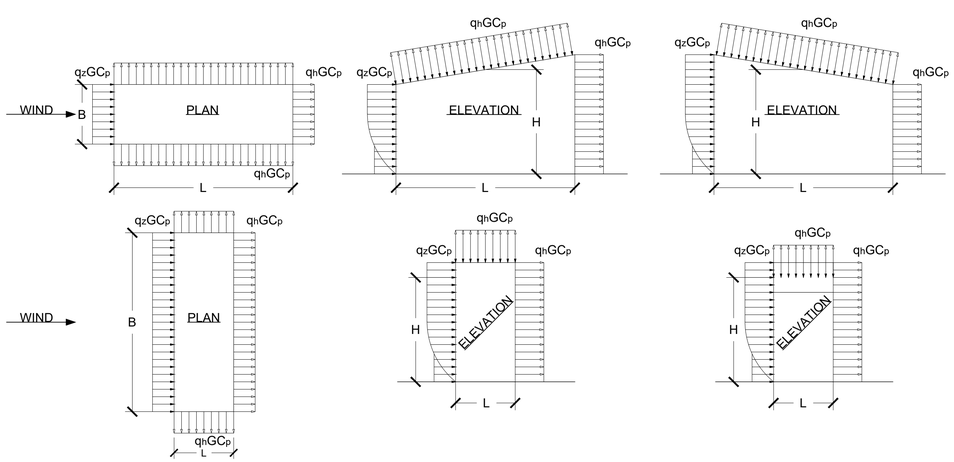
LEGEND



SNOW DRIFT LOAD DIAGRAM



MWFRS EXTERNAL PRESSURE COEDDICIENTS



ABBREVIATIONS

A.B.	ANCHOR BOLT
ABV.	ABOVE
ADJ.	ADJACENT
A.F.F.	ABOVE FINISHED FLOOR
ALT.	ALTERNATE/ALTERNATIVE
ARC.	ARCHITECT OF RECORD
BLDG.	BUILDING
B.O.F.	BOTTOM OF FOOTING
B.O.S.	BOTTOM OF SLAB
B/C	TRUSS BOTTOM CORD
BP	BASE PLATE
BRG.	BEARING
C.C.	CLEAR COVER
CCJ	CRACK CONTROL JOINT
CDB#	CONT. DROP BEAM MARK
CFB#	CONT. FLUSH BEAM MARK
C.H.	CEILING HEIGHT
CLR.	CLEAR
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
CON.	CONNECTION
CONC.	CONCRETE
CONT.	CONTINUES
CTR.	CENTER
DB#	DROP BEAM MARK (SEE SCH.)
DBL.	DOUBLE
DEMO.	DEMOLISH/DEMOLITION
DIA.	DIAMETER
DIM.	DIMENSIONS
DL	DEAD LOAD
DN	DOWN
D.T.	DRAG TRUSS
ELV.	ELEVATION
EMBD.	EMBEDMENT
ENG.	ENGINEER
E.O.R.	ENGINEER OF RECORD
EQU.	EQUAL
EX.	EXISTING
EXT.	EXTERIOR
FB#	FLUSH BEAM MARK (SEE SCH.)
F.F.	FINISHED FLOOR
FRM.	FRAMING
FRT	FIRE RETARDANT TREATED WOOD
FT	FOOT
FTG.	FOOTING
G.L.	GRID LINE
GLV.	GALVANIZED
G.T.	GIRDER TRUSS (BY OTHERS)
GWB	GYPSUM WALL BOARD
H#	HANGER MARK (SEE SCH.)
HDR.	HEADER
HGR.	HANGER
HORIZ.	HORIZONTAL
IBC	INTERNATIONAL BUILDING CODE
ICC	INTERNATIONAL CONSTRUCTION CODE
IN	INCH
INF.	INFILL W/ SIMILAR
IRC	INTERNATIONAL RESIDENTIAL CODE
J/K	JACK/KING
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSL	LAMINATED STRAND LUMBER
LVL	LAMINATED VENEER LUMBER
MAX.	MAXIMUM
MEP	MECHANICAL ELECTRICAL PLUMBING
MFG.	MANUFACTURER/MANUFACTURED
MIN.	MINIMUM
MPH	MILES PER HOUR
MSNR.	MASONRY
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
O.B.	OVER BUILD FRAMING
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
P.A.	POST ABOVE
PLF	POUND PER LINEAR FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
P.T.	PRESSURE TREATED
RENF.	REINFORCEMENT
SCH.	SCHEDULE (SEE SCH. ON PLAN)
SDB	STEEL DROP BEAM
SFB	STEEL FLUSH BEAM
S.I.E.R.	SPECIAL INSPECTION ENGINEER OF RECORD
SIM.	SIMILAR
SPF	SPRUCE PINE FUR
SS	STAINLESS STEEL
STL.	STEEL
SYM.	SYMMETRIC/SYMMETRICAL
SYP	SOUTHERN YELLOW PINE
T.B.D.	TO BE DETERMINED
T/C	TRUSS TOP CORD
T.O.F.	TOP OF FOOTING
T.O.S.	TOP OF SLAB
T.O.W.	TOP OF WALL
T.S.	THICKENED SLAB
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
V.I.F.	VERIFY IN FIELD
W.W.R.	WELDED WIRE REINFORCING

SCOPE OF WORK

NEW 3 STORY+ CELLAR ROW HOUSE DWELLING

Sheet List Table

Project Name and Address

NEW ROW HOUSE

3314 VOLTA PLACE NW
WASHINGTON, DC 20007

Firm Name and Address

GRIGGS ENGINEERING
409 S Dallas ST
Baltimore MD 21201
202-790-4350
David@griggs-gdevelop.com

FOR OGB REVIEW
DISTRICT OF COLUMBIA
DAVID M. GRIGGS
FEBRUARY 8, 2023
No. PE920027
STRUCTURAL
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

No.	Issue #	Date

Sheet Title

PROJECT DATA

Project: ----
Date: 3/10/23
Issued For: OGB REVIEW
Sheet: S0.00

GENERAL NOTES:

1. THESE NOTES SERVE AS THE SPECIFICATIONS FOR THE WORK.
2. ALL STRUCTURAL WORK SHALL BE COORDINATED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND SHALL CONFORM TO PROJECT SPECIFICATIONS, INCLUDING THE 2015IRC/DCMR12B
3. REFER TO THE DESIGN LOADS AND PARAMETERS TABLE ON SHEET S0.00 FOR CODE REQUIRED LOADS FOR THE PROJECT.
4. CONTRACTOR SHALL PROVIDE TEMPORARY SHORING, BRACING, AND SHEETING AND MAKE SAFE ALL FLOORS, ROOFS, WALLS, AND ADJACENT PROPERTY AS PROJECT CONDITIONS REQUIRE. SHORING AND SHEETING SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE DISTRICT OF COLUMBIA, HIRED BY THE CONTRACTOR, WHO SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR THE OWNER'S REVIEW. BRACING OF FLOORS, ROOFS, AND WALLS DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH OSHA STANDARDS.
5. NOTIFY THE ENGINEER OF DISCREPANCIES BETWEEN THE DRAWINGS AND THESE NOTES BEFORE PROCEEDING WITH THE WORK.
6. USE ARCHITECTURAL DRAWINGS AND DRAWINGS OF OTHER TRADES IN CONJUNCTION WITH THE STRUCTURAL DRAWINGS TO PERFORM THE WORK.
7. IF CONDITIONS EXPOSED DURING EXCAVATION AND/OR DEMOLITION REVEAL UNFORESEEN CONDITIONS, PROMPTLY NOTIFY THE ENGINEER AND ARCHITECT BEFORE PROCEEDING.
8. DO NOT SCALE THE DRAWINGS. CONTRACTOR SHALL COORDINATE ALL DIMENSIONS, ROOF SLOPE, GEOMETRIES, ANGLES, ETC. WITH ARCHITECTURAL DRAWINGS.
9. SECTIONS AND DETAILS SHOWN, WHILE DRAWN FOR SPECIFIC LOCATIONS, ARE INTENDED TO ESTABLISH THE GENERAL TYPES OF DETAILS TO BE USED THROUGHOUT.
10. THE ENGINEER'S REVIEW OF A SUBMITTAL SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO FOLLOW THE INTENT OF THE CONTRACT DRAWINGS.
11. THE CONTRACT DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. THESE NOTES HIGHLIGHT BUT DO NOT REPLACE THE SPECIFICATIONS CONTAINED IN THE PROJECT CONTRACT.

DELEGATED DESIGN ITEMS

1. EMPLOY OR RETAIN A PROFESSIONAL ENGINEER LICENSED IN THE DISTRICT OF COLUMBIA TO DESIGN AND DETAIL THE FOLLOWING PERFORMANCE SPECIFIED STRUCTURAL COMPONENTS:
   a. CONCRETE MIX DESIGN
   b. SHORING/SCAFOLDING
   c. TEMPORARY EXCAVATION SUPPORT
   d. STAIRS
   e. RAILINGS AND GUARDRAILINGS
   f. STEEL CONNECTIONS
   g. ROOF AND FLOOR TRUSSES
   h. STEEL BAR JOIST CONNECTIONS
2. SHOP DRAWINGS SHALL BE PROVIDED TO THE STRUCTURAL ENGINEER OF RECORD TO EVALUATE THEIR CONFORMANCE TO THE STRUCTURAL DESIGN INTENT. THIS IS A REVIEW AND THE PROFESSIONAL ENGINEER OF RECORD FOR THE SHOP DRAWINGS TAKE RESPONSIBILITY FOR THEIR DESIGN.
3. PRIOR TO SUBMITTING SHOP DRAWINGS TO THE STRUCTURAL ENGINEER OF RECORD, THE CONTRACTOR SHALL VERIFY THAT THE SHOP DRAWINGS COMPLY WITH THE LATEST DESIGN, PREVIOUS COMMENTS ARE ADDRESSED, COORDINATED ALONG ALL TRADES, AND DRAWINGS ARE COMPLETE.
4. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING FINAL APPROVAL OF SHOP DRAWINGS TO THE MANUFACTURER.

EXISTING BUILDING/STRUCTURAL NOTES

1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS AND METHODS AND PROTECTING ADJACENT STRUCTURES, DURING THE COURSE OF THE WORK. DO NOT DAMAGE OR ENDANGER THE STRUCTURAL INTEGRITY OF THE WORK, EXISTING STRUCTURE, OR ADJACENT PROPERTY.
2. IF STRUCTURAL DRAWINGS ARE USED TO LAYOUT WALL LINES, ALL DIMENSIONS SHALL FIRST BE VERIFIED WITH THE ARCHITECTURAL DRAWINGS. LAYOUT SHALL BE CHECKED BEFORE WORK IS BEGUN.
3. VERIFY ALL DIMENSIONS AND ACCURATELY LOCATE ALL EXISTING BEARING WALLS AND OTHER STRUCTURAL MEMBERS BEFORE BEGINNING WORK OR PREPARING SHOP DRAWINGS.
4. UTMOST CARE SHALL BE EXERCISED AT ALL TIMES WHEN WORKING ON EXISTING STRUCTURAL MEMBERS AND MASONRY BEARING WALLS TO AVOID IMPAIRING THE STRUCTURAL CAPACITY OF THE EXISTING STRUCTURE.
   a. SHOULD THE ARCHITECT OR ENGINEER DETERMINE THAT THE STRUCTURAL CAPACITY OF THE EXISTING STRUCTURE HAS BEEN IMPAIRED BY, OR AS A RESULT OF THE OPERATIONS OF THE CONTRACTOR, OR OTHERWISE NOT IN CONFORMANCE WITH THE CONTRACT DOCUMENTS, APPROPRIATE REMEDIAL WORK SHALL BE REQUIRED.
   b. ANY DAMAGE RESULTING FROM THE OPERATION OF THE CONTRACTOR SHALL BE REPAIRED AS DIRECTED BY THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST TO THE OWNER.

FOUNDATIONS:

1. BUILDING FOUNDATIONS SHALL BEAR ON UNDISTURBED SOIL HAVING MINIMUM BEARING CAPACITY OF 2000 PSF PER THE GEO-TECH REPORT DATED ON 8/14/2022. ADEQUACY OF BEARING STRATUM SHALL BE VERIFIED IN FIELD PRIOR TO PLACING CONCRETE. ALL NECESSARY ADJUSTMENTS TO THE BOTTOM OF FOOTING TO BE REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.
2. DO NOT PLACE BACKFILL AGAINST BASEMENT WALLS UNTIL ALL FLOORS BRACING THESE WALLS ARE IN PLACE AND HAVE ATTAINED THEIR 28 DAY STRENGTH OF CONCRETE.
3. ALL EXTERIOR FOOTINGS SHALL HAVE A B.O.F. AT LEAST 30 in BELOW GRADE.
4. CONCRETE SHALL BE PLACED IN DRY EXCAVATIONS. CONTRACTOR SHALL NOTE SOIL AND WATER CONDITIONS AS SHOWN BY THE DEPTH OF FOOTINGS AS SHOWN ON THE FOUNDATION PLANS AND ADJACENT BORINGS OR TEST PITS.
5. ALL EXISTING ACTIVE SEWERS, WATER, GASS, ELECTRICAL, OTHER UTILITIES, AND STRUCTURES SHALL BE LOCATED AND PROTECTED BY THE CONTRACTOR.

CONCRETE:

1. ALL CONCRETE WORK SHALL CONFORM TO THE FOLLOWING ACI GOVERNING STANDARDS.
   a. AMERICAN CONCRETE INSTITUTE (ACI) 'BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318-11).
   b. ACI "MANUAL OF CONCRETE PRACTICE", LATEST EDITION
   c. CONCRETE REINFORCING STEEL INSTITUTE (CRSI) "MANUAL OF STANDARD PRACTICE", LATEST EDITION.
2. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS OTHERWISE NOTED. REFER TO S0-00 FOR CONCRETE SPECIFICATIONS.
3. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60. REINFORCING SHALL BE DETAILED ACCORDING TO THE ACI "DETAILS AND DETAILING OF REINFORCING", (ACI 315), LATEST EDITION.
4. REINFORCING STEEL TO BE WELDED TO CONFORM TO ASTM A706 GRADE 60.
5. WELDED WIRE REINFORCEMENT (WWR) SHALL CONFORM TO ASTM A1064, WITH A MINIMUM YIELD STRENGTH OF 6500 PSI.
6. COORDINATE SIZE AND LOCATION OF OPENINGS AND PIPE SLEEVES WITH ALL OTHER DISCIPLINES' DRAWINGS. MINIMUM CONCRETE BETWEEN SLEEVES SHALL BE 6".
7. ALL GROUT SHALL BE NON-SHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000PSI.
8. PROVIDE CLEARANCE FROM FACE OF CONCRETE TO REINFORCEMENT AS FOLLOWS:
   a. FOOTINGS: 3"
   b. BEAMS AND COLUMNS: 1-1/2"
   c. SLABS: ¾"
   d. EXTERIOR WALLS: 2" FOR # 6 OR LARGER BAR, 1-1/2" FOR #5 OR LESS
   e. INTERIOR WALLS: ¾"
9. PRIOR TO THE START OF CONCRETE WORK, SHOP DRAWINGS SHALL BE PROVIDED TO THE STRUCTURAL ENGINEER OF RECORD FOR REVIEW. NO CONCRETE WORK SHALL COMMENCE PRIOR TO APPROVAL OF THE SHOP DRAWINGS BY THE ENGINEER.
10. CONCRETE SHALL NOT BE PLACED WITH COLD JOINTS OR CONSTRUCTION JOINTS WITHOUT THE ENGINEER OF RECORDS PRIOR APPROVAL. THE CONCRETE SURFACES OF A COLD JOINT SHALL BE CLEANED AND ROUGHENED TO ¼" PRIOR TO PLACING NEW CONCRETE.
11. PRIOR TO PLACING CONCRETE COORDINATE WITH STRUCTURAL'S AND OTHER DISCIPLINES' PLANS, SHOP DRAWINGS, ETC. TO COORDINATE THE LOCATIONS OF, INSERTS, EQUIPMENTS PADS, REINFORCING DOWELS, WATER STOPS, AND OTHER EMBEDDED ITEMS. "WET SETTING" OF EMBEDDED ITEMS IS NOT PERMITTED.
12. WELDED WIRE REINFORCEMENT IN COMPOSITE CONSTRUCTION SHALL HAVE TENSION SPLICES AND BE ANCHORED AT DISCONTINUOUS EDGES.

MASONRY

1. ALL MASONRY CONSTRUCTION SHALL COMPLY WITH ACI-530.
2. ALL MASONRY UNITS SHALL CONFORM TO ASTM C90.
3. MORTAR TYPES SHALL BE AS FOLLOWS U.N.O.:
   a. INTERIOR: LOAD BEARING, S; NON-LOAD BEARING, N
   b. EXTERIOR: LOAD BEARING, S OR M; NON-LOAD BEARING, N
   c. BELOW GRADE: LOAD BEARING, S OR M; NON-LOAD BEARING, S
4. COMPRESSIVE STRENGTH (f'm) OF MASONRY ASSEMBLIES SHALL BE NO LESS THAN 2000 PSI AT 28 DAYS.
5. CONCRETE UNIT MASONRY STRENGTH SHALL BE CONFIRMED BY PRISM TEST PER ACI 530.1, 1.4.B.3 OR BY ASSEMBLY STRENGTH PER ACI 530.1, 1.4.B.2.b. PROVIDE RESULTS TO ENGINEER OF RECORD.
6. MASONRY PIERS AND WALLS TO BE LAID IN FULL BED OF MORTAR.
7. GROUT SOLID CELLS WITH REINFORCMENT AND CELLS IN BELOW GRADE CONSTRUCTION IN CONTACT WITH SOIL.
8. PLACE GROUT WITH IN MAXIMUM OF 4' LIFTS.
9. CMU WALLS TO BE LAID IN STACK BOUND SHALL HAVE BOND BEAMS 48" O.C.
10. THE TOP OF EXTERIOR MASONRY WALLS SHALL BE COVERED AND PROTECTED FROM WEATHER.
11. WHEN SAWCUTTING NEW OPENINGS INTO MASONRY WALLS, REBUILD AND SOLID GROUT MASONRY JAMBS.

POST INSTALLED ADHESIVE AND MECHANICAL ANCHORS

1. POST INSTALLED ANCHORS SHALL BE INSTALLED PER MANUFACTURER'S TECHNICAL DATA TO INTACT BASE MATERIAL. FOR INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED TO SUPPORT SUSTAINED TENSION LOADS, THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ON-SITE INSTALLATION TRAINING FOR THE ANCHORING PRODUCTS SPECIFIED. PROVIDE THE STRUCTURAL ENGINEER OF RECORD WITH DOCUMENTS CONFIRMING THIS PER ACI ACI 318-11 APPENDIX D. NOTIFY THE ENGINEER OF RECORD PRIOR TO INSTALLATION IF THE BASE MATERIAL DEVIATES FROM THE STRUCTURAL DRAWINGS OR THE MANUFACTURER'S TECHNICAL DATA.
2. MANUFACTURER'S DATA FOR ALTERNATE ANCHORAGE PROPOSED BY CONTRACTORS SHALL BE SUBMITTED TO ENGINEER OF RECORD FOR REVIEW AND APPROVAL. ANCHOR CAPACITY USED IN DESIGN SHALL BE BASED ON THE TECHNICAL DATA PUBLISHED BY HILTI OR SUCH OTHER METHOD AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT.
3. POWER ACTUATED FASTENERS SHOWN IN DETAILS SHALL BE HILTI PRODUCTS OR APPROVED EQUIVELENT. TYPE AND LENGTH OF P.A.F. SHALL BE AS FOLLOWS:
   a. CONCRETE: X-U WITH MIN. 1.25" EMBD
   b. CMU: X-U WITH MIN. 1" EMBD
   c. STEEL(NOT MORE THAN ½" MATERIAL): X-U WITH PENETRATION THROUGH STEEL.
   d. STEEL (MORE THAN ½" MATERIAL): EDS WITH MINIMUM ½" PENETRATION.

STRUCTURAL WOOD FRAMING

1. ALL NAILS ARE SMOOTH COMMON BOX NAILS OR DEFORMED SHANK U.N.O. NAILS USED FOR FRAMING SHALL HAVE A MINIMUM BENDING YIELD STRENGTH OF 80 KSI.
2. PROVIDE WOOD FRAMING, INCLUDING DETAILS FOR BRIDGING, BLOCKING, FIRE STOPPING, ETC., IN ACCORDANCE WITH THE AMERICAN FOREST AND PAPER ASSOCIATION (AFPA) "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION (NDS 2015)" AND IT'S SUPPLEMENTS.
3. FRAMING LUMBER SHALL BE OF THE FOLLOWING SPECIES AND MINIMUM GRADE:
   a. RAFTERS: SOUTHER YELLOW PINE, No. 2 OR BETTER
   b. STUDS: SPRUCE PINE FIR, No. 2 OR BETTER
   c. DOUBLE TOP PLATES: SOUTHER YELLOW PINE, No. 2 OR BETTER
   d. BOTTOM PLATES: SOUTHER YELLOW PINE, No. 2 OR BETTER
   e. JOIST: SOUTHERN YELLOW PINE, No. 2 OR BETTER
4. IF NOT SHOWN ON THE PLANS, ALL POST OR BUILT UP POST SHALL BE CONTINUED ON THE FLOORS BELOW TO THE FOUNDATION.
5. PROVIDE SQUASH BLOCKS IN FLOOR CAVITY EQUAL IN SIZE TO POST BELOW.
6. FACTORY MARK EACH PIECE OF FRAMING LUMBER WITH GRADE STAMP OF, OR CERTIFICATE OF INSPECTION ISSUED BY AN APPROVED GRADING OR INSPECTION AGENCY.
7. PROTECT WOOD MATERIALS TO LIMIT MAXIMUM MOISTURE CONTENT DURING CONSTRUCTION TO BELOW 15%.
8. FRAMING LUMBER SHALL BE SURFACE DRIED, EXCEPT STUDS, WHICH SHALL BE KILN-DRIED.
9. CONSULT ARCHITECT TO PROVIDE WEATHER PROTECTION FOR ALL FRAMING MEMBERS THE CANTILEVER PAST THE EXTERIOR WALLS.
10. PRESERVATIVE-TREATED WOOD: PROVIDE PRESERVATIVE-TREATED LUMBER AT ALL LOCATIONS EXPOSED TO WEATHER, AND FOR ALL LUMBER IN CONTACT WITH SLAB ON GRADE, CONCRETE OR MASONRY, OR AS OTHERWISE INDICATED ON ARCHITECTURAL OR STRUCTURAL DRAWINGS. TREATMENT SHALL BE IN ACCORDANCE WITH INDUSTRY STANDARD PRACTICE.
11. STUD BEARING WALLS ARE TO BE 2X4 @16" O.C. AT THE INTERIOR AND 2X6 @16"O.C. AT THE EXTERIOR, WITH SINGLE BOTTOM PLATE AND DOUBLE TOP PLATE, UNLESS NOTED OTHERWISE ON PLANS.
12. TO AVOID INTERFERENCE WITH PLACEMENT OF ELECTRICAL AND LIGHTING FIXTURES, CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT NO JOIST OR PLATE CONNECTED WOOD TRUSSES ARE LOCATED AT THE CENTER OF ROOMS OR AT THE CENTER OF PICTURE WINDOWS. COORDINATE JOIST LOCATIONS TO AVOID CONFLICT WITH LIGHTING, PLUMBING, AND HVAC FIXTURES.
13. PROVIDE DOUBLE STUDS AT THE END OF WALLS AND AT THE END OF WALL OPENINGS.
14. USE DOUBLE TRIMMERS AND DOUBLE HEADERS AT ALL FLOOR OPENINGS WHERE BEAMS ARE NOT DESIGNATED. PROVIDE DOUBLE JOIST UNDER PARTITIONS LONGER THAN HALF THE JOIST SPAN.
15. LAP ALL TOP PLATES AT CORNER AND AT INTERSECTING OF PARTITIONS.
16. STAGGER TOP PLATE 32" MINIMUM IN STRAIGHT WALL RUNS. DO NOT SPLICE OR LAP TOP PLATES WITHIN 4' OF CORNERS.
17. UNLESS NOTED OTHERWISE, AT THE END OF ALL BEAMS AND GIRDERS, PROVIDE A BUILT UP OR SOLID POST WHOSE WIDTH IS AT LEAST EQUAL TO THE WIDTH OF THE MEMBER IT IS SUPPORTING AND WHOSE DEPTH IS 4" (NOMINAL) AT INTERIOR WALLS AND 6" (NOMINAL) AT EXTERIOR WALLS.
18. PROVIDE CROSS BRIDGING OR BLOCKING BETWEEN JOISTS AT MID-SPAN. SPACING SHALL NOT EXCEED 8' O.C.
19. DO NOT CUT OR NOTCH NEW OR EXISTING BEAMS AND JOISTS.
20. BUILT UP BEAMS, LVL, PSL, AND STEEL FLITCH BEAMS SHALL BE BOLTED OR NAILED TOGETHER PER THE LVL AND PSL NAILING DETAIL.
21. LAMINATED VENEER LUMBER: LVL BEAMS, HEADERS AND HORIZONTAL BENDING MEMBERS SHALL HAVE THE MINIMUM MATERIAL PROPERTIES:

    G=125,000 PSI, E=2,000,000 PSI, Fb=2,600 PSI, Ft=1,555 PSI, Fv=285 PSI

    2.0E MICROLLAM LVL AS MANUFACTURED BY WEYERHAEUSER ARE APPROVED PRODUCTS.
22. SOLID SAWN LUMBER: JOIST, HEADERS, TRIMMERS, DOUBLE TOP PLATES, AND HORIZONTAL BENDING MEMBERS SHALL HAVE THE MINIMUM MATERIAL PROPERTIES:

    E=1,400,000 PSI, Fb=1,100 PSI, Ft=675 PSI, Fv=175 PSI, Fc=565 PSI

    SOUTHERN YELLOW PINE No.2 OR BETTER ARE APPROVED PRODUCTS.
23. SOLID SAWN LUMBER: WALLS STUDS, BOTTOM PLATES AND POSTS SHALL BE SPRUCE PINE FIR WITH THE MINIMUM MATERIAL PROPERTIES U.N.O.

    E=1,400,000 PSI, Fb=875 PSI, Ft=450 PSI, Fv=135 PSI, Fc=1,150 PSI
24. GLULAM BEAMS SHALL HAVE THE MINIMUM MATERIAL PROPERTIES:
24. GLULAM BEAMS SHALL HAVE THE MINIMUM MATERIAL PROPERTIES U.N.O.

    E=1,800,000 PSI, Fb=2400 PSI, Ft=1100 PSI, Fv=265 PSI, Fc=656
25. UNLESS MENTIONED IN THE DRAWING ELSEWHERE 4X4, 4X6, AND 6X6 POST SHALL BE SOLID OR BUILT UP WITH (3)2X4, (4)2X4, (4)2X6 RESPECTIVELY. NAILING SHALL BE IN ACCORDANCE WITH THE BUILT UP POST DETAIL.
26. ENGINEERED COLUMNS: COLUMNS, POSTS, AND VERTICAL COMPRESSION MEMBERS SHALL HAVE THE MINIMUM MATERIAL PROPERTIES:

    E=1,800,000 PSI, Fb=2,400 PSI, Ft=1,755 PSI, Fv=190 PSI, Fc=2,500 PSI

    1.8E PARALLAM (PSL) AS MANUFACTURED BY WEYERHAEUSER ARE APPROVED PRODUCTS.
27. UNLESS NOTED OTHERWISE, STUD BEARING WALLS SHALL HAVE BLOCKING AT MID-HEIGHT.
28. DRILL PILOT HOLES FOR LAG SCREWS IN ACCORDANCE WITH NDS REQUIREMENTS. DO NOT INSTALL LAG SCREWS WITH IMPACT DRIVERS.
29. NOTCHING, BORING AND SURFACING OF EXISTING WOOD MEMBERS IN PREPARATION FOR STRUCTURAL STEEL CONNECTIONS SHALL BE PERFORMED BY CARPENTERS ONLY.
30. REFER TO SHEET S0-00 FOR WOOD TRUSS LOADING DIAGRAMS.
31. WOOD TRUSS CONNECTIONS SHOWN ON S4-X
32. U.N.O USE 10D NAILS FOR ALL WOOD FRAMING CONNECTIONS .

WOOD CONNECTIONS

1. WOOD CONNECTORS SHALL BE OF TYPE AND SIZE SHOWN ON DETAILS, PLAN, OR SCHEDULE.
2. SHOP DRAWINGS OR SUBMITTALS FOR CUSTOM CONNECTORS, SUCH AS CCCQ-SDS2.5, ECCLLQ-SDS2.5, ECCL, ETC SHALL BE PROVIDED TO E.O.R. PRIOR TO ORDERING.
3. ALL POST SUPPORTING ROOF G.T. OR BEAMS SHALL BE CONNECTED TO THE BEAM AND FLOOR BELOW WITH UPLIF DEVICES. U.N.O. ON PLANS, PROVIDE (2) "ACE" SERIES SIMPSON STRONG TIE POST CAPS AND A "H6" STRAP THROUGH THE FLOOR CAVITY BELOW.
4. WOOD TRUSS CONNECTIONS SHALL BE DESIGN BY TRUSS MANUFACTURER. CONNECTIONS SHOWN ON S4-XX ARE INTENDED TO BE SCHEMATIC IN NATURE.
5. FASTENING SHALL BE IN ACCORDANCE WITH THE MOST RESTRICTIVE OF NDS 2015, 2015IRC/DCMR12B, AND THE MANUFACTURES TECHNICAL SPECIFICATIONS. REFER TO IBC TABLE 2304.9.1 FOR GUIDANCE.
6. ALL METAL CONNECTORS FOR WOOD CONSTRUCTION SHALL BE GALVANIZED STEEL OR BETTER MANUFACTURED BY SIMPSON STRONG TIE.
7. IF NOT SHOWN ON THE CONSTRUCTION DOCUMENTS, PROVIDE SIMPSON STRONG TIE H2.5A BETWEEN THE RAFTERS AND BEARING POINTS MAX. 24" O.C.
8. NAILS SHALL MEET THE REQUIREMENTS OF ASTM F1667 AND SCREWS SHALL MEET THE REQUIREMENTS OF ASTM B18.6.1. BOLTS AND LAG SCREWS SHALL MEET THE REQUIREMENTS OF ASTM ASME B 18.2.1.
9. POWER ACTUATED FASTENERS SHALL COMPLY WITH ASTM E488.
10. WHERE ROUGH CARPENTRY IS EXPOSED TO WEATHER, IN CONTACT WITH THE GROUND, AND/OR PRESERVATIVE TREATED CONNECTORS AND FASTENERS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED COMPLYING WITH ASTM A653 G185.
11. ALL FACE MOUNTED CONNECTORS SHALL BE A MINIMUM OF 16 Ga. GALVANIZED STEEL INSTALLED PER MANUFACTURERS INSTRUCTIONS.
12. INSTALL WEB STIFFENERS ON BOTH SIDES AT ALL BEARING POINTS OF I-JOIST WHERE CONCENTRATED LOAD OR LINE LOADS PERPENDICULAR TO THE I-JOIST ARE APPLIED ABOVE.
13. FOR ROOF SHEATHING AND EXTERIOR WALL SHEATHING, PROVIDE FASTENERS WITH CORROSION PROTECTION COATING HAVING A SALT SPRAY RESISTANCE OF MORE THAN 800 HOURS COMPLYING WITH ASTM B117.
14. U.N.O MINIMUM NAIL SPACING FOR ALL WOOD CONNECTIONS PER IBC TABLE 2304.10.1
15. U.N.O. ONLY USE 8d COMMON OR 10d BOX NAILS FOR TOE NAILING CONDITIONS.

ENGINEERED WOOD FRAMING PRODUCTS (TJI)

1. ENGINEER WOOD JOIST PRODUCTS SHALL BE APPROVED TJI PRODUCTS MANUFACTURED BY WEYERHAEUSER AS SPECIFIED ON THE PLAN.
2. INSTALL TJI PRODUCTS IN COMPLIANCE WITH THE MANUFACTURER'S STANDARDS AND DETAILS. THIS INCLUDES CONSTRUCTION BRACING, NOTCHING, MINIMUM BEARING, WEB STIFFENERS, SQUASH BLOCKING, ALLOWABLE HOLES, ETC.
3. ALL TJI PRODUCTS SHALL HAVE 5/8" TYPE X DRYWALL ATTACHED BELOW UNLESS A GREATER FIRE PROTECTION IS SPECIFIED ELESWHERE IN THE CONSTRUCTION DOCUMENTS.
4. DO NOT CUT HOLES IN TJI PRODUCTS OTHER THAN IS ALLOWED BY SHEET S4 OR THE MANUFACTURERS SPECIFICATIONS.

WOOD STRUCTURAL SHEATHING

1. INSTALL ALL HOLD DOWNS AND ROOF CLIPS PRIOR TO INSTALLING WALL SHEATHING. HOLD DOWN STRAPS MAY BE INSTALLED ONTOP OF EXTERIOR PLY SHEATHING.
2. WOOD STRUCTURAL PANELS USED AS COMPONENTS OF THE LATERAL BRACING SYSTEM SHALL BE SIZED, INSTALLED, AND FASTENED AS PRESCRIBED ON SHHET(S) S6.
3. PANELS SHALL NOT BE LESS THAN 4'X8' EXCEPT AT BOUNDARIES AND CHANGES IN FRAMING.
4. U.N.O. WOOD STRUCTURAL FLOOR AND ROOF SHEATHING SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH 2015IBC 2304.8 AND TABLE 2304.8(3). USE NOT LESS THAN 5/8" SHEATHING.
5. FLOOR SHEATHING IN AREAS TO RECEIVE FLOOR FINISHES SENSITIVE TO DEFLECTION (SUCH AS TILE) SHALL BE CONFIRMED WITH ARCHITECT OR ENGINEER PRIOR TO INSTALLATION.
6. U.N.O. FLOOR SHEATHING SHALL BE GLUED AND FASTENED TO FLOOR FRAMING USING CONSTRUCTION ADHESIVE AND A MINIMUM OF 2" 6D NAILS U.N.O.
7. ROOF AND FLOOR SHEATHING SHALL BE INSTALLED WITH THE LONG DIRECTION PERPENDICULAR TO THE DIRECTION OF THE FRAMING.
8. WHERE FLOOR SHEATHING IS INSTALLED IN AREAS SPECIFIED IN THE BRACING PLAN, THE SHEATHING SHALL BE SIZED AND INSTALLED IN CONFORMANCE WITH THE BRACING PLAN.
9. WALL SHEATHING SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH IBC 2304.6 AND TABLE 2304.6.1. WHERE WALL SHEATHING IS INSTALLED IN AREAS DESIGNATED ON THE BRACING PLAN, THE SHEATHING SHALL BE SIZED AND INSTALLED IN CONFORMANCE WITH THE BRACING PLAN.
10. U.N.O ON S6.0X SHEAR WALL SCHEDULE, USE 8D NAILS FOR ROOF SHEATHING TO FRAMING, WALL SHEATHING TO FRAMING AND FLOOR SHEATHING TO FRAMING.
11. U.N.O MINIMUM NAIL SPACING FOR STRUCTURAL SHEATHING TO WOOD CONNECTION PER IBC 2304.10.1 AND IBC 2301.6.1

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL CONFORM TO AISC, 14th Ed.
2. DESIGN LOADS ARE SHOWN ON THE PLANS OR ELEVATIONS ARE LRFD FACTORED LOADS. THE DESIGN OF THE CONNECTION IS DELEGATED TO A STRUCTURAL ENGINEER OF RECORD EMPLOYED BY THE CONTRACTOR TO PREPARE AND SUBMIT SHOP DRAWINGS TO THIS PROJECTS' STRUCTURAL ENGINEER OF RECORD FOR APPROVAL.
3. STEEL FABRICATION SHALL BE PERFORMED BY A FABRICATOR REGISTERED AND APPROVED BY THE DISTRICT OF COLUMBIA TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION.
4. STEEL FABRICATOR SHALL BE AISC CERTIFIED.
5. NO FABRICATION SHALL START PRIOR TO SHOP DRAWING APPROVAL.
6. STRUCTURAL MEMBERS SHALL BE OF THE PREFERRED MATERIAL SPECIFICATION FROM AISC TABLE 2-4.
7. ALL ANCHOR BOLTS SHALL CONFORM TO A307 U.N.O.
8. BOLTED CONNECTIONS SHALL CONFORM TO AISC, 14th Ed., AISC DESIGN GUIDE, AND RCSC SPECIFICATIONS.
9. MOMENT CONNECTION BOLTS SHALL USE HIGH STRENGTH, SLIP CRITICAL CONNECTIONS CONFORMING TO AISC, 14th Ed., SECTION J3.8-9 AND RCSC SECTION 4.2.
10. ALL WELDING SHALL USE E70XX, LOW HYDROGEN ELECTRODES U.N.O.
11. ALL WELDED CONNECTIONS SHALL CONFORM TO AISC, 14th Ed. SECTION M2.4, J2, AWS D1.1
12. STEEL POST OR COLUMNS CONCEALED IN WALL SPACES SHAL BE CONNECTED TO THE SHEATHING USING A COMBINATION OF POWER ACTUATED FASTENERS AND NAILERS.
13. COMPRESSION FLANGES OF ALL HRIZONTAL MEMBERS SHALL BE BRACED TO THE SHEATHING WITH A COMBINATION OF POWER ACTUATED FASTENERS AND NAILERS.
14. U.N.O. ON PLAN, MINIMUM DESIGN SHEAR CONNECTION IS 5K.
15. STEEL BEAM PENETRATIONS SHALL NOT BE MADE WITHOUT THE DIRECTION OF THE E.O.R.
16. GENERAL CONTRACTOR TO PROVIDE PROPOSED SIZE AND LOCATION OF OPENINGTO E.O.R. FOR APPROVAL.
17. STEEL MANUFACTURER SHALL PROVIDE SHOP DRAWINGS OF STEEL BEAM PENETRATIONS TO E.O.R. FOR APPROVAL PRIOR TO MANUFACTURER.
18. STEEL BEAM PENETRATIONS SHALL BE MANUFACTURERED IN ACCORDANCE WITH OUR "STEEL ALLOWABLE HOLE DETAIL".
19. UNREINFORCED PENETRATIONS NOT PERMITTED U.N.O. ON PLAN.
20. ALL STRUCTURAL STEEL MEMBERS SHALL BE CLEANED AND PREPARED IN ACCORDANCE WITH THE AISC 303-10 SPECIFICATION, CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES AND GIVEN ONE SHOP COAT OF RED OXIDE PRIMER DESIGNED FOR SHORT-TERM FIELD PROTECTION DURING THE ERECTION PROCESS.
21. ALL STRUCTURAL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED PER ASTM A123
22. ALL FASTENERS AND HARDWARE SHALL BE HOT DIPPED GALVANIZED PER ASTM A153.
23. ALL BASE PLATES OR SHEAR PLATES CONNECTING OR BEARING ON CONCRETE, MASONARY SURFACES SHALL BE HOT DIPPED GLAVANIZED PER ASTM A123.
24. ALL SHOP AND FIELD WELDS SHALL BE COATED WITH ZINC RICH COATING.

Project Name and Address

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FOR OGB REVIEW
DISTRICT OF COLUMBIA
DAVID M. GRIGGS
FEBRUARY 8, 2023
No. PE920027
STRUCTURAL
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

No.	Issue #	Date

Sheet Title
GENERAL NOTES

Project: ----
Date: 2/9/23
Issued For: OGB REVIEW
Sheet: S0.01

CONCRETE RETAINING WALL SCHEDULE (RW)														
MARK	WALL & FOOTING SIZE						BAR SIZE & SPACING							MIN. f'c (PSI)
	"C"	"T"	"A"	"B"	"D"	"F"	"J"	"K"	"L"	"M"	"N"	"O"	"P"	
RW1	2'-3"	0'-10"	3'-6"	1'-6"	1'-0"	0'-10"	(6)#4	(6)#4	#5@8"	#4@16"	#4@16"	#4@16"	#4@16"	4000

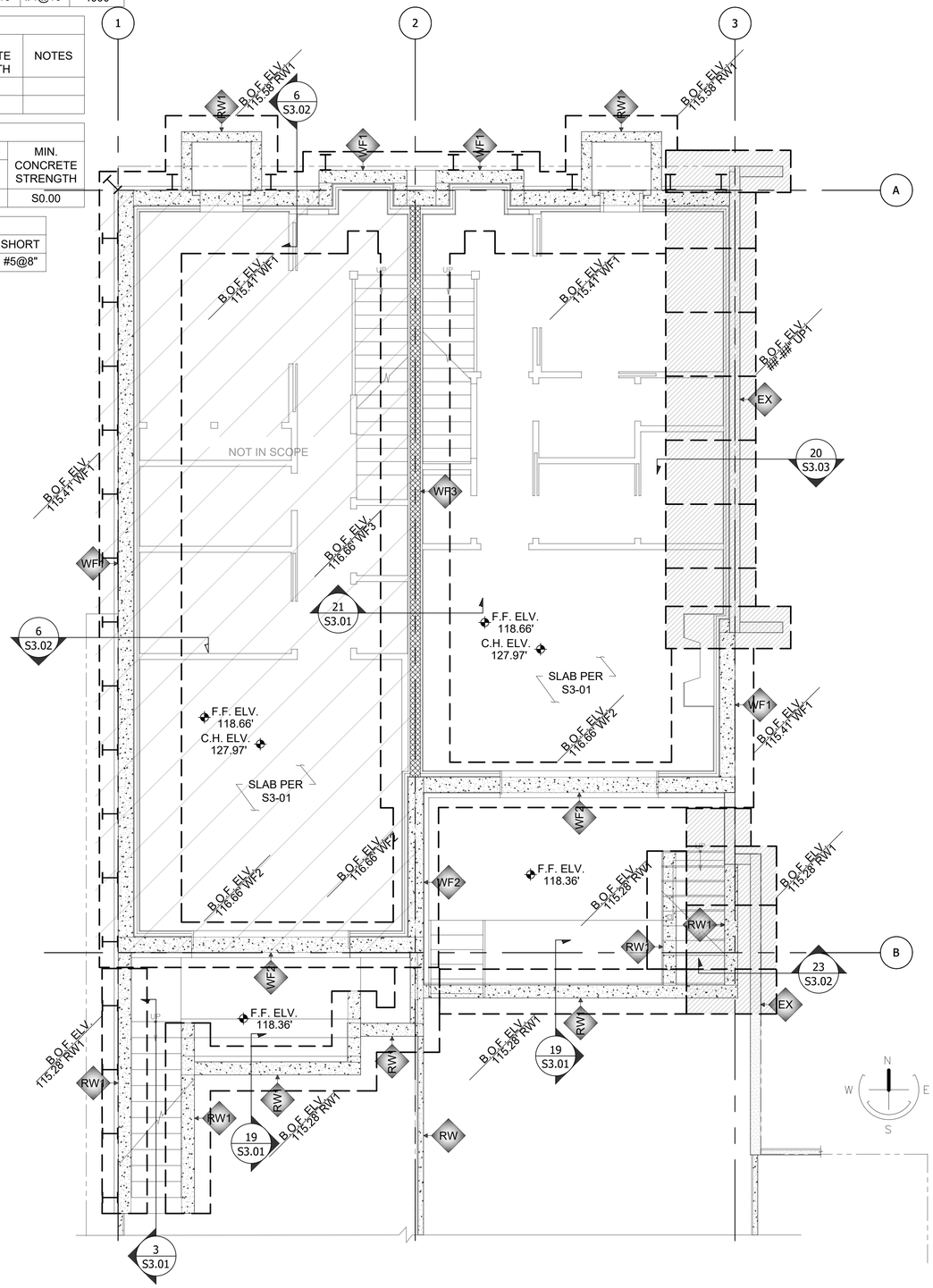
WALL FOOTING SCHEDULE									
MARK	SIZE				REINFORCING			MIN. CONCRETE STRENGTH	NOTES
	"C"	"W"	"D"	"T"	TOP	BOT.	SHORT		
WF2	1'-0"	2'-10"	1'-0"	1'-0"	(4) #4	(4) #4	#4@8" O.C.	S0.00	
WF3	1'-0"	4'-4"	1'-0"	0'-8"	(6) #4	(6) #4	#4@8" O.C.	S0.00	

CONTINUES WALL FOOTING SCHEDULE												
MARK	SIZE					WALL BAR				BOTTOM.	TOP BAR	MIN. CONCRETE STRENGTH
	"C"	"A"	"B"	"T"	"F"	"L"	"M"	"N"	"K"	LONG BAR	SHORT BAR	
WF1	2'-3"	3'-0"	1'-2"	1'-0"	1'-0"	#5@8"	#4@16"	#4@16"	#4@16"	(5)#4	#4@8"	S0.00

WALL UNDERPINNING PIER SCHEDULE											
MARK	"C"	"S"	"T"	"A"	"B"	"F"	"K"	"L"	"M"	LONG	SHORT
UP1	2'-3"	4'-0"	0'-8"	4'-0"	1'-0"	1'-0"	#4@16"	#4@8"	#4@16"	(6)#4	#5@8"

FOOTING NOTES:

- FOLLOW RECOMMENDATIONS PROVIDED IN GEOT-ECHNICAL REPORT. NOTIFY E.O.R. IF FIELD CONDITIONS DIFFER FROM GEO-TECHNICAL REPORT.
- COORDINATE FOOTING ELEVATIONS WITH ARCHITECTURAL DRAWINGS.
- MANAGE GROUNDWATER AND SURFACE WATER AS NEEDED. INSURE SOIL UNDER AND ADJACENT TO FOOTINGS DOES NOT BECOME SATURATED.
- NOTIFY STRUCTURAL E.O.R. AND GEO-TECHNICAL E.O.R IS LOOSE, UNCONSOLIDATED, MOIST, OR FAT CLAY MATERIALS OUR EXCAVATED NEAR FOOTINGS.
- REFER TO GEO-TECHNICAL REPORT FOR UNDERCUTTING REQUIREMENTS.
- PROVIDE REBAR SHOPS TO E.O.R.



1 S1.00A FOUNDATION PLAN
SCALE: 1/4" = 1'

Project Name and Address

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FOR OGB REVIEW

DISTRICT OF COLUMBIA
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Sheet Title

FOUNDATION PLAN

Project: ----

Date: 3/10/23

Issued For: OGB REVIEW

Sheet: S1.00A

CONCRETE RETAINING WALL SCHEDULE (RW)														
MARK	WALL & FOOTING SIZE						BAR SIZE & SPACING							MIN. f'c (PSI)
	"C"	"T"	"A"	"B"	"D"	"F"	"J"	"K"	"L"	"M"	"N"	"O"	"P"	
RW1	2'-3"	0'-10"	3'-6"	1'-6"	1'-0"	0'-10"	(6)#4	(6)#4	#5@8"	#4@16"	#4@16"	#4@16"	#4@16"	4000

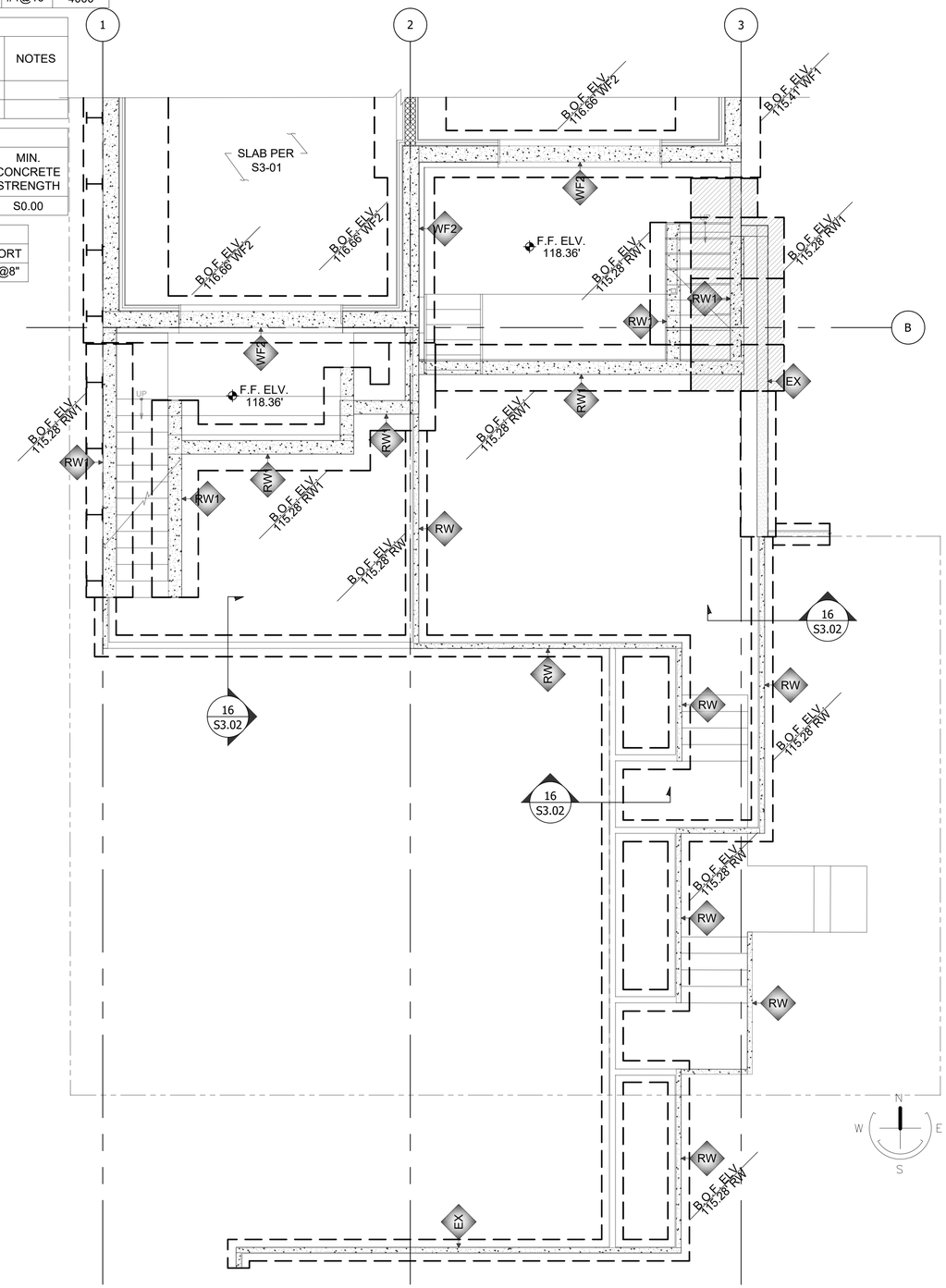
WALL FOOTING SCHEDULE									
MARK	SIZE				REINFORCING			MIN. CONCRETE STRENGTH	NOTES
	"C"	"W"	"D"	"T"	TOP	BOT.	SHORT		
WF2	1'-0"	2'-10"	1'-0"	1'-0"	(4) #4	(4) #4	#4@8" O.C.	S0.00	
WF3	1'-0"	4'-4"	1'-0"	0'-8"	(6) #4	(6) #4	#4@8" O.C.	S0.00	

CONTINUES WALL FOOTING SCHEDULE												
MARK	SIZE					WALL BAR				BOTTOM.	TOP BAR	MIN. CONCRETE STRENGTH
	"C"	"A"	"B"	"T"	"F"	"L"	"M"	"N"	"K"	LONG BAR	SHORT BAR	
WF1	2'-3"	3'-0"	1'-2"	1'-0"	1'-0"	#5@8"	#4@16"	#4@16"	#4@16"	(5)#4	#4@8"	S0.00

WALL UNDERPINNING PIER SCHEDULE											
MARK	"C"	"S"	"T"	"A"	"B"	"F"	"K"	"L"	"M"	LONG	SHORT
UP1	2'-3"	4'-0"	0'-8"	4'-0"	1'-0"	1'-0"	#4@16"	#4@8"	#4@16"	(6)#4	#5@8"

FOOTING NOTES:

- FOLLOW RECOMMENDATIONS PROVIDED IN GEOT-ECHNICAL REPORT. NOTIFY E.O.R. IF FIELD CONDITIONS DIFFER FROM GEO-TECHNICAL REPORT.
- COORDINATE FOOTING ELEVATIONS WITH ARCHITECTURAL DRAWINGS.
- MANAGE GROUNDWATER AND SURFACE WATER AS NEEDED. INSURE SOIL UNDER AND ADJACENT TO FOOTINGS DOES NOT BECOME SATURATED.
- NOTIFY STRUCTURAL E.O.R. AND GEO-TECHNICAL E.O.R IS LOOSE, UNCONSOLIDATED, MOIST, OR FAT CLAY MATERIALS OUR EXCAVATED NEAR FOOTINGS.
- REFER TO GEO-TECHNICAL REPORT FOR UNDERCUTTING REQUIREMENTS.
- PROVIDE REBAR SHOPS TO E.O.R.



1 S1.00B FOUNDATION PLAN
SCALE: 1/4" = 1'

Project Name and Address

NEW ROW HOUSE

3314 VOLTA PLACE NW
WASHINGTON, DC 20007

Firm Name and Address
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FOR OGB REVIEW
DISTRICT OF COLUMBIA
DAVID M. GRIGGS
JANUARY 8, 2023
No. PE920027
STRUCTURAL
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

No.	Issue #	Date

Sheet Title
FOUNDATION PLAN

Project: ----
Date: 2/9/23
Issued For: OGB REVIEW
Sheet: S1.00B

WALL SCHEDULE (W#)						
WALL MARK	LEVEL	STUD SIZE	STUD SPACING	BLOCKING	STUD SPECIES	FRT
W1	ROOF	2X6	16	NONE	SPF NO2	NO
	ROOF+1	2X4	16	NONE	SPF NO2	NO
	ROOF+2	2X4	16	MID-HEIGHT	SPF NO2	NO

NOTES:
1. WALL MARKS SHOWN SHALL BE COORDINATED WITH SHEAR WALL SCHEDULE. WHERE WALL SCHEDULE AND SHEAR WALL SCHEDULE DIFFER AT SAME LOCATION COMBINE TO USE LARGES STUD SIZE, AND SMALLEST STUD AND BLOCKING SPACING.
2. USE DOUBLE TOP PLATES OF SYP NO2 OR BETTER FOR ALL LOAD BEARING WALLS.
3. FRAMING PLANS SHOW WALLS ON THE FLOOR BELOW THAT SUPPORT THE FLOOR OR ROOF SHOWN IN PLAN NAME.
4. LEVELS INDICATE FLOORS BELOW ROOF RELATIVE TO EACH WALL LINE.

BEAM MARKS (B#, FB#, DB#)							
MARK	SIZE	MARK	SIZE	MARK	SIZE	MARK	SIZE
B8-2	(2)2X8	B12-4	(4)2X12	B10L-3	(3)9.5LVL	B12L-4	(4)11.875LVL
B8-3	(3)2X8	B7L-2	(2)7.25LVL	B10L-4	(4)9.5LVL	B14L-2	(2)14LVL
B10-2	(2)2X10	B7L-3	(3)7.25LVL	B11L-2	(2)11.25LVL	B14L-3	(3)14LVL
B10-3	(3)2X10	B9L-2	(2)9.25LVL	B11L-3	(3)11.25LVL	B14L-4	(4)14LVL
B10-4	(4)2X10	B9L-3	(3)9.25LVL	B11L-4	(4)11.25LVL	B16L-2	(2)16LVL
B12-2	(2)2X12	B9L-4	(4)9.25LVL	B12L-2	(2)11.875LVL	B16L-3	(3)16LVL
B12-3	(3)2X12	B10L-2	(2)9.5LVL	B12L-3	(3)11.875LVL	B16L-4	(4)16LVL

CONNECTOR MARKS (H#)					
MARK	SIZE	MARK	SIZE	MARK	SIZE
H1	IUS2.06/11.88	H3	LRU26Z	H5	-
H2	HHUS48	H4	U26-2	H6	-

NOTES:
1. CONNECTOR MARKS REPRESENT SIMPSON STRONG TIE (SST) CONNECTORS U.N.O.
2. CONTRACTOR MAY SUBMIT EQUIVALENT FOR E.O.R. APPROVAL PRIOR TO CONSTRUCTION. APPROVAL TO MEET OR EXCEED THE LOADS SPECIFIED IN SST LITERATURE AND BE IN CONFORMANCE WITH TYPICAL DETAILS.
3. U.N.O. ON PLANS, INSTALL CONNECTORS WITH FASTENERS TO ACHIEVE HIGHEST LOAD CAPACITY AS DIRECTED BY SST LITERATURE.
4. REFER TO MANUFACTURERS TECHNICAL BULLETIN FOR WELDING REQUIREMENTS.

DOOR AND WINDOW HEADERS AND POST (SCH)						
	HEADER			POST		
SPAN	≤ 7'	≤ 8.5'	≤ 10'	≤ 7'	≤ 8.5'	≤ 10'
INTERIOR	B8-2	B10-2	B12-2	2-24	2-24	3-24
EXTERIOR	B6-3	B8-3	B10-3	2-26	2-26	3-26

NOTES:
1. HEADER AND POST SCHEDULE IS FOR NON LOAD BEARING WALLS WHERE FLOOR FRAMING RUNS PARALLEL TO WALL.
2. USE THESE BEAM AND COLUMN MARKS UNLESS NOTED OTHERWISE ON THE PLANS.
3. PROVIDE 1 KING PER POST.

COLUMN MARKS SCHEDULE					
MARK	SIZE	MARK	SIZE	MARK	SIZE
1-44	(1)4X4	1-66P	(1)5.25X5.25PSL	2-26	(2)2X6
1-46	(1)4X6	2-24	(2)2X4	3-26	(3)2X6
1-44P	(1)3.5X3.5PSL	3-24	(3)2X4	4-26	(4)2X6
1-46P	(1)3.5X5.25PSL	4-24	(4)2X4	5-26	(5)2X6
1-47P	(1)3.5X7PSL	5-24	(5)2X4		

NOTES:
1. ALL BUILT UP COLUMNS TO BE NAILED WITH 16D NAILS @ 8" O.C.
2. COLUMNS SHALL BE SPF #2 OR BETTER OR PSL 1.8E
3. WHERE COLUMNS ARE SHOWN ON BOTH ENDS OF OPENINGS JACK/KING SCHEDULE REQUIREMENTS ARE NOT REQUIRED.

CONCRETE BEAM SCHEDULE							
MARK	WIDTH	DEPTH	BOTTOM BARS	CONT. TOP BAR	ADDITIONAL T.B.		STIRRUP SIZE
					L.E.	R.E.	
CB1	12"	30"	(2)#6	(2)#4	-	-	#3 @15" O.C.
CB2	12"	24"	(2)#4	(2)#4	-	-	#3 @15" O.C.

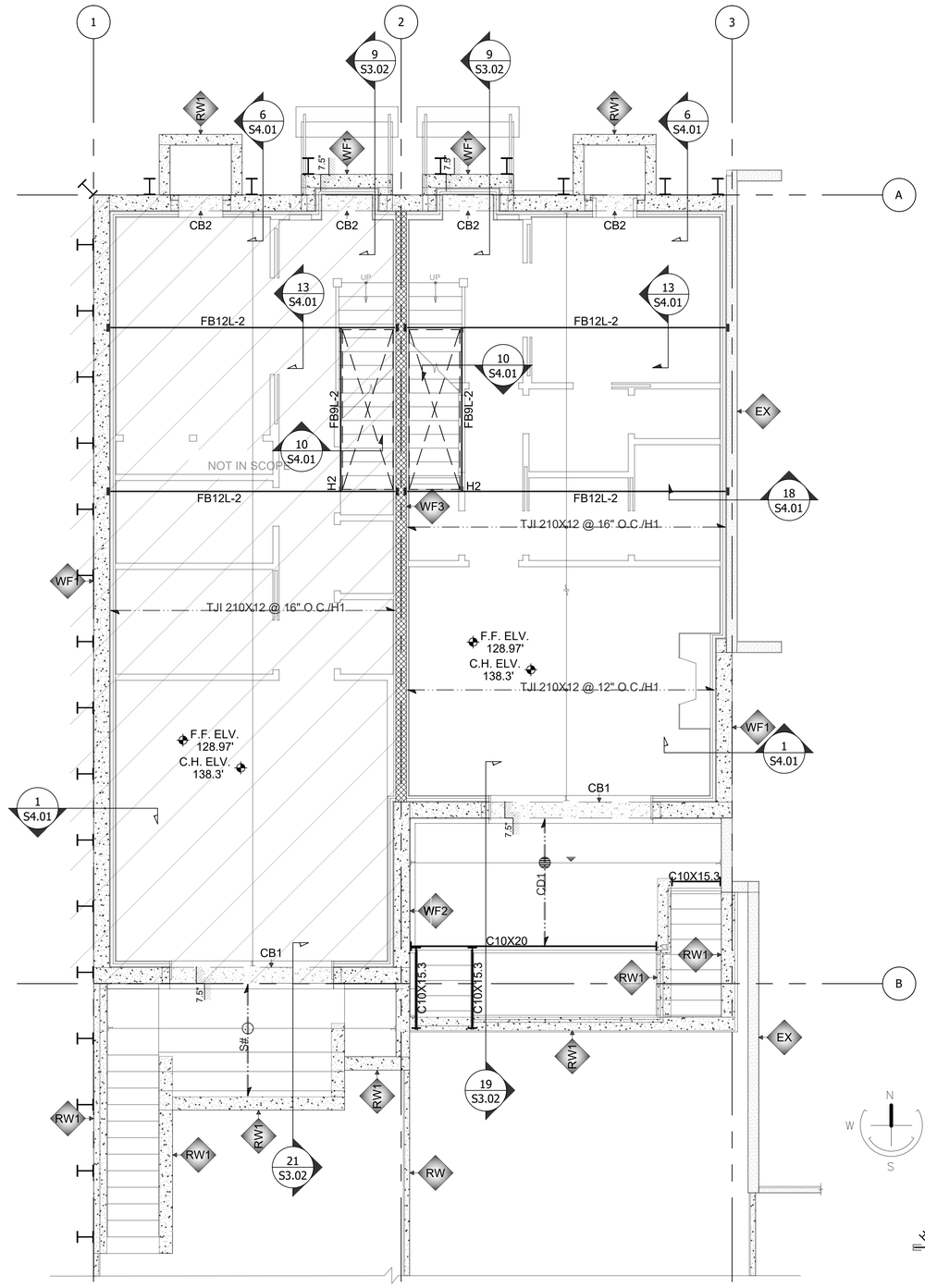
CONCRETE BEAM NOTES:
1. L.E. = LEFT END, R.E. = RIGHT END
2. PROVIDE FIRST STIRRUP 2" FROM BEAM END.
3. MINIMUM 4000 PSI CONCRETE

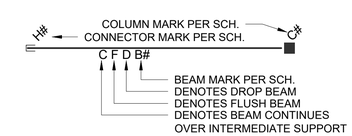
CMU SHEAR WALL SCHEDULE					
MARK	BLOCK SIZE	VERT. REINF.	BOUND BEAM	HORIZ. JOINT REINF.	CHORD CELLS
W8A	8"	#4 @ 16" O.C.	(2)#4@48" O.C.	N/A	2 CELLS W/ #6

NOTES:
1. ALL CONCRETE MASONRY UNITS TO CONFORM TO ASTM C90 AND C55, THE MASONRY GENERAL NOTES ON S0.01, AND THE MASONRY DETAILS.
2. F'm=1500 PSI MIN.
3. USE GR. 60 STEEL. USE CLASS B LAP SPLICE AT ALL BAR SPLICES. PROVIDE STANDARD 90° HOOKS AT ALL VERTICAL BAR ENDS.
4. USE PEA GRAVEL GROUT WITH A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI TO FULLY GROUT CELLS AT VERT. REINF.
5. ALL MORTAR IS TO BE LOAD BEARING TYPES S OR M. REFER TO S0.01.
6. WHEN CONNECTING TO EXISTING HORIZONTAL SLABS, DIAPHRAGMS, OR FOOTINGS, PROVIDE SHEAR DOWELS EQUIVALENT TO WALL VERT. REINF.
7. IF NOT OTHERWISE STATED, PROVIDE BOUND BEAM AT TOP OF WALL AND 4' O.C. MAX OVER HEIGHT OF WALL.

1 S1.01A 1ST FLOOR FRAMING PLAN
SCALE: 1/4" = 1'

JOIST AND CONCRETE DECK SCHEDULE				
DECK MARK	JOIST AND SPACING	METAL DECK	CONC. DEPTH	REINF.
CD1	C8X11.5 @ 5' O.C.	1.5FD/24Ga	4"	6x6x2.9x2.9





Project Name and Address
NEW ROW HOUSE
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FOR OGB REVIEW
DISTRICT OF COLUMBIA
DAVID M. GRIGGS
FEBRUARY 8, 2023
No. PE920027
STRUCTURAL
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

No.	Issue #	Date

Sheet Title
1ST FLOOR FRAMING PLAN

Project: ----
Date: 3/10/23
Issued For: OGB REVIEW
Sheet: S1.01A

WALL SCHEDULE (W#)						
WALL MARK	LEVEL	STUD SIZE	STUD SPACING	BLOCKING	STUD SPECIES	FRT
W1	ROOF	2X6	16	NONE	SPF NO2	NO
	ROOF+1	2X4	16	NONE	SPF NO2	NO
	ROOF+2	2X4	16	MID-HEIGHT	SPF NO2	NO

NOTES:
1. WALL MARKS SHOWN SHALL BE COORDINATED WITH SHEAR WALL SCHEDULE. WHERE WALL SCHEDULE AND SHEAR WALL SCHEDULE DIFFER AT SAME LOCATION COMBINE TO USE LARGES STUD SIZE, AND SMALLEST STUD AND BLOCKING SPACING.
2. USE DOUBLE TOP PLATES OF SYP NO2 OR BETTER FOR ALL LOAD BEARING WALLS.
3. FRAMING PLANS SHOW WALLS ON THE FLOOR BELOW THAT SUPPORT THE FLOOR OR ROOF SHOWN IN PLAN NAME.
4. LEVELS INDICATE FLOORS BELOW ROOF RELATIVE TO EACH WALL LINE.

BEAM MARKS (B#, FB#, DB#)							
MARK	SIZE	MARK	SIZE	MARK	SIZE	MARK	SIZE
B8-2	(2)2X8	B12-4	(4)2X12	B10L-3	(3)9.5LVL	B12L-4	(4)11.875LVL
B8-3	(3)2X8	B7L-2	(2)7.25LVL	B10L-4	(4)9.5LVL	B14L-2	(2)14LVL
B10-2	(2)2X10	B7L-3	(3)7.25LVL	B11L-2	(2)11.25LVL	B14L-3	(3)14LVL
B10-3	(3)2X10	B9L-2	(2)9.25LVL	B11L-3	(3)11.25LVL	B14L-4	(4)14LVL
B10-4	(4)2X10	B9L-3	(3)9.25LVL	B11L-4	(4)11.25LVL	B16L-2	(2)16LVL
B12-2	(2)2X12	B9L-4	(4)9.25LVL	B12L-2	(2)11.875LVL	B16L-3	(3)16LVL
B12-3	(3)2X12	B10L-2	(2)9.5LVL	B12L-3	(3)11.875LVL	B16L-4	(4)16LVL

CONNECTOR MARKS (H#)					
MARK	SIZE	MARK	SIZE	MARK	SIZE
H1	IUS2.06/11.88	H3	LRU26Z	H5	-
H2	HHUS48	H4	U26-2	H6	-

NOTES:
1. CONNECTOR MARKS REPRESENT SIMPSON STRONG TIE (SST) CONNECTORS U.N.O.
2. CONTRACTOR MAY SUBMIT EQUIVALENT FOR E.O.R. APPROVAL PRIOR TO CONSTRUCTION. APPROVAL TO MEET OR EXCEED THE LOADS SPECIFIED IN SST LITERATURE AND BE IN CONFORMANCE WITH TYPICAL DETAILS.
3. U.N.O. ON PLANS, INSTALL CONNECTORS WITH FASTENERS TO ACHIEVE HIGHEST LOAD CAPACITY AS DIRECTED BY SST LITERATURE.
4. REFER TO MANUFACTURERS TECHNICAL BULLETIN FOR WELDING REQUIREMENTS.

DOOR AND WINDOW HEADERS AND POST (SCH)						
	HEADER			POST		
SPAN	≤ 7'	≤ 8.5'	≤ 10'	≤ 7'	≤ 8.5'	≤ 10'
INTERIOR	B8-2	B10-2	B12-2	2-24	2-24	3-24
EXTERIOR	B6-3	B8-3	B10-3	2-26	2-26	3-26

NOTES:
1. HEADER AND POST SCHEDULE IS FOR NON LOAD BEARING WALLS WHERE FLOOR FRAMING RUNS PARALLEL TO WALL.
2. USE THESE BEAM AND COLUMN MARKS UNLESS NOTED OTHERWISE ON THE PLANS.
3. PROVIDE 1 KING PER POST.

COLUMN MARKS SCHEDULE					
MARK	SIZE	MARK	SIZE	MARK	SIZE
1-44	(1)4X4	1-66P	(1)5.25X5.25PSL	2-26	(2)2X6
1-46	(1)4X6	2-24	(2)2X4	3-26	(3)2X6
1-44P	(1)3.5X3.5PSL	3-24	(3)2X4	4-26	(4)2X6
1-46P	(1)3.5X5.25PSL	4-24	(4)2X4	5-26	(5)2X6
1-47P	(1)3.5X7PSL	5-24	(5)2X4		

NOTES:
1. ALL BUILT UP COLUMNS TO BE NAILED WITH 16D NAILS @ 8" O.C.
2. COLUMNS SHALL BE SPF #2 OR BETTER OR PSL 1.8E
3. WHERE COLUMNS ARE SHOWN ON BOTH ENDS OF OPENINGS JACK/KING SCHEDULE REQUIREMENTS ARE NOT REQUIRED.

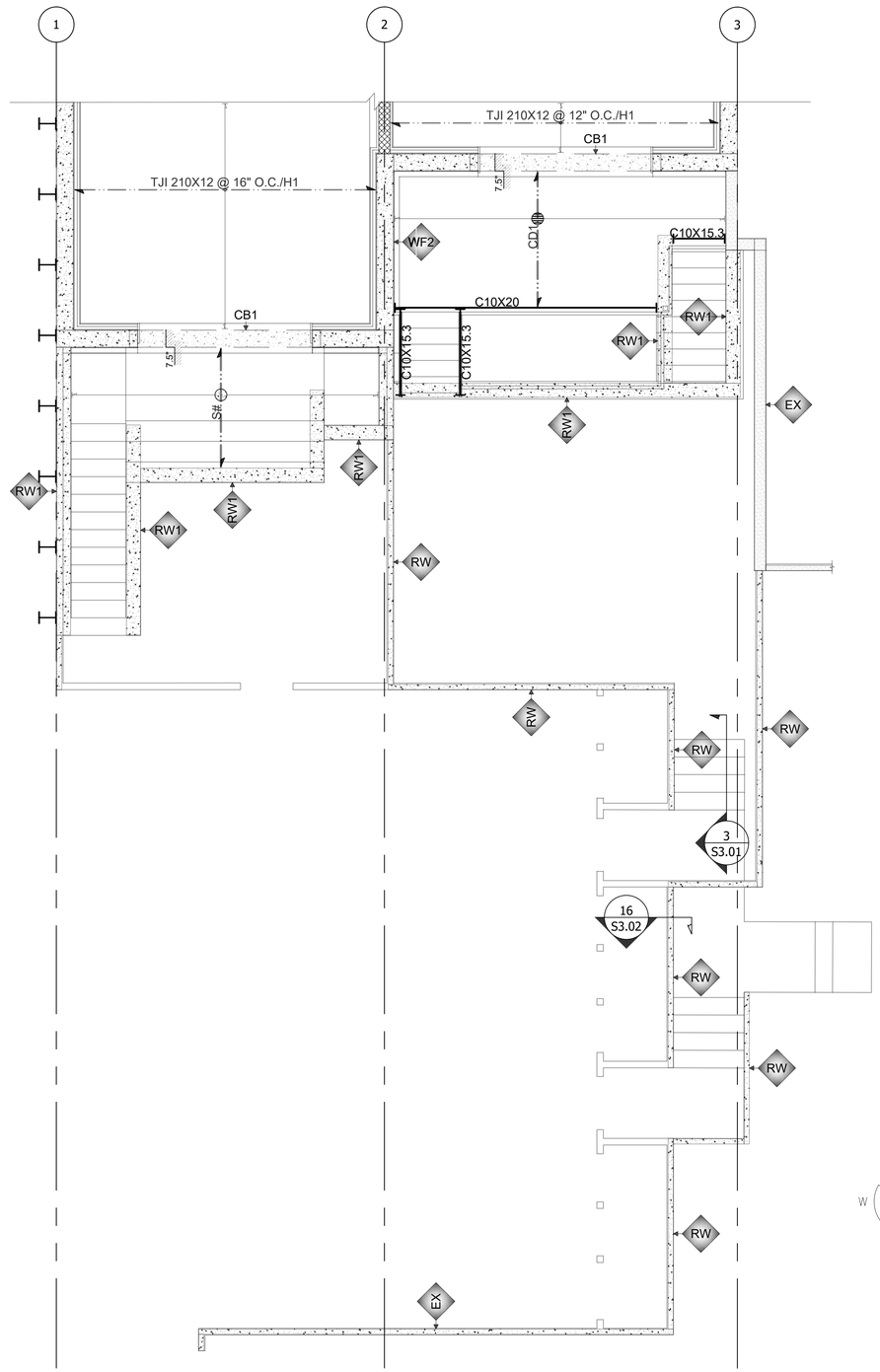
CONCRETE BEAM SCHEDULE							
MARK	WIDTH	DEPTH	BOTTOM BARS	CONT. TOP BAR	ADDITIONAL T.B.		STIRRUP SIZE
					L.E.	R.E.	
CB1	12"	30"	(2)#6	(2)#4	-	-	#3 @15" O.C.
CB2	12"	24"	(2)#4	(2)#4	-	-	#3 @15" O.C.

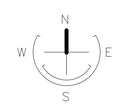
CONCRETE BEAM NOTES:
1. L.E. = LEFT END, R.E. = RIGHT END
2. PROVIDE FIRST STIRRUP 2" FROM BEAM END.
3. MINIMUM 4000 PSI CONCRETE

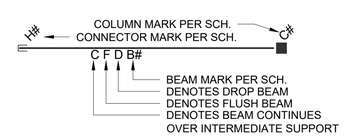
CMU SHEAR WALL SCHEDULE					
MARK	BLOCK SIZE	VERT. REINF.	BOUND BEAM	HORIZ. JOINT REINF.	CHORD CELLS
W8A	8"	#4 @ 16" O.C.	(2)#4@48" O.C.	N/A	2 CELLS W/ #6

NOTES:
1. ALL CONCRETE MASONRY UNITS TO CONFORM TO ASTM C90 AND C55, THE MASONRY GENERAL NOTES ON S0.01, AND THE MASONRY DETAILS.
2. F'm=1500 PSI MIN.
3. USE GR. 60 STEEL. USE CLASS B LAP SPLICE AT ALL BAR SPLICES. PROVIDE STANDARD 90° HOOKS AT ALL VERTICAL BAR ENDS.
4. USE PEA GRAVEL GROUT WITH A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI TO FULLY GROUT CELLS AT VERT. REINF.
5. ALL MORTAR IS TO BE LOAD BEARING TYPES S OR M. REFER TO S0.01.
6. WHEN CONNECTING TO EXISTING HORIZONTAL SLABS, DIAPHRAGMS, OR FOOTINGS, PROVIDE SHEAR DOWELS EQUIVALENT TO WALL VERT. REINF.
7. IF NOT OTHERWISE STATED, PROVIDE BOUND BEAM AT TOP OF WALL AND 4' O.C. MAX OVER HEIGHT OF WALL.

JOIST AND CONCRETE DECK SCHEDULE				
DECK MARK	JOIST AND SPACING	METAL DECK	CONC. DEPTH	REINF.
CD1	C8X11.5 @ 5' O.C.	1.5FD/24Ga	4"	6x6x2.9x2.9







1 / S1.01B 1ST FLOOR FRAMING PLAN
SCALE: 1/4" = 1'

Project Name and Address
NEW ROW HOUSE
3314 VOLTA PLACE NW
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FOR OGB REVIEW
DISTRICT OF COLUMBIA
DAVID M. GRIGGS
FEBRUARY 8, 2023
No. PE920027
STRUCTURAL
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

No.	Issue #	Date

Sheet Title
REAR YARD PLAN

Project ----
Date 3/8/23
Issued For OGB REVIEW
Sheet S1.01B

WALL SCHEDULE (W#)						
WALL MARK	LEVEL	STUD SIZE	STUD SPACING	BLOCKING	STUD SPECIES	FRT
W1	ROOF	2X6	16	NONE	SPF NO2	NO
	ROOF+1	2X4	16	NONE	SPF NO2	NO
	ROOF+2	2X4	16	MID-HEIGHT	SPF NO2	NO

NOTES:
1. WALL MARKS SHOWN SHALL BE COORDINATED WITH SHEAR WALL SCHEDULE. WHERE WALL SCHEDULE AND SHEAR WALL SCHEDULE DIFFER AT SAME LOCATION COMBINE TO USE LARGES STUD SIZE, AND SMALLEST STUD AND BLOCKING SPACING.
2. USE DOUBLE TOP PLATES OF SYP NO2 OR BETTER FOR ALL LOAD BEARING WALLS.
3. FRAMING PLANS SHOW WALLS ON THE FLOOR BELOW THAT SUPPORT THE FLOOR OR ROOF SHOWN IN PLAN NAME.
4. LEVELS INDICATE FLOORS BELOW ROOF RELATIVE TO EACH WALL LINE.

BEAM MARKS (B#, FB#, DB#)							
MARK	SIZE	MARK	SIZE	MARK	SIZE	MARK	SIZE
B8-2	(2)2X8	B12-4	(4)2X12	B10L-3	(3)9.5LVL	B12L-4	(4)11.875LVL
B8-3	(3)2X8	B7L-2	(2)7.25LVL	B10L-4	(4)9.5LVL	B14L-2	(2)14LVL
B10-2	(2)2X10	B7L-3	(3)7.25LVL	B11L-2	(2)11.25LVL	B14L-3	(3)14LVL
B10-3	(3)2X10	B9L-2	(2)9.25LVL	B11L-3	(3)11.25LVL	B14L-4	(4)14LVL
B10-4	(4)2X10	B9L-3	(3)9.25LVL	B11L-4	(4)11.25LVL	B16L-2	(2)16LVL
B12-2	(2)2X12	B9L-4	(4)9.25LVL	B12L-2	(2)11.875LVL	B16L-3	(3)16LVL
B12-3	(3)2X12	B10L-2	(2)9.5LVL	B12L-3	(3)11.875LVL	B16L-4	(4)16LVL

CONNECTOR MARKS (H#)					
MARK	SIZE	MARK	SIZE	MARK	SIZE
H1	IUS2.06/11.88	H3	LRU26Z	H5	-
H2	HHUS48	H4	U26-2	H6	-

NOTES:
1. CONNECTOR MARKS REPRESENT SIMPSON STRONG TIE (SST) CONNECTORS U.N.O.
2. CONTRACTOR MAY SUBMIT EQUIVALENT FOR E.O.R. APPROVAL PRIOR TO CONSTRUCTION. APPROVAL TO MEET OR EXCEED THE LOADS SPECIFIED IN SST LITERATURE AND BE IN CONFORMANCE WITH TYPICAL DETAILS.
3. U.N.O. ON PLANS, INSTALL CONNECTORS WITH FASTENERS TO ACHIEVE HIGHEST LOAD CAPACITY AS DIRECTED BY SST LITERATURE.
4. REFER TO MANUFACTURERS TECHNICAL BULLETIN FOR WELDING REQUIREMENTS.

DOOR AND WINDOW HEADERS AND POST (SCH)						
	HEADER			POST		
SPAN	≤ 7'	≤ 8.5'	≤ 10'	≤ 7'	≤ 8.5'	≤ 10'
INTERIOR	B8-2	B10-2	B12-2	2-24	2-24	3-24
EXTERIOR	B6-3	B8-3	B10-3	2-26	2-26	3-26

NOTES:
1. HEADER AND POST SCHEDULE IS FOR NON LOAD BEARING WALLS WHERE FLOOR FRAMING RUNS PARALLEL TO WALL.
2. USE THESE BEAM AND COLUMN MARKS UNLESS NOTED OTHERWISE ON THE PLANS.
3. PROVIDE 1 KING PER POST.

COLUMN MARKS SCHEDULE					
MARK	SIZE	MARK	SIZE	MARK	SIZE
1-44	(1)4X4	1-66P	(1)5.25X5.25PSL	2-26	(2)2X6
1-46	(1)4X6	2-24	(2)2X4	3-26	(3)2X6
1-44P	(1)3.5X3.5PSL	3-24	(3)2X4	4-26	(4)2X6
1-46P	(1)3.5X5.25PSL	4-24	(4)2X4	5-26	(5)2X6
1-47P	(1)3.5X7PSL	5-24	(5)2X4		

NOTES:
1. ALL BUILT UP COLUMNS TO BE NAILED WITH 16D NAILS @ 8" O.C.
2. COLUMNS SHALL BE SPF #2 OR BETTER OR PSL 1.8E
3. WHERE COLUMNS ARE SHOWN ON BOTH ENDS OF OPENINGS JACK/KING SCHEDULE REQUIREMENTS ARE NOT REQUIRED.

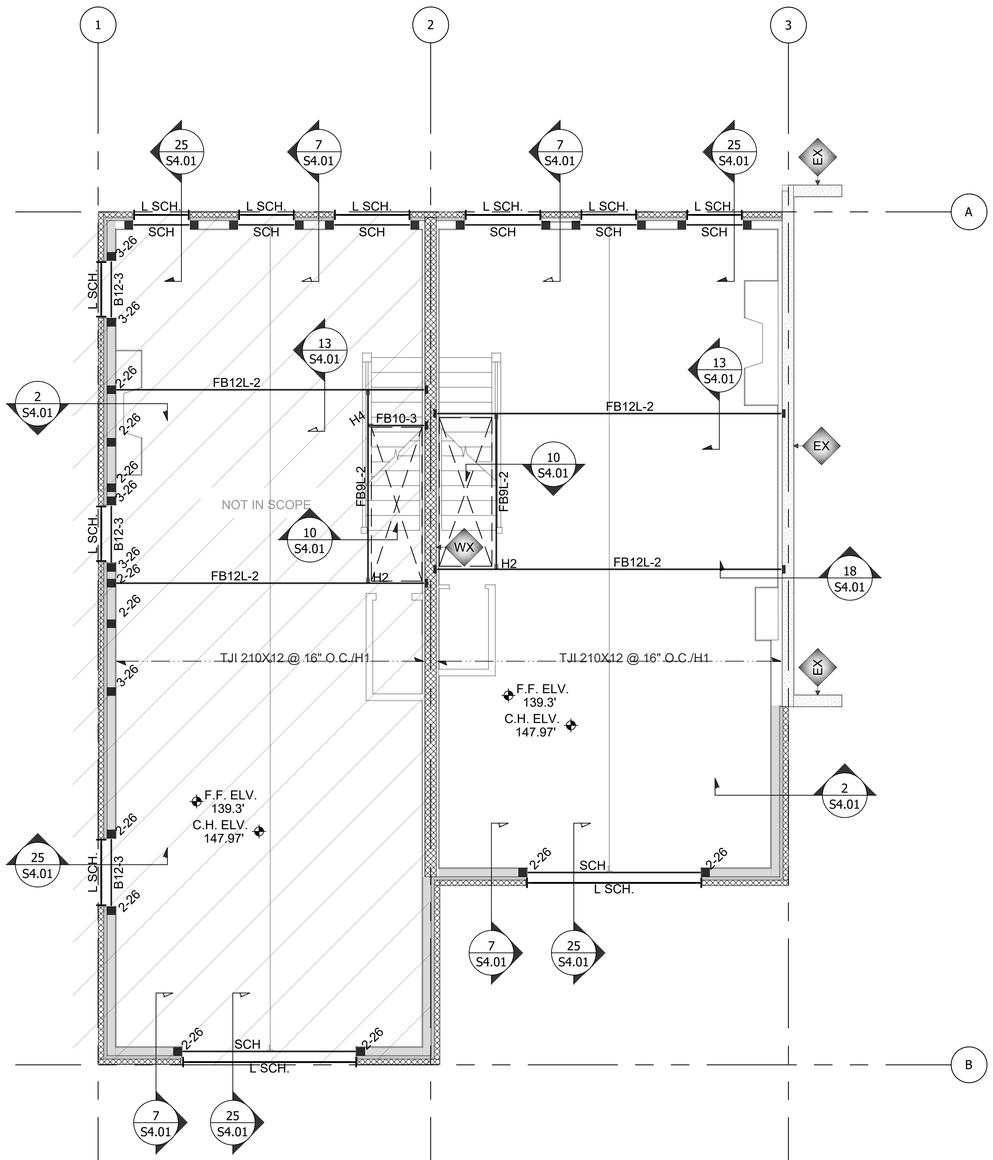
CONCRETE BEAM SCHEDULE							
MARK	WIDTH	DEPTH	BOTTOM BARS	CONT. TOP BAR	ADDITIONAL T.B.		STIRRUP SIZE
					L.E.	R.E.	
CB1	12"	30"	(2)#6	(2)#4	-	-	#3 @15" O.C.
CB2	12"	24"	(2)#4	(2)#4	-	-	#3 @15" O.C.

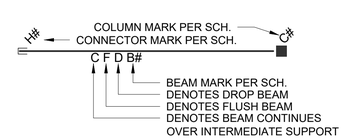
CONCRETE BEAM NOTES:
1. L.E. = LEFT END, R.E. = RIGHT END
2. PROVIDE FIRST STIRRUP 2" FROM BEAM END.
3. MINIMUM 4000 PSI CONCRETE

CMU SHEAR WALL SCHEDULE					
MARK	BLOCK SIZE	VERT. REINF.	BOUND BEAM	HORIZ. JOINT REINF.	CHORD CELLS
W8A	8"	#4 @ 16" O.C.	(2)#4@48" O.C.	N/A	2 CELLS W/ #6

NOTES:
1. ALL CONCRETE MASONRY UNITS TO CONFORM TO ASTM C90 AND C55, THE MASONRY GENERAL NOTES ON S0.01, AND THE MASONRY DETAILS.
2. F'm=1500 PSI MIN.
3. USE GR. 60 STEEL. USE CLASS B LAP SPLICE AT ALL BAR SPLICES. PROVIDE STANDARD 90° HOOKS AT ALL VERTICAL BAR ENDS.
4. USE PEA GRAVEL GROUT WITH A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI TO FULLY GROUT CELLS AT VERT. REINF.
5. ALL MORTAR IS TO BE LOAD BEARING TYPES S OR M. REFER TO S0.01.
6. WHEN CONNECTING TO EXISTING HORIZONTAL SLABS, DIAPHRAGMS, OR FOOTINGS, PROVIDE SHEAR DOWELS EQUIVALENT TO WALL VERT. REINF.
7. IF NOT OTHERWISE STATED, PROVIDE BOUND BEAM AT TOP OF WALL AND 4' O.C. MAX OVER HEIGHT OF WALL.

JOIST AND CONCRETE DECK SCHEDULE				
DECK MARK	JOIST AND SPACING	METAL DECK	CONC. DEPTH	REINF.
CD1	C8X11.5 @ 5' O.C.	1.5FD/24Ga	4"	6x6x2.9x2.9





1 / S1.02 2ND FLOOR FRAMING PLAN
SCALE: 1/4" = 1'

NEW ROW HOUSE
3314 VOLTA PLACE NW
WASHINGTON, DC 20007

Project Name and Address

GRIGGS ENGINEERING
408 S Dakota ST
Baltimore, MD 21201
202-790-4300
David@griggs-engineering.com

Firm Name and Address

FOR OGB REVIEW
DISTRICT OF COLUMBIA
DAVID M. GRIGGS
FEBRUARY 8, 2023
No. PE920027
STRUCTURAL
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

No.	Issue #	Date

Sheet Title
2ND FLOOR FRAMING PLAN

Project ----
Date 3/8/23
Issued For OGB REVIEW
Sheet S1.02

WALL SCHEDULE (W#)						
WALL MARK	LEVEL	STUD SIZE	STUD SPACING	BLOCKING	STUD SPECIES	FRT
W1	ROOF	2X6	16	NONE	SPF NO2	NO
	ROOF+1	2X4	16	NONE	SPF NO2	NO
	ROOF+2	2X4	16	MID-HEIGHT	SPF NO2	NO

NOTES:
1. WALL MARKS SHOWN SHALL BE COORDINATED WITH SHEAR WALL SCHEDULE. WHERE WALL SCHEDULE AND SHEAR WALL SCHEDULE DIFFER AT SAME LOCATION COMBINE TO USE LARGES STUD SIZE, AND SMALLEST STUD AND BLOCKING SPACING.
2. USE DOUBLE TOP PLATES OF SYP NO2 OR BETTER FOR ALL LOAD BEARING WALLS.
3. FRAMING PLANS SHOW WALLS ON THE FLOOR BELOW THAT SUPPORT THE FLOOR OR ROOF SHOWN IN PLAN NAME.
4. LEVELS INDICATE FLOORS BELOW ROOF RELATIVE TO EACH WALL LINE.

BEAM MARKS (B#, FB#, DB#)							
MARK	SIZE	MARK	SIZE	MARK	SIZE	MARK	SIZE
B8-2	(2)2X8	B12-4	(4)2X12	B10L-3	(3)9.5LVL	B12L-4	(4)11.875LVL
B8-3	(3)2X8	B7L-2	(2)7.25LVL	B10L-4	(4)9.5LVL	B14L-2	(2)14LVL
B10-2	(2)2X10	B7L-3	(3)7.25LVL	B11L-2	(2)11.25LVL	B14L-3	(3)14LVL
B10-3	(3)2X10	B9L-2	(2)9.25LVL	B11L-3	(3)11.25LVL	B14L-4	(4)14LVL
B10-4	(4)2X10	B9L-3	(3)9.25LVL	B11L-4	(4)11.25LVL	B16L-2	(2)16LVL
B12-2	(2)2X12	B9L-4	(4)9.25LVL	B12L-2	(2)11.875LVL	B16L-3	(3)16LVL
B12-3	(3)2X12	B10L-2	(2)9.5LVL	B12L-3	(3)11.875LVL	B16L-4	(4)16LVL

CONNECTOR MARKS (H#)					
MARK	SIZE	MARK	SIZE	MARK	SIZE
H1	IUS2.06/11.88	H3	LRU26Z	H5	-
H2	HHUS48	H4	U26-2	H6	-

NOTES:
1. CONNECTOR MARKS REPRESENT SIMPSON STRONG TIE (SST) CONNECTORS U.N.O.
2. CONTRACTOR MAY SUBMIT EQUIVALENT FOR E.O.R. APPROVAL PRIOR TO CONSTRUCTION. APPROVAL TO MEET OR EXCEED THE LOADS SPECIFIED IN SST LITERATURE AND BE IN CONFORMANCE WITH TYPICAL DETAILS.
3. U.N.O. ON PLANS, INSTALL CONNECTORS WITH FASTENERS TO ACHIEVE HIGHEST LOAD CAPACITY AS DIRECTED BY SST LITERATURE.
4. REFER TO MANUFACTURERS TECHNICAL BULLETIN FOR WELDING REQUIREMENTS.

DOOR AND WINDOW HEADERS AND POST (SCH)						
	HEADER			POST		
SPAN	≤ 7'	≤ 8.5'	≤ 10'	≤ 7'	≤ 8.5'	≤ 10'
INTERIOR	B8-2	B10-2	B12-2	2-24	2-24	3-24
EXTERIOR	B6-3	B8-3	B10-3	2-26	2-26	3-26

NOTES:
1. HEADER AND POST SCHEDULE IS FOR NON LOAD BEARING WALLS WHERE FLOOR FRAMING RUNS PARALLEL TO WALL.
2. USE THESE BEAM AND COLUMN MARKS UNLESS NOTED OTHERWISE ON THE PLANS.
3. PROVIDE 1 KING PER POST.

COLUMN MARKS SCHEDULE					
MARK	SIZE	MARK	SIZE	MARK	SIZE
1-44	(1)4X4	1-66P	(1)5.25X5.25PSL	2-26	(2)2X6
1-46	(1)4X6	2-24	(2)2X4	3-26	(3)2X6
1-44P	(1)3.5X3.5PSL	3-24	(3)2X4	4-26	(4)2X6
1-46P	(1)3.5X5.25PSL	4-24	(4)2X4	5-26	(5)2X6
1-47P	(1)3.5X7PSL	5-24	(5)2X4		

NOTES:
1. ALL BUILT UP COLUMNS TO BE NAILED WITH 16D NAILS @ 8" O.C.
2. COLUMNS SHALL BE SPF #2 OR BETTER OR PSL 1.8E
3. WHERE COLUMNS ARE SHOWN ON BOTH ENDS OF OPENINGS JACK/KING SCHEDULE REQUIREMENTS ARE NOT REQUIRED.

CONCRETE BEAM SCHEDULE							
MARK	WIDTH	DEPTH	BOTTOM BARS	CONT. TOP BAR	ADDITIONAL T.B.		STIRRUP SIZE
					L.E.	R.E.	
CB1	12"	30"	(2)#6	(2)#4	-	-	#3 @15" O.C.
CB2	12"	24"	(2)#4	(2)#4	-	-	#3 @15" O.C.

CONCRETE BEAM NOTES:
1. L.E. = LEFT END, R.E. = RIGHT END
2. PROVIDE FIRST STIRRUP 2" FROM BEAM END.
3. MINIMUM 4000 PSI CONCRETE

CMU SHEAR WALL SCHEDULE					
MARK	BLOCK SIZE	VERT. REINF.	BOUND BEAM	HORIZ. JOINT REINF.	CHORD CELLS
W8A	8"	#4 @ 16" O.C.	(2)#4@48" O.C.	N/A	2 CELLS W/ #6

NOTES:
1. ALL CONCRETE MASONRY UNITS TO CONFORM TO ASTM C90 AND C55, THE MASONRY GENERAL NOTES ON S0.01, AND THE MASONRY DETAILS.
2. F'm=1500 PSI MIN.
3. USE GR. 60 STEEL. USE CLASS B LAP SPLICE AT ALL BAR SPLICES. PROVIDE STANDARD 90° HOOKS AT ALL VERTICAL BAR ENDS.
4. USE PEA GRAVEL GROUT WITH A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI TO FULLY GROUT CELLS AT VERT. REINF.
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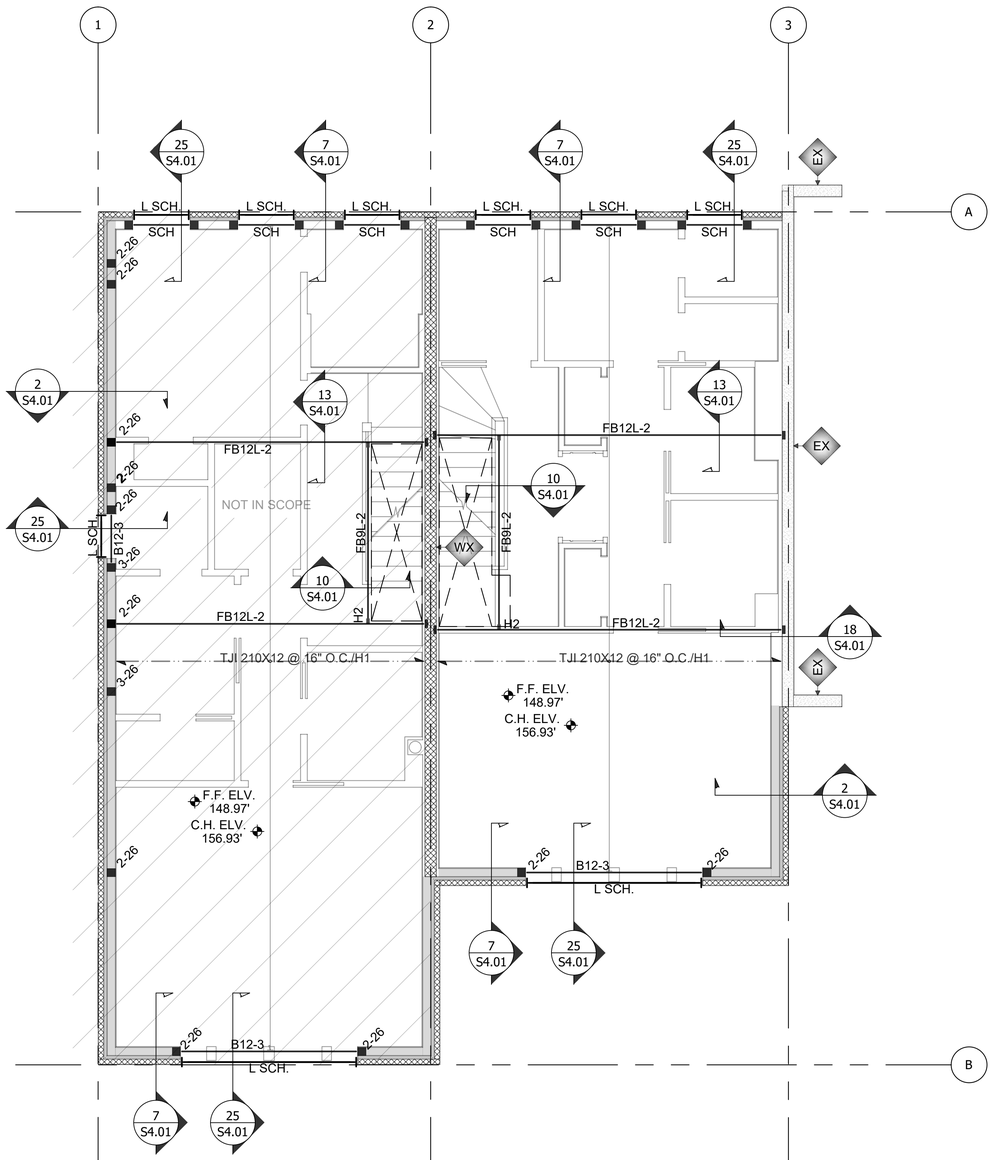
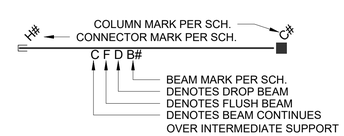
6. WHEN CONNECTING TO EXISTING HORIZONTAL SLABS, DIAPHRAGMS, OR FOOTINGS, PROVIDE SHEAR DOWELS EQUIVALENT TO WALL VERT. REINF.
7. IF NOT OTHERWISE STATED, PROVIDE BOUND BEAM AT TOP OF WALL AND 4' O.C. MAX OVER HEIGHT OF WALL.

JOIST AND CONCRETE DECK SCHEDULE				
DECK MARK	JOIST AND SPACING	METAL DECK	CONC. DEPTH	REINF.
CD1	C8X11.5 @ 5' O.C.	1.5FD/24Ga	4"	6x6x2.9x2.9





1 / S1.03 3RD FLOOR FRAMING PLAN
SCALE: 1/4" = 1'

NEW ROW HOUSE
3314 VOLTA PLACE NW
WASHINGTON, DC 20007

Project Name and Address

GRIGGS ENGINEERING
408 S Dallas ST
Baltimore, MD 21201
202-790-4300
David@griggs-engineering.com

Firm Name and Address

FOR OGB REVIEW
DISTRICT OF COLUMBIA
DAVID M. GRIGGS
FEBRUARY 8, 2023
No. PE920027
STRUCTURAL
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

No.	Issue #	Date

Sheet Title
3RD FLOOR FRAMING PLAN

Project: ----
Date: 3/8/23
Issued For: OGB REVIEW
Sheet: S1.03

WALL SCHEDULE (W#)						
WALL MARK	LEVEL	STUD SIZE	STUD SPACING	BLOCKING	STUD SPECIES	FRT
W1	ROOF	2X6	16	NONE	SPF NO2	NO
	ROOF+1	2X4	16	NONE	SPF NO2	NO
	ROOF+2	2X4	16	MID-HEIGHT	SPF NO2	NO

NOTES:
1. WALL MARKS SHOWN SHALL BE COORDINATED WITH SHEAR WALL SCHEDULE. WHERE WALL SCHEDULE AND SHEAR WALL SCHEDULE DIFFER AT SAME LOCATION COMBINE TO USE LARGES STUD SIZE, AND SMALLEST STUD AND BLOCKING SPACING.
2. USE DOUBLE TOP PLATES OF SYP NO2 OR BETTER FOR ALL LOAD BEARING WALLS.
3. FRAMING PLANS SHOW WALLS ON THE FLOOR BELOW THAT SUPPORT THE FLOOR OR ROOF SHOWN IN PLAN NAME.
4. LEVELS INDICATE FLOORS BELOW ROOF RELATIVE TO EACH WALL LINE.

BEAM MARKS (B#, FB#, DB#)							
MARK	SIZE	MARK	SIZE	MARK	SIZE	MARK	SIZE
B8-2	(2)2X8	B12-4	(4)2X12	B10L-3	(3)9.5LVL	B12L-4	(4)11.875LVL
B8-3	(3)2X8	B7L-2	(2)7.25LVL	B10L-4	(4)9.5LVL	B14L-2	(2)14LVL
B10-2	(2)2X10	B7L-3	(3)7.25LVL	B11L-2	(2)11.25LVL	B14L-3	(3)14LVL
B10-3	(3)2X10	B9L-2	(2)9.25LVL	B11L-3	(3)11.25LVL	B14L-4	(4)14LVL
B10-4	(4)2X10	B9L-3	(3)9.25LVL	B11L-4	(4)11.25LVL	B16L-2	(2)16LVL
B12-2	(2)2X12	B9L-4	(4)9.25LVL	B12L-2	(2)11.875LVL	B16L-3	(3)16LVL
B12-3	(3)2X12	B10L-2	(2)9.5LVL	B12L-3	(3)11.875LVL	B16L-4	(4)16LVL

CONNECTOR MARKS (H#)					
MARK	SIZE	MARK	SIZE	MARK	SIZE
H1	IUS2.06/11.88	H3	LRU26Z	H5	-
H2	HHUS48	H4	U26-2	H6	-

NOTES:
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2. CONTRACTOR MAY SUBMIT EQUIVALENT FOR E.O.R. APPROVAL PRIOR TO CONSTRUCTION. APPROVAL TO MEET OR EXCEED THE LOADS SPECIFIED IN SST LITERATURE AND BE IN CONFORMANCE WITH TYPICAL DETAILS.
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4. REFER TO MANUFACTURERS TECHNICAL BULLETIN FOR WELDING REQUIREMENTS.

DOOR AND WINDOW HEADERS AND POST (SCH)						
	HEADER			POST		
SPAN	≤ 7'	≤ 8.5'	≤ 10'	≤ 7'	≤ 8.5'	≤ 10'
INTERIOR	B8-2	B10-2	B12-2	2-24	2-24	3-24
EXTERIOR	B6-3	B8-3	B10-3	2-26	2-26	3-26

NOTES:
1. HEADER AND POST SCHEDULE IS FOR NON LOAD BEARING WALLS WHERE FLOOR FRAMING RUNS PARALLEL TO WALL.
2. USE THESE BEAM AND COLUMN MARKS UNLESS NOTED OTHERWISE ON THE PLANS.
3. PROVIDE 1 KING PER POST.

COLUMN MARKS SCHEDULE					
MARK	SIZE	MARK	SIZE	MARK	SIZE
1-44	(1)4X4	1-66P	(1)5.25X5.25PSL	2-26	(2)2X6
1-46	(1)4X6	2-24	(2)2X4	3-26	(3)2X6
1-44P	(1)3.5X3.5PSL	3-24	(3)2X4	4-26	(4)2X6
1-46P	(1)3.5X5.25PSL	4-24	(4)2X4	5-26	(5)2X6
1-47P	(1)3.5X7PSL	5-24	(5)2X4		

NOTES:
1. ALL BUILT UP COLUMNS TO BE NAILED WITH 16D NAILS @ 8" O.C.
2. COLUMNS SHALL BE SPF #2 OR BETTER OR PSL 1.8E
3. WHERE COLUMNS ARE SHOWN ON BOTH ENDS OF OPENINGS JACK/KING SCHEDULE REQUIREMENTS ARE NOT REQUIRED.

CONCRETE BEAM SCHEDULE							
MARK	WIDTH	DEPTH	BOTTOM BARS	CONT. TOP BAR	ADDITIONAL T.B.		STIRRUP SIZE
					L.E.	R.E.	
CB1	12"	30"	(2)#6	(2)#4	-	-	#3 @15" O.C.
CB2	12"	24"	(2)#4	(2)#4	-	-	#3 @15" O.C.

CONCRETE BEAM NOTES:
1. L.E. = LEFT END, R.E. = RIGHT END
2. PROVIDE FIRST STIRRUP 2" FROM BEAM END.
3. MINIMUM 4000 PSI CONCRETE

CMU SHEAR WALL SCHEDULE					
MARK	BLOCK SIZE	VERT. REINF.	BOUND BEAM	HORIZ. JOINT REINF.	CHORD CELLS
W8A	8"	#4 @ 16" O.C.	(2)#4@48" O.C.	N/A	2 CELLS W/ #6

NOTES:
1. ALL CONCRETE MASONRY UNITS TO CONFORM TO ASTM C90 AND C55, THE MASONRY GENERAL NOTES ON S0.01, AND THE MASONRY DETAILS.
2. F'm=1500 PSI MIN.
3. USE GR. 60 STEEL. USE CLASS B LAP SPLICE AT ALL BAR SPLICES. PROVIDE STANDARD 90° HOOKS AT ALL VERTICAL BAR ENDS.
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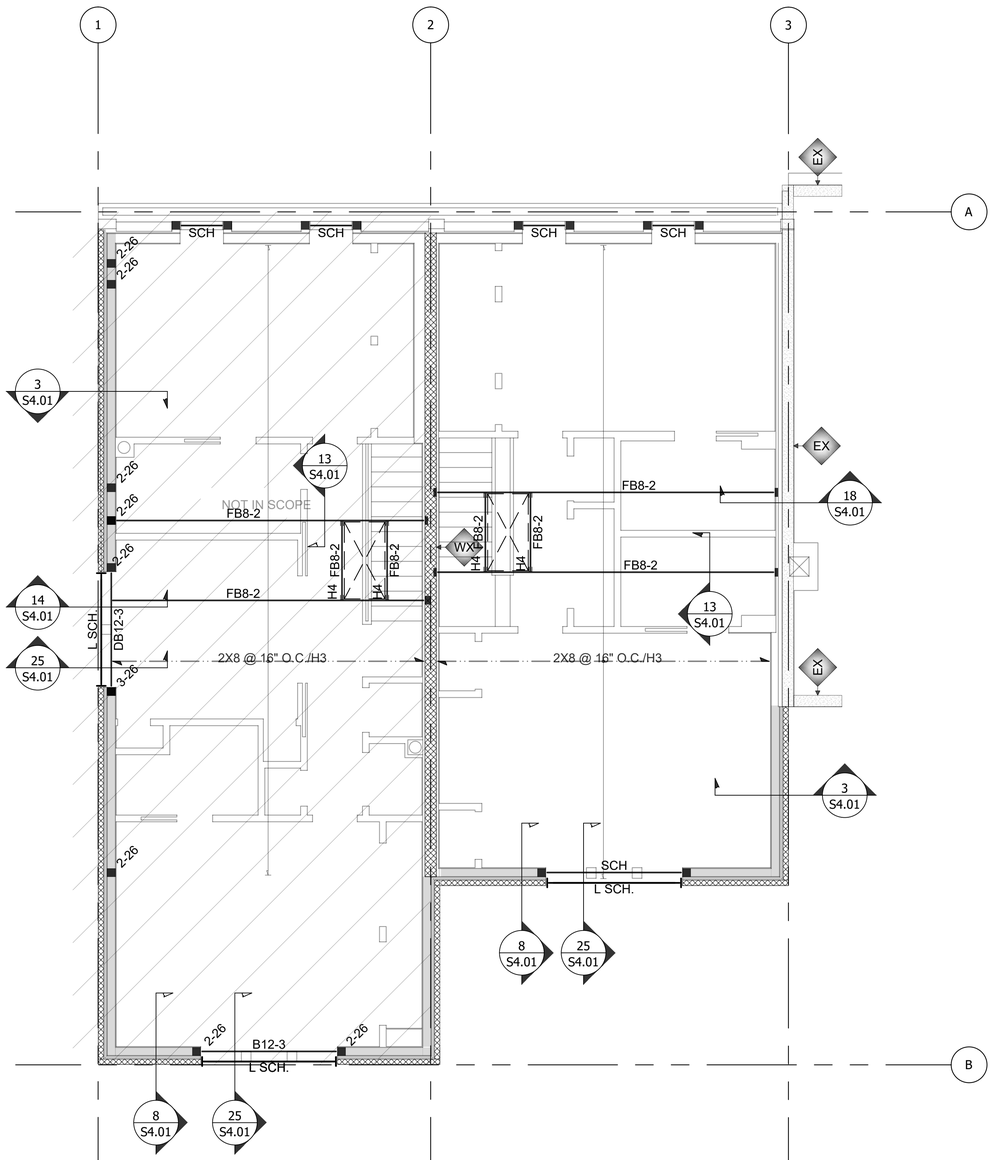
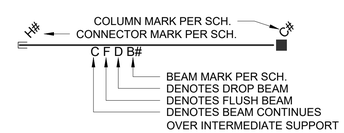
7. IF NOT OTHERWISE STATED, PROVIDE BOUND BEAM AT TOP OF WALL AND 4' O.C. MAX OVER HEIGHT OF WALL.

JOIST AND CONCRETE DECK SCHEDULE				
DECK MARK	JOIST AND SPACING	METAL DECK	CONC. DEPTH	REINF.
CD1	C8X11.5 @ 5' O.C.	1.5FD/24Ga	4"	6x6x2.9x2.9





1 / S1.04 CEILING FRAMING PLAN
SCALE: 1/4" = 1'

NEW ROW HOUSE
3314 VOLTA PLACE NW
WASHINGTON, DC 20007
Project Name and Address

GRIGGS ENGINEERING
Firm Name and Address
408 S Dekas ST
Baltimore, MD 21201
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FOR OGB REVIEW
DISTRICT OF COLUMBIA
DAVID M. GRIGGS
FEBRUARY 8, 2023
No. PE920027
STRUCTURAL
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

No.	Issue #	Date

Sheet Title
CEILING FRAMING PLAN

Project: ----
Date: 3/8/23
Issued For: OGB REVIEW
Sheet: S1.04

WALL SCHEDULE (W#)						
WALL MARK	LEVEL	STUD SIZE	STUD SPACING	BLOCKING	STUD SPECIES	FRT
W1	ROOF	2X6	16	NONE	SPF NO2	NO
	ROOF+1	2X4	16	NONE	SPF NO2	NO
	ROOF+2	2X4	16	MID-HEIGHT	SPF NO2	NO

NOTES:
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4. LEVELS INDICATE FLOORS BELOW ROOF RELATIVE TO EACH WALL LINE.

BEAM MARKS (B#, FB#, DB#)							
MARK	SIZE	MARK	SIZE	MARK	SIZE	MARK	SIZE
B8-2	(2)2X8	B12-4	(4)2X12	B10L-3	(3)9.5LVL	B12L-4	(4)11.875LVL
B8-3	(3)2X8	B7L-2	(2)7.25LVL	B10L-4	(4)9.5LVL	B14L-2	(2)14LVL
B10-2	(2)2X10	B7L-3	(3)7.25LVL	B11L-2	(2)11.25LVL	B14L-3	(3)14LVL
B10-3	(3)2X10	B9L-2	(2)9.25LVL	B11L-3	(3)11.25LVL	B14L-4	(4)14LVL
B10-4	(4)2X10	B9L-3	(3)9.25LVL	B11L-4	(4)11.25LVL	B16L-2	(2)16LVL
B12-2	(2)2X12	B9L-4	(4)9.25LVL	B12L-2	(2)11.875LVL	B16L-3	(3)16LVL
B12-3	(3)2X12	B10L-2	(2)9.5LVL	B12L-3	(3)11.875LVL	B16L-4	(4)16LVL

CONNECTOR MARKS (H#)					
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DOOR AND WINDOW HEADERS AND POST (SCH)						
	HEADER			POST		
SPAN	≤ 7'	≤ 8.5'	≤ 10'	≤ 7'	≤ 8.5'	≤ 10'
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CONCRETE BEAM NOTES:
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2. PROVIDE FIRST STIRRUP 2" FROM BEAM END.
3. MINIMUM 4000 PSI CONCRETE

CMU SHEAR WALL SCHEDULE					
MARK	BLOCK SIZE	VERT. REINF.	BOUND BEAM	HORIZ. JOINT REINF.	CHORD CELLS
W8A	8"	#4 @ 16" O.C.	(2)#4@48" O.C.	N/A	2 CELLS W/ #6

NOTES:
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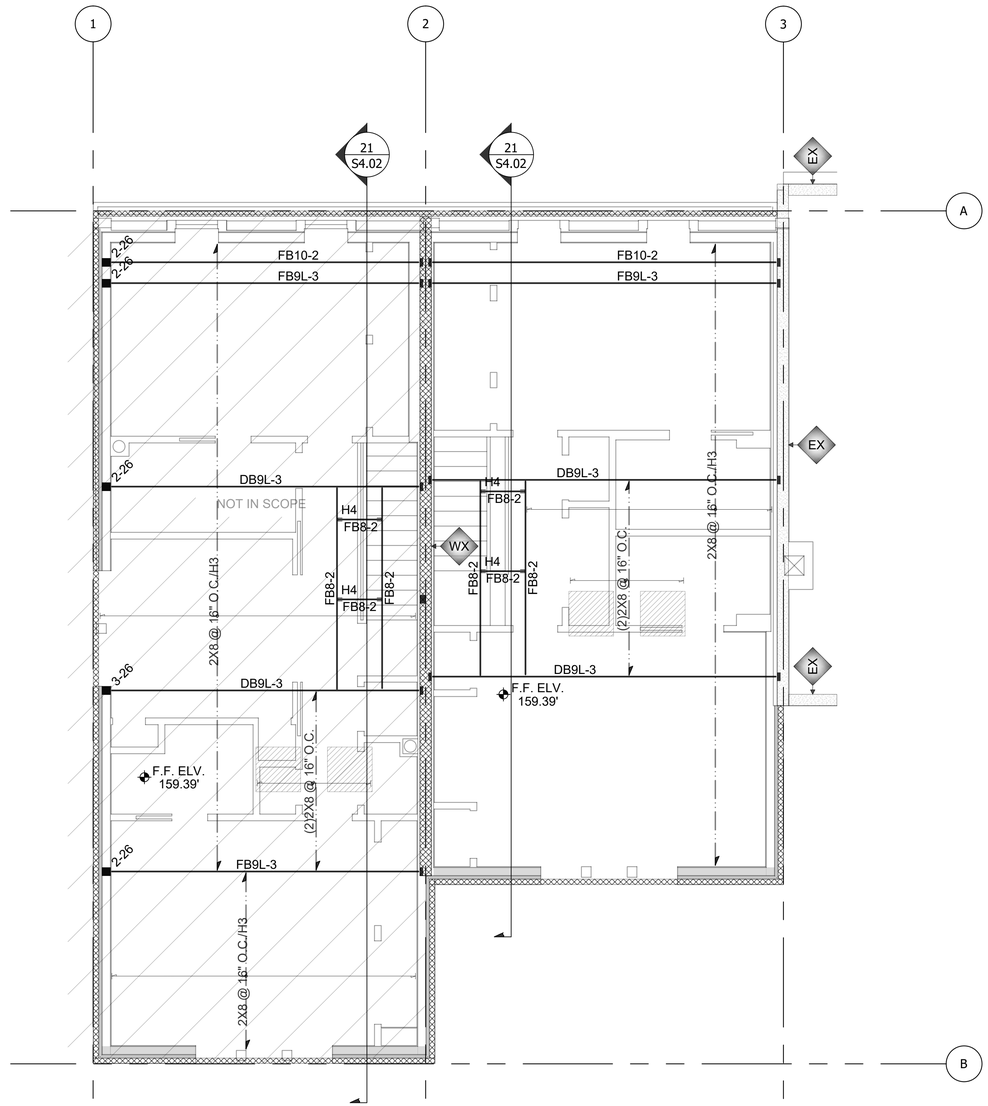
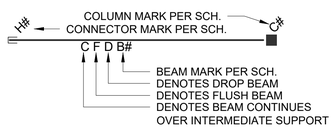
7. IF NOT OTHERWISE STATED, PROVIDE BOUND BEAM AT TOP OF WALL AND 4' O.C. MAX OVER HEIGHT OF WALL.

JOIST AND CONCRETE DECK SCHEDULE				
DECK MARK	JOIST AND SPACING	METAL DECK	CONC. DEPTH	REINF.
CD1	C8X11.5 @ 5' O.C.	1.5FD/24Ga	4"	6x6x2.9x2.9





1 / S1.05 ROOF FRAMING PLAN
SCALE: 1/4" = 1'

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FOR OGB REVIEW
DISTRICT OF COLUMBIA
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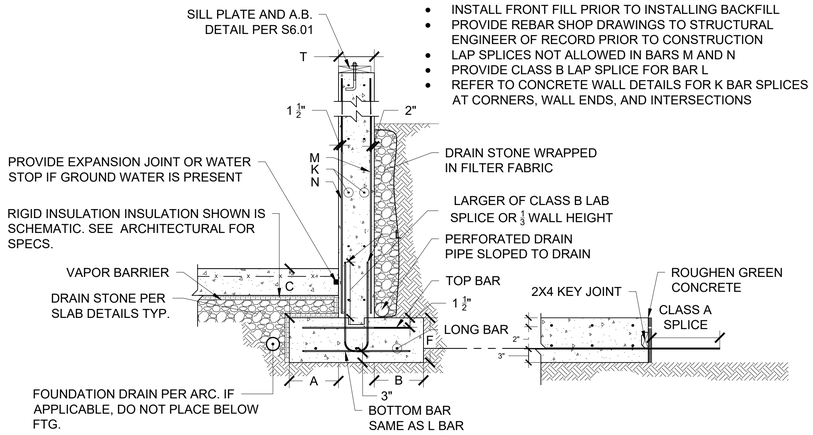
FEBRUARY 8, 2023
No. PE920027
STRUCTURAL
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

No.	Issue #	Date

Sheet Title
ROOF FRAMING PLAN

Project: ----
Date: 3/8/23
Issued For: OGB REVIEW
Sheet: S1.05

NOTES:
- REFER TO FOOTING SCH. ON FOUNDATION PLAN FOR DIMENSIONS AND BAR SIZES.
- FILL TO BE MECHANICALLY COMPACTED PER GEOTECHNICAL REPORT
- INSTALL FRONT FILL PRIOR TO INSTALLING BACKFILL
- PROVIDE REBAR SHOP DRAWINGS TO STRUCTURAL ENGINEER OF RECORD PRIOR TO CONSTRUCTION
- LAP SPLICES NOT ALLOWED IN BARS M AND N
- PROVIDE CLASS B LAP SPLICE FOR BAR L
- REFER TO CONCRETE WALL DETAILS FOR K BAR SPLICES AT CORNERS, WALL ENDS, AND INTERSECTIONS



SLAB ON GRADE TO WALL FOOTING DETAIL

CONSTRUCTION JOINT DETAIL

19 S3.01 FOUNDATION WALL DETAIL(2)
SCALE: 3/4" = 1'

NOTES:
- REFER TO FOOTING SCH. ON FOUNDATION PLAN FOR DIMENSIONS AND BAR SIZES.
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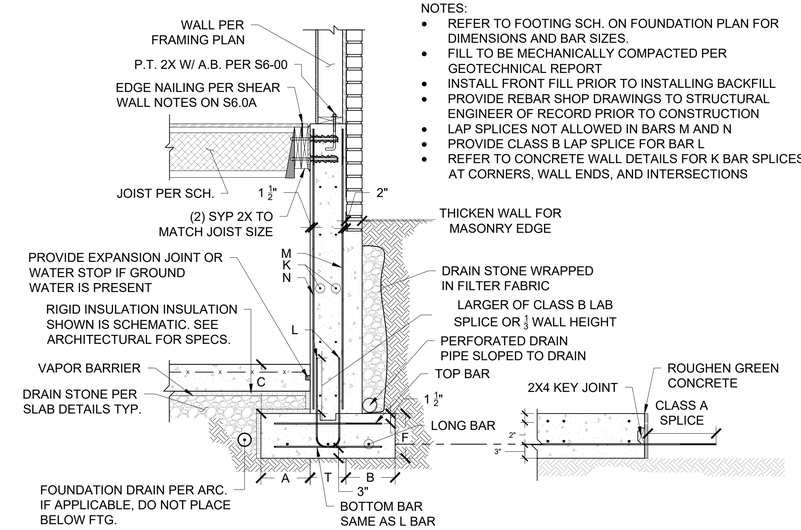
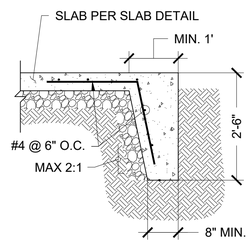


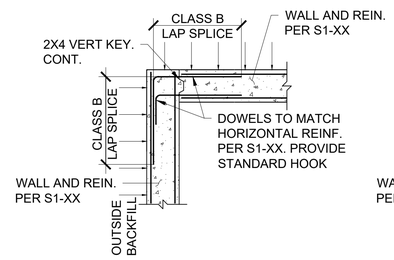
SLAB ON GRADE TO WALL FOOTING DETAIL

CONSTRUCTION JOINT DETAIL

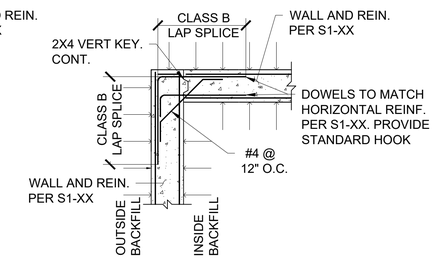
9 S3.01 FOUNDATION WALL DETAIL
SCALE: 3/4" = 1'



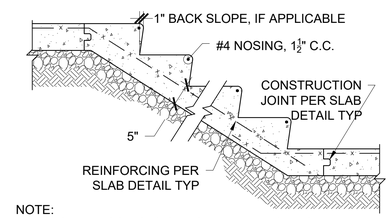
18 S3.01 TURN DOWN SLAB EDGE
SCALE: 3/4" = 1'



CORNER, OUTSIDE LOADING

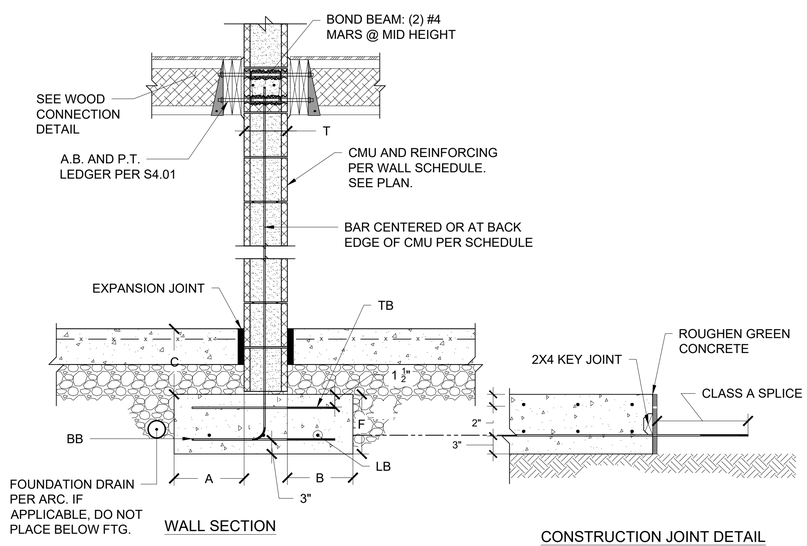


CORNER, INSIDE/OUTSIDE BACKFILL



NOTE:
- SLOPED NOSING IS OPTION. REFER TO ARCH
- PROVIDE LOWER CONCRETE ELEVATION TO ACOMIDATE PAVERS WHERE APPLICABLE

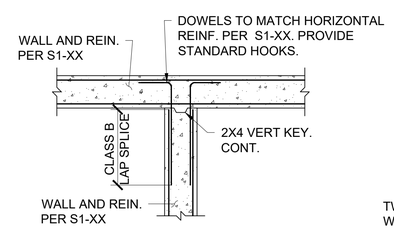
3 S3.01 STAIR ON GRADE
SCALE: 3/4" = 1'



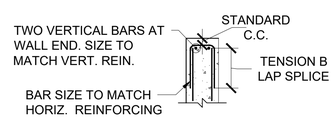
WALL SECTION

CONSTRUCTION JOINT DETAIL

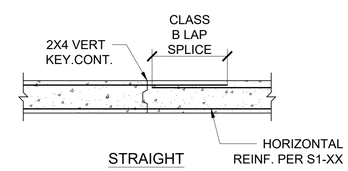
21 S3.01 INT. MASONRY WALL FTG.
SCALE: 1" = 1'



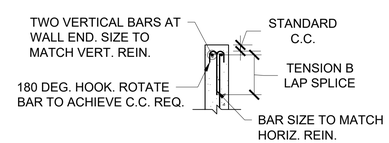
TEE



FREE END OF WALL, TWO LAYERS OF REIN.



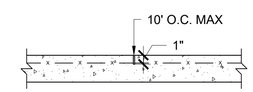
STRAIGHT



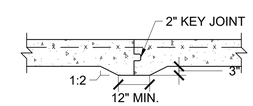
FREE END OF WALL, ONE LAYERS OF REIN.

NOTES:
- PROVIDE CONSTRUCTION JOINTS (C.J.) EVERY 60' OF WALL MIN.
- PROVIDE C.J. AT CORNERS AND INTERSECTIONS.
- PROVIDE WATER STOP AT C.J.

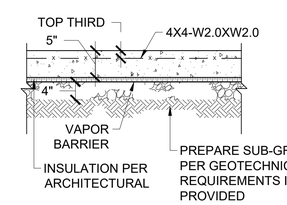
11 S3.01 CONCRETE WALL DETAILS TYP.
SCALE: 3/4" = 1'



CRACK CONTROL JOINT



CONSTRUCTION JOINT



NOTES:
- PROVIDE CRACK CONTROL JOINTS AT 10'X10' SPACING
- CONTRACTOR'S OPTION TO SAW OR WET FORM CRACK CONTROL JOINTS.
- NO VAPOR BARRIER ON EXTERIOR SLABS. U.N.O IN PLAN.

1 S3.01 SLAB DETAILS TYP.
SCALE: 3/4" = 1'

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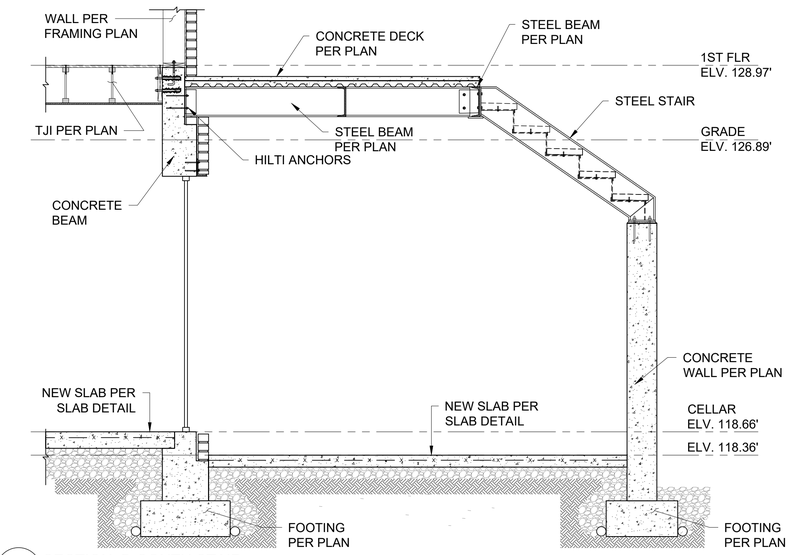
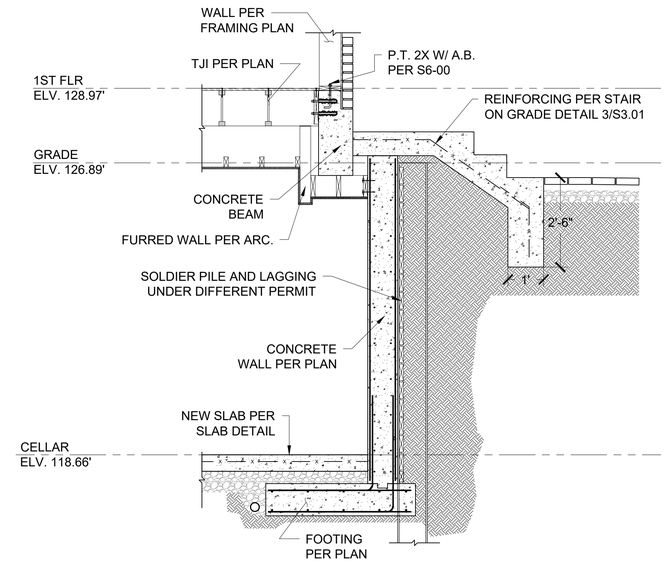
Sheet Title
FOUNDATION DETAILS

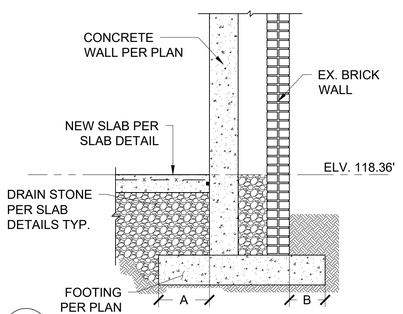
Project: ----
Date: 2/9/23
Issued For: OGB REVIEW
Sheet: S3.01



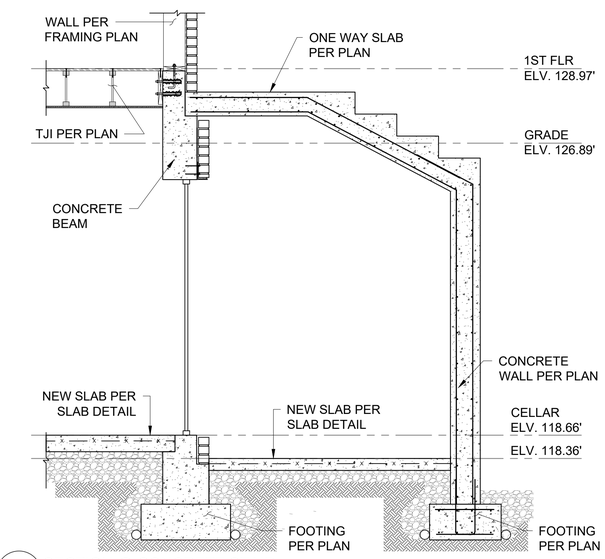
19 S3.02 SECTION @ SOUTH STAIR
SCALE: 1/2" = 1'



9 S3.02 SECTION @ NORTH STAIR
SCALE: 1/2" = 1'



23 S3.02 SECTION @ EX. BRICK WALL
SCALE: 1/2" = 1'



21 S3.02 SECTION @ CONCRETE STAIR
SCALE: 1/2" = 1'

NOTES:

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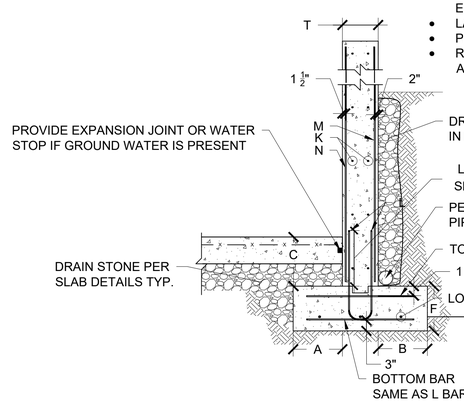
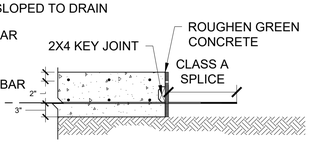
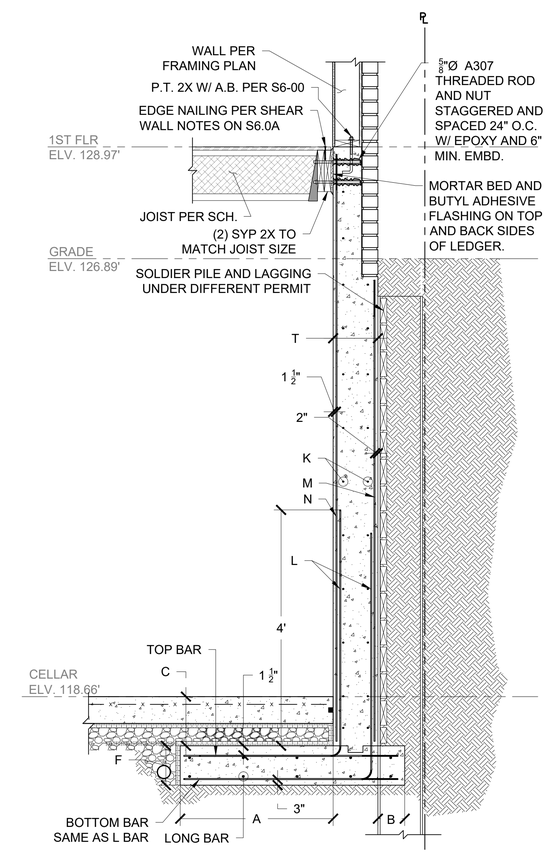


RETAINING WALL DETAIL



CONSTRUCTION JOINT DETAIL

16 S3.02 RETAINING WALL DETAIL
SCALE: 3/4" = 1'



6 S3.02 SHORING SOLDIER PILE FOOTING
SCALE: 3/4" = 1'

NEW ROW HOUSE

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No.	Issue #	Date

Sheet Title
FOUNDATION DETAILS CONTINUED

Project: ----
Date: 3/10/23
Issued For: OGB REVIEW
Sheet: S3.02

SCHEDULE OF SPECIAL INSPECTIONS - UNDERPINNING

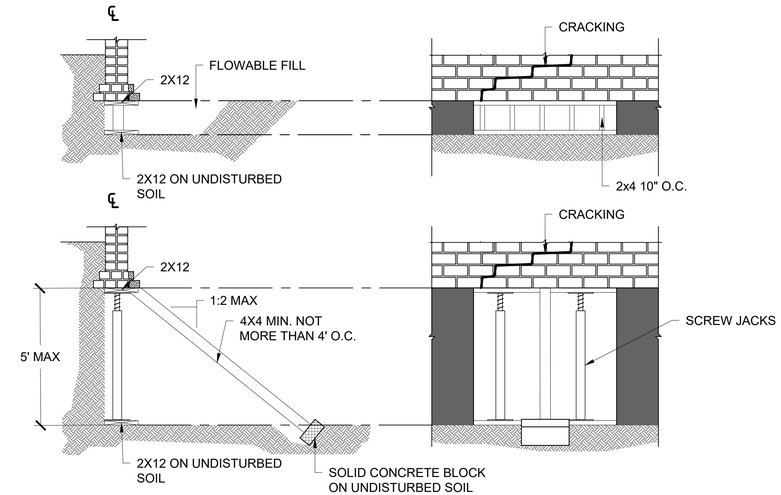
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCE	COMMENTS / STANDARDS
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		X	IBC: 1803, 1806 CC2015-01: A.1.	OBTAIN GEO-THECNICAL REPORT
VERIFY THAT THE EXCAVATION OF UNDERPINNING PITS ARE MEET THE DIMENSIONS SPECIFIED ON THE APPROVED PLANS AND CONSTRUCTION DOCUMENTS		X	CC2015-01: A.2.	
VERIFY THAT ANY DEVIATION OR NON-CONFORMING ITEMS HAVE BEEN BROUGHT TO THE NOTICE OF THE STRUCTURAL ENGINEER OF RECORD FOR RESOLUTION	X		CC2015-01: A.3.	
VERIFY THE INSTALLATION OF LATERAL BRACING OF PARTY WALLS IF REQUIRED BY THE APPROVED PLANS AND CONSTRUCTION DOCUMENTS		X	CC2015-01: A.4.	
VERIFY CONCRETE BATCH MIX IN CONFORMANCE WITH APPROVED CONCRETE MIX DESIGN PRIOR TO PLACEMENT		X	IBC: 1904.2, 1910.2, 1910.3 CC2015-01: B.1.	ACI 318: Ch. 4, 5.2-5.4
VERIFY REINFORCING STEEL, WHERE INCLUDED IN APPROVED DESIGN, IS IN CONFORMANCE WITH SUBMITTAL DOCUMENTS AND CODE REQUIREMENTS INCLUDING SIZE, LOCATION, SPLICING, AND CLEAR COVER		X	IBC: 1910.4 CC2015-01: B.2.	ACI 318: 3.5, 7.1-7.7
VERIFY THE EXCAVATIONS ARE FREE OF DEBRIS AND LOSE MATERIAL		X	CC2015-01: B.3.	
INSPECT FORM WORK USED TO PLACE CONCRETE FOR STABILITY AND PROPER DIMENSIONS		X	CC2015-01: B.4.	
PREPARE TEST CYLINDERS PER ASTM C-31 FOR LABORATORY VERIFICATION OF ENGINEER OF RECORD'S SPECIFIED MINIMUM COMPRESSIVE STRENGTH. LAB-CURED SPECIMEN SHALL BE USED TO VERIFY THE SPECIFIED CONCRETE STRENGTH	X		IBC: 1910.10 CC2015-01: B.5.	ASTM C 172, ASTM C 31, ACI 318: 5.6, 5.8
VERIFY DRYPACK BETWEEN THE EXISTING STRUCTURE AND UNDERPINNING IS INSTALLED PER THE DETAIL(S).		X		VISUAL VERIFICATION

1 / S3.03 SPECIAL INSPECTION - UNDERPINNING
SCALE: 1" = 1'

STRUCTURAL TESTING AND SPECIAL INSPECTION

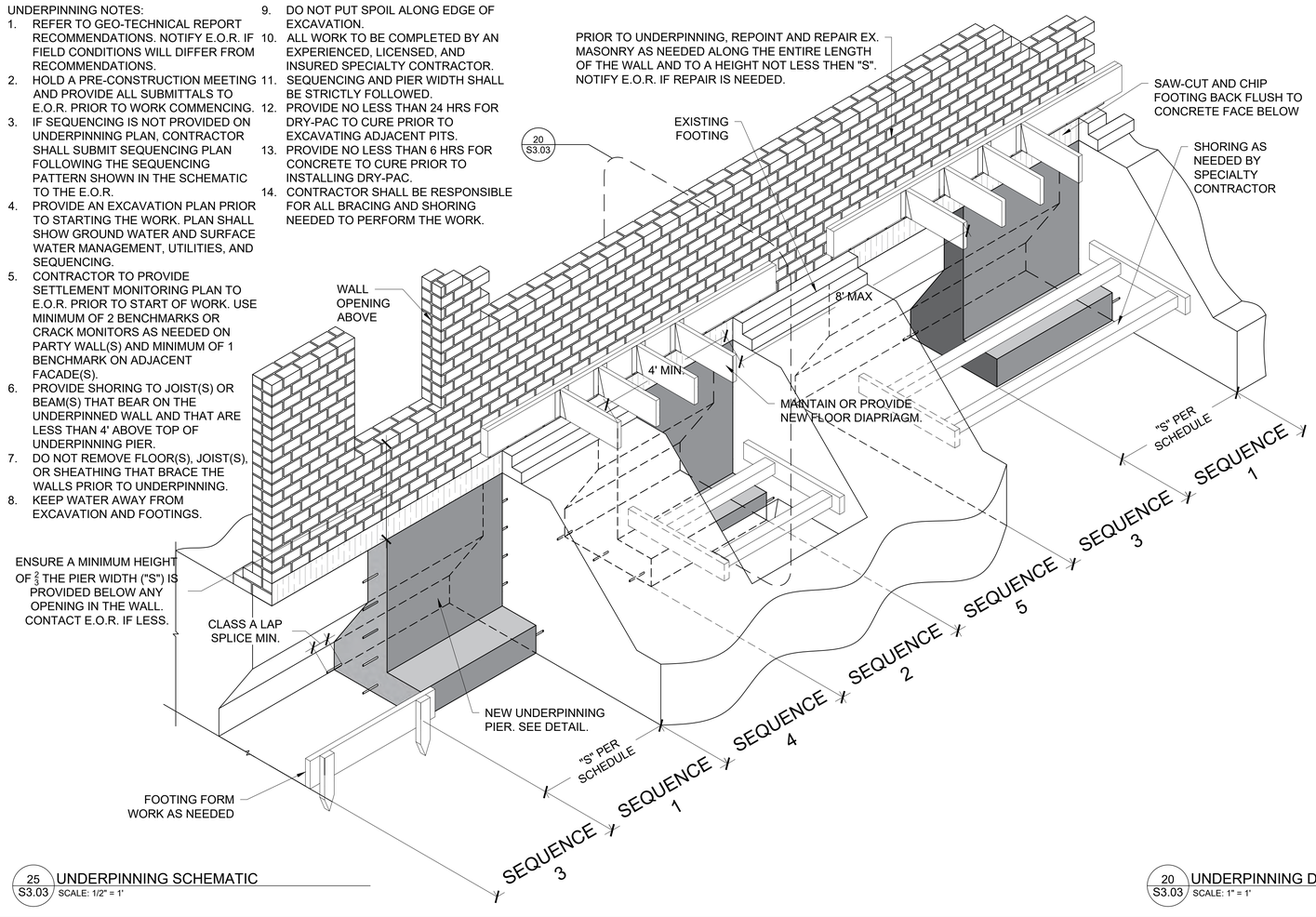
1. THIS TABLE IS INTENDED TO IDENTIFY THE PORTIONS OF CONSTRUCTION REQUIRING SPECIAL INSPECTION REQUIRED BY THE INTERNATIONAL BUILDING CODE (IBC) AND THE JURISDICTION HAVING AUTHORITY. THE OWNER SHALL ENGAGE AN INDEPENDENT SPECIAL INSPECTION AGENCY AND THE CONTRACTOR SHALL NOTIFY SPECIAL INSPECTOR OF PROGRESS OF CONSTRUCTION AND PROVIDE ACCESS TO THE SITE TO COMPLETE INSPECTIONS. THE SPECIAL INSPECTOR IS RESPONSIBLE FOR CONSTRUCTION REQUIRING SPECIAL INSPECTION PER Ch. 17 OF THE IBC AND ANY ADDITIONAL ITEMS REQUIRED BY THE JURISDICTION.
2. THE ITEMS CHECKED WITH AN "X" SHALL BE INSPECTED IN ACCORDANCE WITH IBC Ch. 17 BY A CERTIFIED SPECIAL INSPECTOR FROM AN ESTABLISHED AND APPROVED TESTING AGENCY. FOR MATERIAL SAMPLING AND TESTING REQUIREMENTS, REFER TO THE STANDARDS SET FORTH IN IBC SECTION 1711. THE TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE ENGINEER, CONTRACTOR, AND BUILDING OFFICIAL. ANY CONSTRUCTION THAT FAILS TO MEET THE CONSTRUCTION DOCUMENTS AND IBC REQUIREMENTS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION AND THE ENGINEER IF UNCORRECTED. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY EQUALLY TO ALL COMPONENTS DESIGNED BY OTHERS.
3. FREQUENCY OF INSPECTION
   - a. CONTINUOUS SPECIAL INSPECTION MEANS THAT THE SPECIAL INSPECTOR SHALL BE ON SITE AT ALL TIMES OBSERVING THE WORK REQUIRING SPECIAL INSPECTION.
   - b. PERIODIC SPECIAL INSPECTION MEANS THAT THE SPECIAL INSPECTOR IS ON THE SITE AT THE TIME INTERVALS NECESSARY TO CONFIRM THAT ALL WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE. OPERATIONS DO NOT NEED TO BE DELAYED FOR INSPECTIONS.

CONTINGENCY SHORING NOTES:
1. IF CRACKING OR MOVEMENT IS OBSERVED OR REPORTED, CONTACT THE E.O.R., ARCHITECT OF RECORD, AND OWNER.
2. KEEP SHORING MATERIALS ON SITE DURING UNDERPINNING.
3. USE SCREW JACKS RATED TO NO LESS THAN 10,000 LBS.
4. SHORING SHOWN IS SCHEMATIC IN NATURE. G.C. SHALL RETAIN AN INDEPENDENT LICENSED ENGINEER TO PROVIDE A SHORING PLAN.

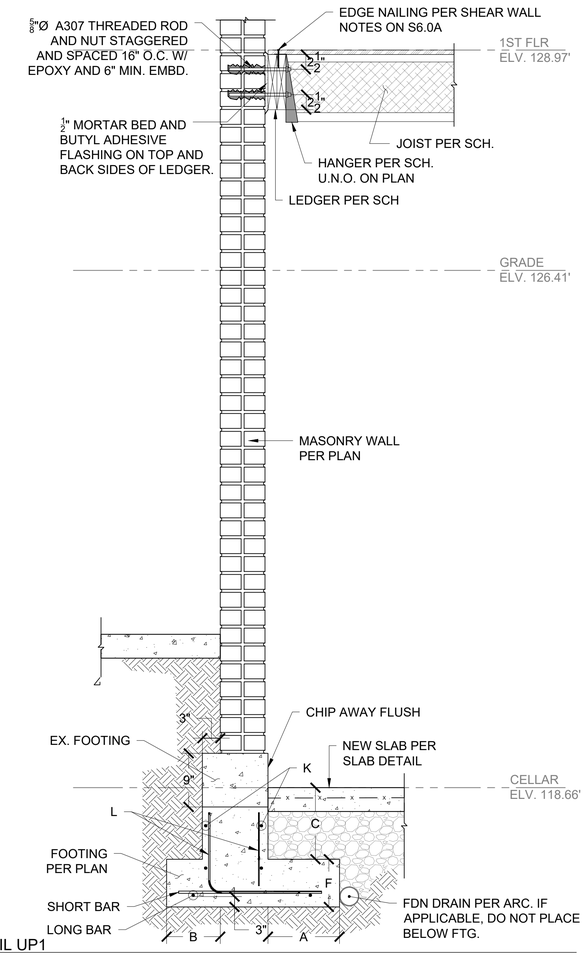


2 / S3.03 SHORING SCHEMATIC
SCALE: 1/2" = 1'

UNDERPINNING NOTES:
1. REFER TO GEO-TECHNICAL REPORT RECOMMENDATIONS. NOTIFY E.O.R. IF FIELD CONDITIONS WILL DIFFER FROM RECOMMENDATIONS.
2. HOLD A PRE-CONSTRUCTION MEETING AND PROVIDE ALL SUBMITTALS TO E.O.R. PRIOR TO WORK COMMENCING.
3. IF SEQUENCING IS NOT PROVIDED ON UNDERPINNING PLAN, CONTRACTOR SHALL SUBMIT SEQUENCING PLAN FOLLOWING THE SEQUENCING PATTERN SHOWN IN THE SCHEMATIC TO THE E.O.R.
4. PROVIDE AN EXCAVATION PLAN PRIOR TO STARTING THE WORK. PLAN SHALL SHOW GROUND WATER AND SURFACE WATER MANAGEMENT, UTILITIES, AND SEQUENCING.
5. CONTRACTOR TO PROVIDE SETTLEMENT MONITORING PLAN TO E.O.R. PRIOR TO START OF WORK. USE MINIMUM OF 2 BENCHMARKS OR CRACK MONITORS AS NEEDED ON PARTY WALL(S) AND MINIMUM OF 1 BENCHMARK ON ADJACENT FACADE(S).
6. PROVIDE SHORING TO JOIST(S) OR BEAM(S) THAT BEAR ON THE UNDERPINNED WALL AND THAT ARE LESS THAN 4' ABOVE TOP OF UNDERPINNING PIER.
7. DO NOT REMOVE FLOOR(S), JOIST(S), OR SHEATHING THAT BRACE THE WALLS PRIOR TO UNDERPINNING.
8. KEEP WATER AWAY FROM EXCAVATION AND FOOTINGS.
9. DO NOT PUT SPOIL ALONG EDGE OF EXCAVATION.
10. ALL WORK TO BE COMPLETED BY AN EXPERIENCED, LICENSED, AND INSURED SPECIALTY CONTRACTOR.
11. SEQUENCING AND PIER WIDTH SHALL BE STRICTLY FOLLOWED.
12. PROVIDE NO LESS THAN 24 HRS FOR DRY-PAC TO CURE PRIOR TO EXCAVATING ADJACENT PITS.
13. PROVIDE NO LESS THAN 6 HRS FOR CONCRETE TO CURE PRIOR TO INSTALLING DRY-PAC.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BRACING AND SHORING NEEDED TO PERFORM THE WORK.



25 / S3.03 UNDERPINNING SCHEMATIC
SCALE: 1/2" = 1'



20 / S3.03 UNDERPINNING DETAIL UP1
SCALE: 1" = 1'

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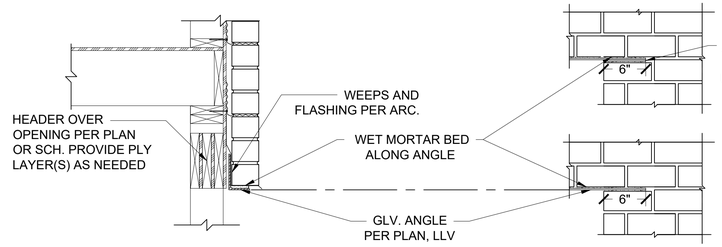
Sheet Title
UNDERPINING DETAILS

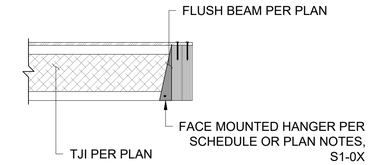
Project	Sheet
----	S3.03
Date 3/6/23	
Issued For OGB REVIEW	



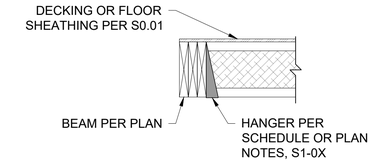
LINTEL SCHEDULE FOR BRICK VINEER (L. SCH)	
SPAN	MEMBER
≤ 5'	L 3x3x1/4LLV
≤ 7'	L 5x3x1/4LLV
≤ 10'	L 5x3x7/16LLV

NOTES:
- APPLICABLE WHERE NO OPENING IS PRESENT ABOVE THE LINTEL A DISTANCE OF HALF THE SPAN SHOWN IN TABLE.
- EXPANSION JOINTS NOT PERMITTED OVER LINTEL.
- U.N.O ON PLAN PROVIDE LINTEL PER ABOVE SCH.

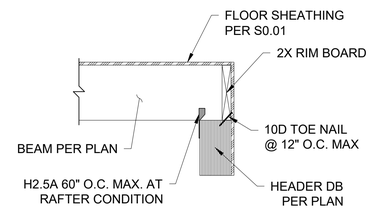
25 S4.01 MASONRY FACADE LINTEL TYP.
SCALE: 1" = 1'



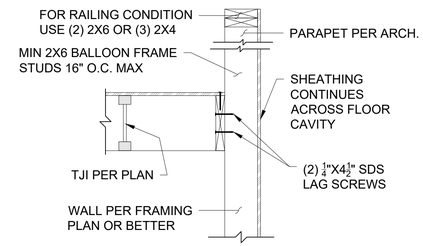
10 S4.01 FACE MOUNTED TJI TO LVL TYP.
SCALE: 1" = 1'



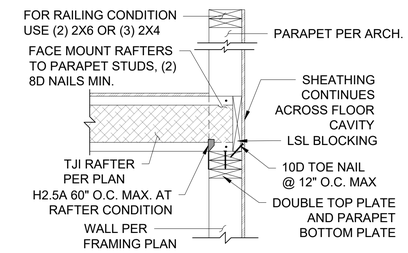
5 S4.01 EDGE FB
SCALE: 1" = 1'



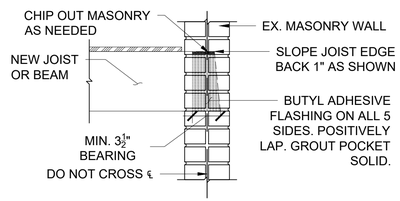
14 S4.01 FB DETAIL ON A DB
SCALE: 1" = 1'



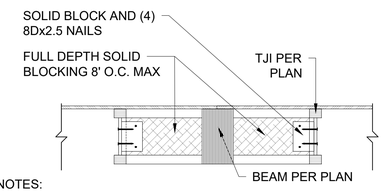
9 S4.01 TJI PARALLEL PARAPET CONNECTION
SCALE: 1" = 1'



4 S4.01 TJI PARAPET CONNECTION
SCALE: 1" = 1'

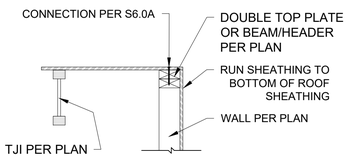


18 S4.01 MASONRY BEAM POCKET
SCALE: 1" = 1'

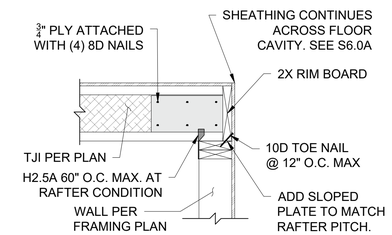


NOTES:
- CONTRACTORS OPTION TO USE 2X BLOCKING OF EQUAL DEPTH.
- CONDITION MAY BE ASYMMETRIC IF NO JOIST ARE PRESENT ON ONE SIDE.

13 S4.01 TJI TO BEAM BLOCKING
SCALE: 1" = 1'

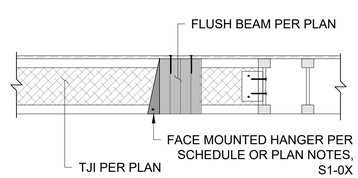


8 S4.01 TOP OF NON LOAD BEARING WALL
SCALE: 1" = 1'

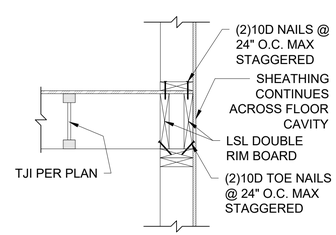


3 S4.01 TOP OF LOAD BEARING WALL
SCALE: 1" = 1'

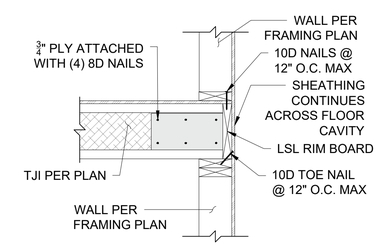
HANGER, LEDGER, BOLT & SPACING SCH.						
JOIST SIZE	HANGER SERIES	LEDGER SIZE	CMU WALL		CONCRETE WALL	
			BOLT TYPE AND SIZE	SPACING 'S'	BOLT TYPE AND SIZE	SPACING 'S'
TJI 110X10	ITS	(2)2X10	HIT HY 270 - HAS- E - 5/8" Ø WITH 6" EMBEDMENT	6"	KWIK KB-TZ - 5/8" Ø WITH 4" EMBEDMENT	8"
TJI 110X12	MIT					
TJI 110X14	MIT					
TJI 210X10-12	ITS		HIT HY 270 - HAS- E - 5/8" Ø WITH 6" EMBEDMENT	5"	KWIK KB-TZ - 5/8" Ø WITH 4" EMBEDMENT	6"
TJI 210X14-16	BA					
(2) TJI 110X10-14	ITS					
(2) TJI 210X10-12	MIT					
(2) TJI 210X14	MIT		HIT HY 270 - HAS- E - 5/8" Ø WITH 6" EMBEDMENT	4"	KWIK KB-TZ - 5/8" Ø WITH 4" EMBEDMENT	5"
(2) TJI 210X16	BA					
2X8	THA/LU	(2)2X8	HIT HY 270 - HAS- E - 5/8" Ø WITH 6" EMBEDMENT	8"	KWIK KB-TZ - 5/8" Ø WITH 4" EMBEDMENT	8"
2X10 & 2X12	JB/LUS	(2)2X10				



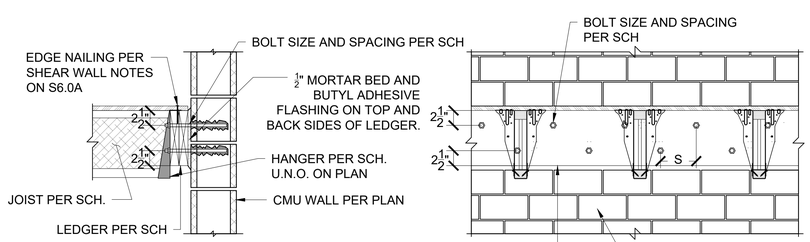
12 S4.01 FACE MOUNTED TJI TO LVL TYP. 2
SCALE: 1" = 1'



7 S4.01 TJI NON LOAD BEARING EXT WALL
SCALE: 1" = 1'

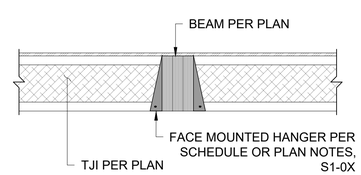


2 S4.01 TJI LOAD BEARING EXT. WALL
SCALE: 1" = 1'

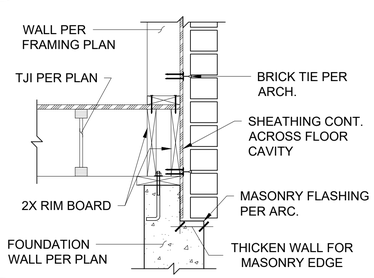


NOTES:
- ALL LEDGERS TO BE S.Y.P. NO 2 OR BETTER.
- NOT APPLICABLE ON HOLLOW CMU OR BRICK WALLS
- CONFIRM EXISTING MASONRY AND MORTAR IS IN GOOD CONDITION. NOTIFY E.O.R. IF DETERIORATION IS OBSERVED.
- REPOINT MORTAR JOINTS WHERE NEEDED.
- SEE PLAN FOR ADDITIONAL ANCHORS NEEDED AT BEAM CONNECTION.
- PROVIDE 1.75" Ø H.D.G. FLAT WASHER FOR ALL BOLTS.

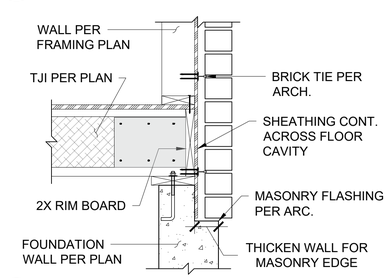
21 S4.01 TYPICAL LOAD BEARING CMU JOIST LEDGER
SCALE: 1" = 1'



11 S4.01 LVL FLUSH BEAM TO TJI
SCALE: 1" = 1'



6 S4.01 MSNRY VENEER AT NON LOAD BEARING
SCALE: 1" = 1'



1 S4.01 MSNRY VENEER AT BOTTOM OF FLOOR
SCALE: 1" = 1'

NEW ROW HOUSE

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FEBRUARY 8, 2023
No. PE920027
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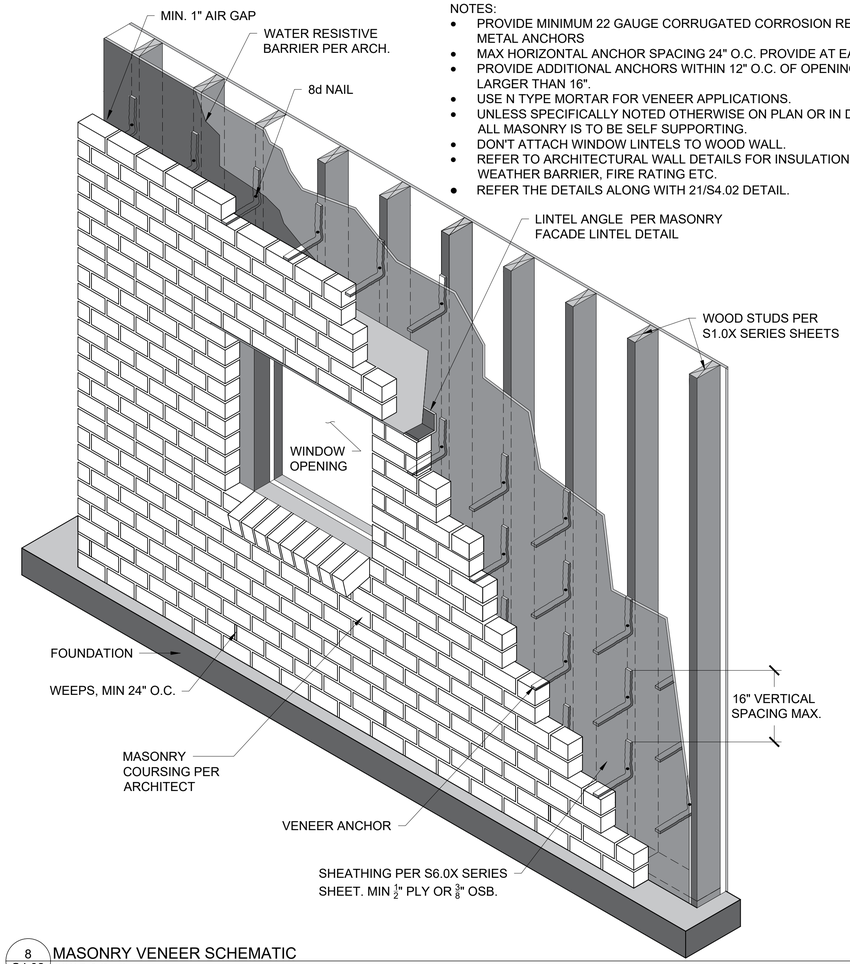
No.	Issue #	Date

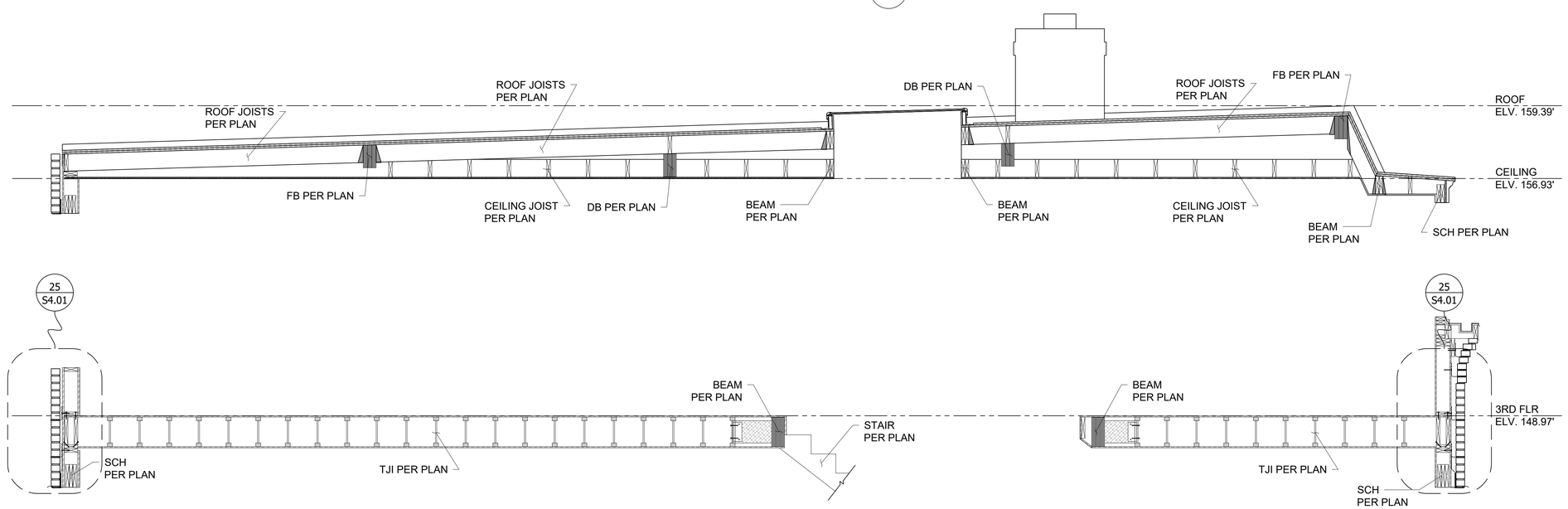
Sheet Title
WOOD FRAMING DETAILS

Project: ----
Date: 3/7/23
Issued For: OGB REVIEW
Sheet: S4.01

NOTES:
- PROVIDE MINIMUM 22 GAUGE CORRUGATED CORROSION RESISTIVE METAL ANCHORS
- MAX HORIZONTAL ANCHOR SPACING 24" O.C. PROVIDE AT EACH STUD.
- PROVIDE ADDITIONAL ANCHORS WITHIN 12" O.C. OF OPENINGS LARGER THAN 16".
- USE N TYPE MORTAR FOR VENEER APPLICATIONS.
- UNLESS SPECIFICALLY NOTED OTHERWISE ON PLAN OR IN DETAILS ALL MASONRY IS TO BE SELF SUPPORTING.
- DON'T ATTACH WINDOW LINTELS TO WOOD WALL.
- REFER TO ARCHITECTURAL WALL DETAILS FOR INSULATION, WEATHER BARRIER, FIRE RATING ETC.
- REFER THE DETAILS ALONG WITH 21/S4.02 DETAIL.



8 / S4.02 MASONRY VENEER SCHEMATIC
SCALE: 3/4" = 1'



21 / S4.02 ROOF SECTION
SCALE: 1/2" = 1'

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Sheet Title
WOOD FRAMING DETAILS CONTINUED

Project: ----
Date: 3/7/23
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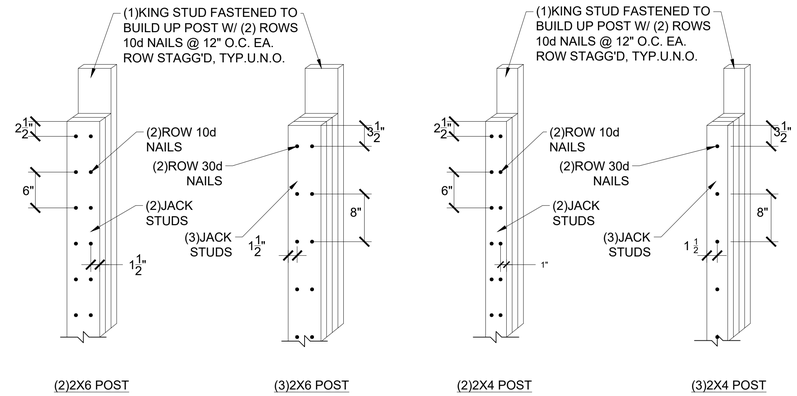
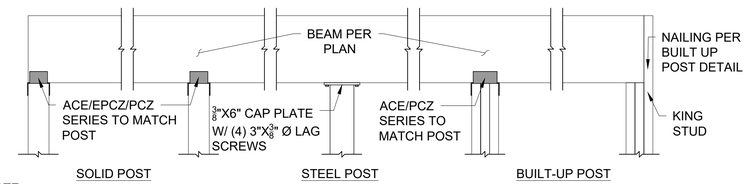
Sheet: S4.02



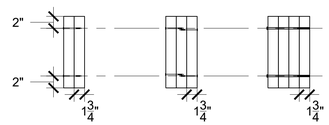
NOTE:
- ADJACENT NAILS SHALL BE DRIVEN FROM OPPOSITE SIDES OF THE COLUMN.
- USE SPF U.N.O.
- BUILT UP POST CONNECTIONS NOT PERMITTED AS ROOF GIRDER TRUSS SUPPORT WITHOUT HOLD DOWN DEVICE. SEE NAILING NOTES ON S0.00.

19 S5.00 BUILT UP POST DETAIL TYP.
SCALE: 1" = 1'



NOTE:
- GENERAL DETAIL SHOWING TYPICAL POST TO WOOD BEAM CONNECTION REQUIREMENTS FOR ALL TYPES OF POSTS.
- WHERE COLUMNS CAP SUPPORT ROOF G.T. PROVIDE STRAP OR COLUMN BASE OF EQUIVALENT UPLIFT CAPACITY. REFER TO WOOD CONNECTION NOTES ON S0.00.

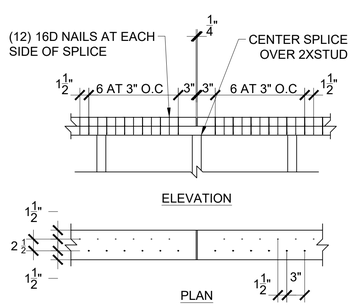
9 S5.00 WOOD BEAM TO POST CONNECTION
SCALE: 1" = 1'



# OF ROWS/SPACING/FASTENER			
1.75 LVL	2 PLY	3 PLY	4 PLY
<9.5"	2/12/10D	2/6/10D	2/16/A307
≥9.5"	3/6/10D	3/4/10D	2/12/A307

NOTES:
- USE 3" 10D NAILS SPACED PER THE TABLE. NAILS SHOULD BE STAGGERED BETWEEN ROWS.
- USE 1/2"Ø A307 THROUGH BOLTS WITH WASHERS ON BOTH SIDES. MAXIMUM 9/16" HOLE.
- CONTRACTORS OPTION TO SUBSTITUTE THROUGH BOLT FOR 6" SDS SCREWS.
- NAILING NOT PERMITED ON LVL LARGER THAN 14".

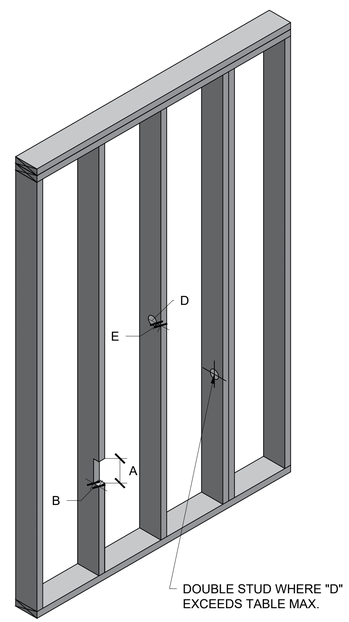
LVL AND PSL NAILING



NOTES:
- 2X6 SHOWN,FOR 2X4 USE (10) 10d NAILS @4" O.C. STAGGERED ON EACH SIDE OF THE BREAK
- DO NOT SPLICE MORE THAN ONE 2X6 IN 6'-0" LENGTH

TYPICAL TOP PLATE SPLICE DETAIL

21 S5.00 NAILING DETAILS TYP.
SCALE: 1" = 1'

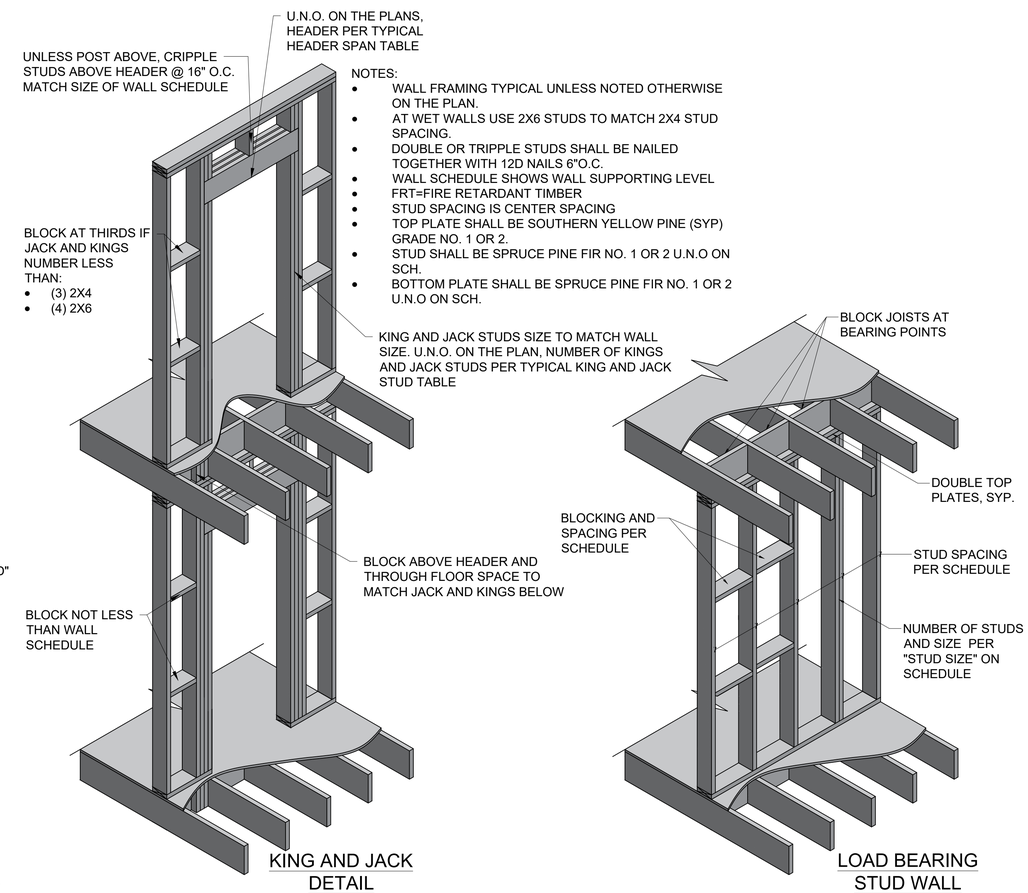


LOAD BEARING STUD WALL

STUD SIZE	A (MAX.)	B (MAX)	D (MAX)	E (MAX)
2X4	2 1/2"	7/8"	1 3/8"	5/8"
2X6	2 1/2"	1 3/8"	2 7/8"	5/8"

NOTES:
- A = NOTCH HEIGHT, B = NOTCH DEPTH, D = BORE DIAMETER, E = BORE EDGE DISTANCE.
- THESE HOLES AND NOTCHES ARE IN GENERAL CONFORMANCE WITH THE 2012 ICC. WALLS WITH MORE THAN 3 CONSECUTIVE STUDS NOTCHED OR DRILLED OR HOLES THAT DO NOT CONFORM WITH THE TABLE SHALL BE SUBMITTED TO THE ENGINEER BEFORE PROCEEDING.
- ALL HOLES WITH EDGE DISTANCES LESS THAN "E" SHALL HAVE SIMPSON "SS" SHOES. HOLES FOR PIPES SHALL HAVE SIMPSON NS2.

16 S5.00 STUD NOTCHING LIMITS
SCALE: 3/4" = 1'



NOTES:
- WALL FRAMING TYPICAL UNLESS NOTED OTHERWISE ON THE PLAN.
- AT WET WALLS USE 2X6 STUDS TO MATCH 2X4 STUD SPACING.
- DOUBLE OR TRIPPLE STUDS SHALL BE NAILED TOGETHER WITH 12D NAILS 6"O.C.
- WALL SCHEDULE SHOWS WALL SUPPORTING LEVEL
- FRT=FIRE RETARDANT TIMBER
- STUD SPACING IS CENTER SPACING
- TOP PLATE SHALL BE SOUTHERN YELLOW PINE (SYP) GRADE NO. 1 OR 2.
- STUD SHALL BE SPRUCE PINE FIR NO. 1 OR 2 U.N.O ON SCH.
- BOTTOM PLATE SHALL BE SPRUCE PINE FIR NO. 1 OR 2 U.N.O ON SCH.

11 S5.00 LOAD BEARING WALL SCHEMATIC AND SCHEDULE TYP.
SCALE: 1/2" = 1'

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WOOD VERTICAL FRAMING DETAILS

Project ----
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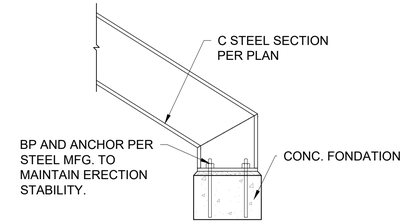
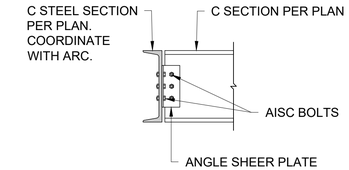
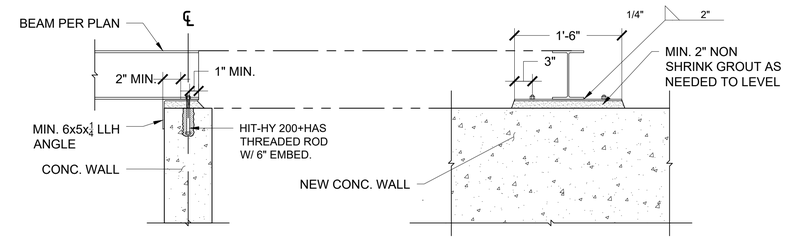


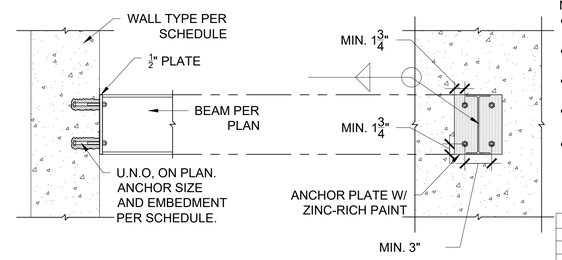
10 S5.10 STRINGER TO FLOOR CONNECTION
SCALE: 1" = 1'



5 S5.10 C TO C SHEAR CONNECTION
SCALE: 1" = 1'



9 S5.10 WF TO NEW CONC. WALL
SCALE: 1" = 1'

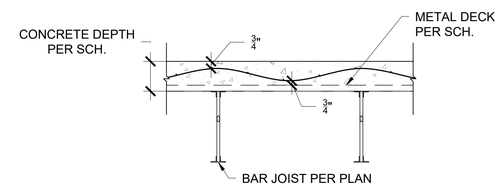


NOTES:
- ALL PRODUCTS ARE GALZ. PRODUCTS.
- ADHESIVE ANCHORS ARE HIT-HY 200+HAS THREADED ROD.
- GROUT CMU WALLS SOLID AT ANCHORS.
- PROVIDE FULL LENGTH WEB WELD TO PLATE, BOTH SIDES, $\frac{3}{16}$" FILLET MIN.
- CONFIRM EXISTING MASONRY AND MORTAR IS IN GOOD CONDITION. NOTIFY E.O.R. IF DETERIORATION IS OBSERVED.

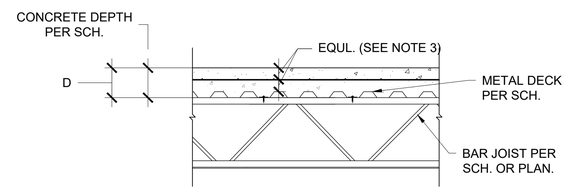
ANCHOR SCHEDULE

WALL	TYPE	QTY.	Ø	EMBD.
CONC.	TITAN HD	4	$\frac{1}{2}$"	4"MIN
CMU	KH-EZ	4	$\frac{1}{2}$"	4.5"MIN
MSNRY.	ADHESV.	6	$\frac{1}{4}$"	6"MIN

8 S5.10 WF BEAM TO WALL ANCHOR 2
SCALE: 1" = 1'



DRAPE DETAIL



NOTES:
1. LAP EDGE OF METAL DECK AT JOIST.
2. LAP EDGE OF MEATLA DECK ALONG PANEL EDGES PERPENDICULAR TO JOIST. FASTEN WITH SHEAT METAL SCREWS.
3. REBAR DEPTH SHOWN IS ONLY FOR 2.5-3" CONCRETE DEPTH. THICKER SLABS REQUIRE DRAPING OF REINFORCING.
4. METAL DECK PRODUCTS REFER TO DECKS MANUFACTURER BY NEW MILLENNIUM BUILDING SYSTEM.
5. USE ONLY GALVANIZED AND COATED DECKS.
6. CONNECT DECK TO BAR JOIST WITH HILTI X-HSN-24 P.A.F. IF BASE MATERIAL EXCEEDS $\frac{3}{8}$", USE HILTI ENP19 L15 P.A.F.
7. PROVIDE A P.A.F. 16" O.C. MAX.
8. MAINTAIN CLEAR COVER $1\frac{1}{2}$" IN EXT. CONCRETE. NOTIFY E.O.R IF DRAPING IS LESS THAN $1\frac{1}{2}$" OF CLEAR COVER

6 S5.10 CONCRETE AND METAL DECK DETAIL
SCALE: 1" = 1'

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Sheet Title
STEEL DETAILS

Project: ----
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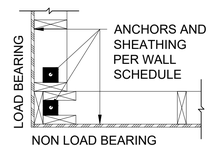
Sheet: S5.10

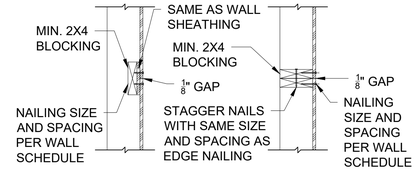
SHEAR WALL NOTES:

1. SHEAR WALL SCHEMATIC IS SCHEMATIC IN NATURE. IT IS INTENDED TO SHOW HOW THE COMPONENTS OF A BRACING CONNECT TO FORM A CONTINUES LOAD PATH. CONNECTION DETAILS FOR SHEATHING AN BLOCKING SHOWN ON THE SCHEMATIC BUT NOT CUT IN SECTION ON THE PLAN SHALL BE PROVIDED DURING CONSTRUCTION.
2. FLOOR AND ROOF SHEATHING SHALL BE 23/32 APA RATED FLOOR SHEATHING GLUED AND EDGE NAILED WITH 8D COMMON SMOOTH AT 6" O.C. AND FIELD NAILED AT 12" O.C.
3. SHEAR WALL POST TO BE INSTALLED AT BOTH ENDS OF SHEAR WALLS SHOWN ON PLAN. SIZE PER SHEAR WALL SCHEDULE. POST TO BE TYPICAL BUILT UP POST U.N.O.
4. WHERE STRAPS ARE USED ON EXTERIOR WALLS, INSTALL ON INSIDE FACE OF THE WALL.
5. REFER TO SHEAR WALL SCHEDULE ON PLAN FOR SIZE OF WALL, POST, BLOCKING AND NAILING.

11 S6.0A SHEAR WALL NOTES
SCALE: 1" = 1'

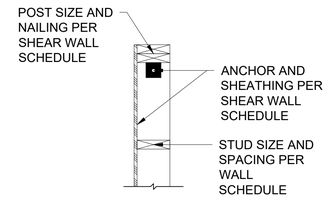


12 S6.0A EXTERIOR OUTSIDE CORNER
SCALE: 1" = 1'

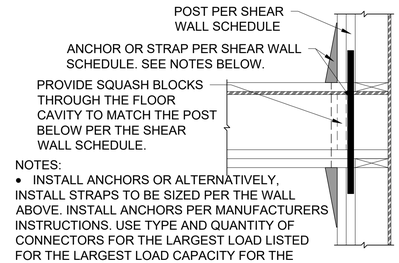


PROVIDE BLOCKING WHERE REQUIRED BY WALL SCHEDULE

13 S6.0A BLOCKING OPTIONS
SCALE: 1" = 1'



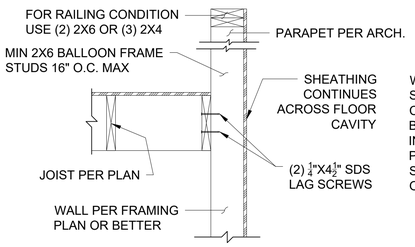
14 S6.0A SHEAR WALL ANCHOR DETAIL
SCALE: 1" = 1'



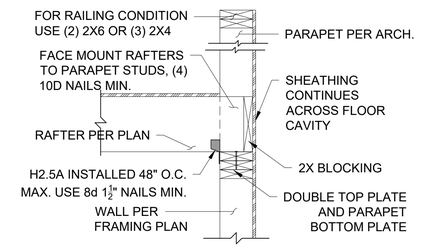
NOTES:

- INSTALL ANCHORS OR ALTERNATIVELY, INSTALL STRAPS TO BE SIZED PER THE WALL ABOVE. INSTALL ANCHORS PER MANUFACTURERS INSTRUCTIONS. USE TYPE AND QUANTITY OF CONNECTORS FOR THE LARGEST LOAD LISTED FOR THE LARGEST LOAD CAPACITY FOR THE ANCHOR OR STRAP.

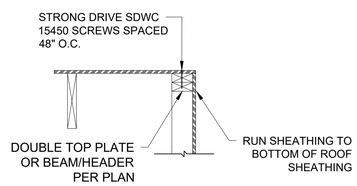
15 S6.0A ANCHOR AND STRAP DETAIL
SCALE: 1" = 1'



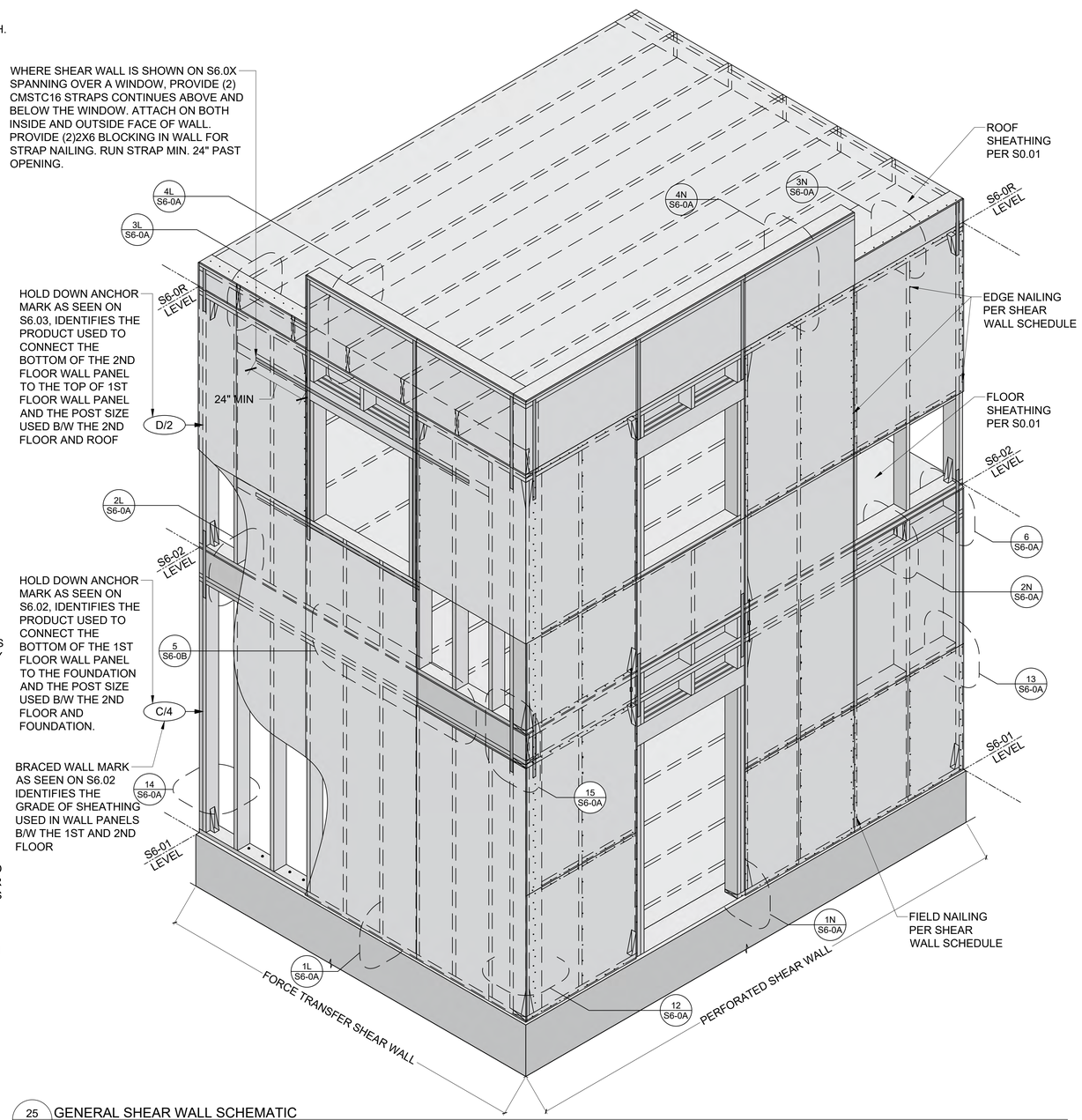
4N S6.0A NON LOADING PARAPET CONNECTION
SCALE: 1" = 1'

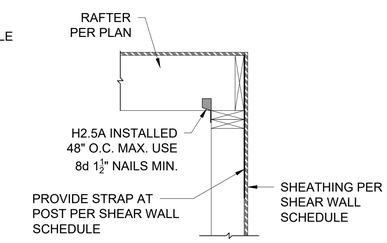


4L S6.0A LOAD BEARING PARAPET CONNECTION
SCALE: 1" = 1'

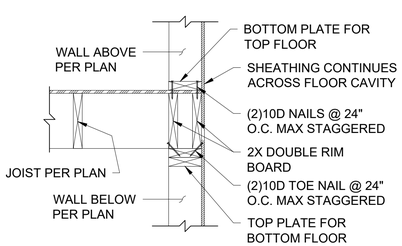


3N S6.0A FLAT ROOF TO NON LOAD BEARING WALL
SCALE: 1" = 1'

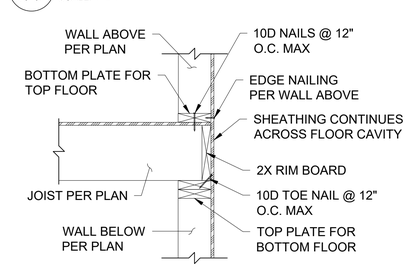




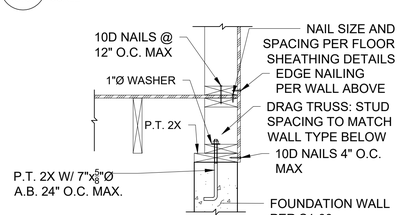
3L S6.0A FLAT ROOF DETAIL
SCALE: 1" = 1'



2N S6.0A NON LOAD BEARING BETWEEN FLOOR
SCALE: 1" = 1'



2L S6.0A LOAD BEARNING BETWEEN FLOOR
SCALE: 1" = 1'

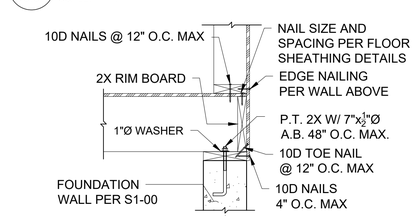


NOTES:

- SUBMIT SHEAR WALL ANCHOR SHOP DRAWING TO E.O.R. PRIOR TO PROCEEDING.

1N S6.0A NON LOAD BEARING SILL PLATE SHEATHING
SCALE: 1" = 1'

25 S6.0A GENERAL SHEAR WALL SCHEMATIC
SCALE: 1/2" = 1'



NOTES:

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1L S6.0A LOAD BEARING SILL PLATE
SCALE: 1" = 1'

NEW ROW HOUSE

3314 VOLTA PLACE NW
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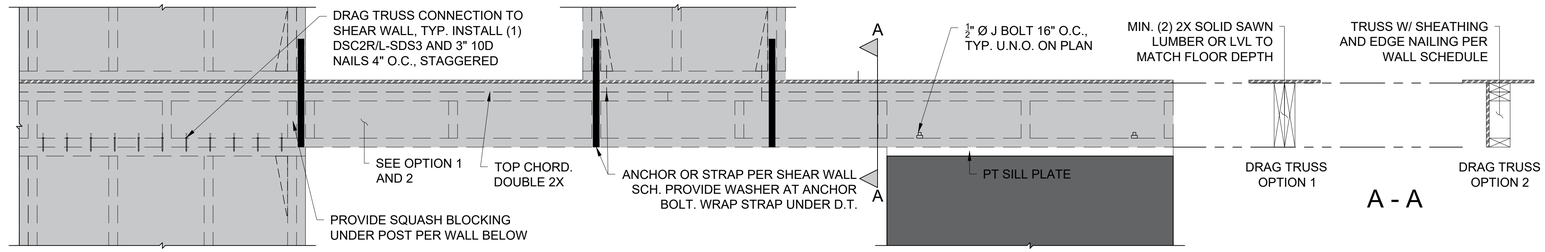
FOR OGB REVIEW
DISTRICT OF COLUMBIA
DAVID M. GRIGGS
JANUARY 8, 2023
No. PE920027
STRUCTURAL
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

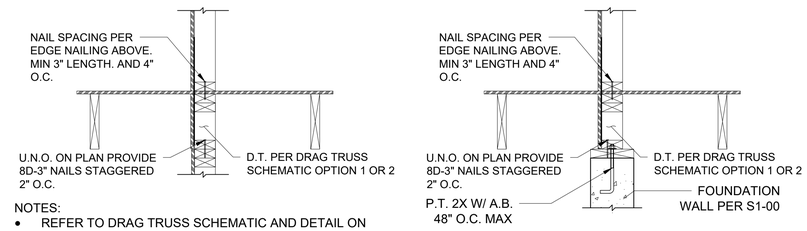
No.	Issue #	Date

Sheet Title
BRACING DETAILS AND NOTES

Project: ----
Date: 3/9/23
Issued For: OGB REVIEW
Sheet: S6.0A

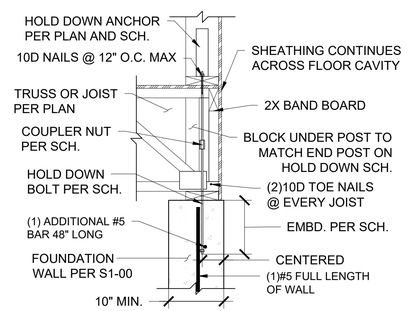


20 S6.0B DRAG TRUSS SCHEMATIC AND DETAIL
SCALE: 1" = 1'



NOTES:
- REFER TO DRAG TRUSS SCHEMATIC AND DETAIL ON S6.0B/C FOR ADDITIONAL INFORMATION.
- SEE PLAN FOR POST CONNECTORS.

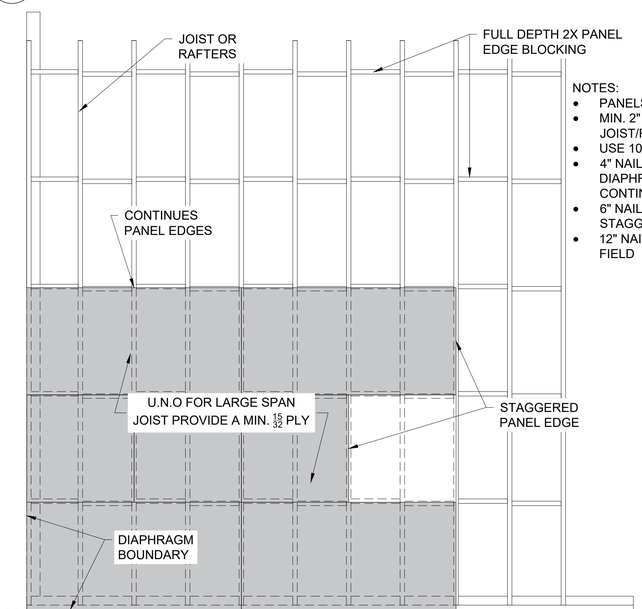
7 S6.0B D.T. SECTION
SCALE: 1" = 1'



HOLD DOWN BOLT SCHEDULE					
MARK	HOLD DOWN ANCHOR	HOLD DOWN BOLT	EMBD. DEPTH	COUPLER NUT	LOAD
2	HTT4	SSTB20	2'-1"	CNW (Wide Coupler)	4455
4	HTT5-3/4	SSTB28	2'-9"	CNW	5090
6	HD7B	SSTB28	2'-9"	CNW	7345
8	HD9B	PAB7	2'-0"	CNW	10035
9	HD12 W/ 1.0Ø BOLT	PAB9	2'-0"	CNW1	14220
11	HD19 W/1.25Ø BOLT	PAB10	2'-0"	CNW1.75	19360

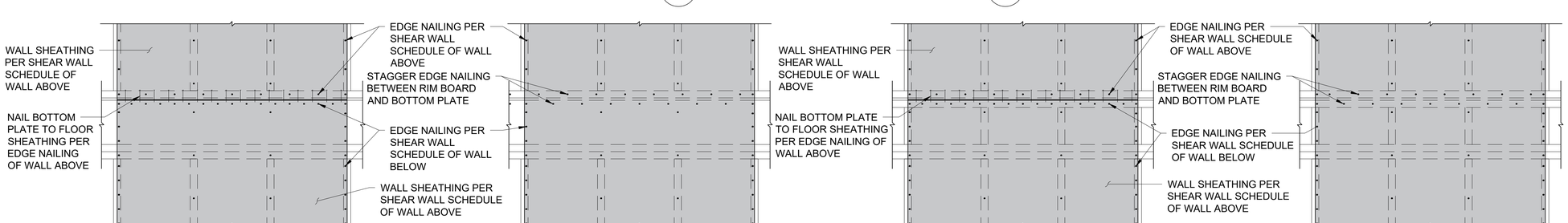
HOLD DOWN NOTES:
- USE THE HOLD DOWN BOLT SCHEDULE TO DETERMINE THE SIZE AND EMBEDMENT NEEDED AT THE END OF EACH SHEAR WALL SHOWN ON PLAN.
- WET SET HOLD DOWN BOLT
- ALL PRODUCTS ARE SIMPSON STRONG TIE PRODUCTS

12 S6.0B HOLD DOWN BOLT
SCALE: 1" = 1'



NOTES:
- PANELS CAN BE ROTATED 90°
- MIN. 2" NOMINAL JOIST/RAFTERS AND BLOCKING
- USE 10D, 2" MIN. NAILS
- 4" NAIL SPACING AT DIAPHRAGM BOUNDARY AND CONTINUES PANEL EDGES
- 6" NAIL SPACING AT STAGGERED PANEL EDGES
- 12" NAIL SPACING THROUGH FIELD

11 S6.0B TRANSFER DIAPHRAGM
SCALE: 3/8" = 1'



5 S6.0B SHEATHING OVER FLOOR CAVITY
SCALE: 1" = 1'

NEW ROW HOUSE

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No.	Issue #	Date

Sheet Title
BRACING DETAILS CONTINUED

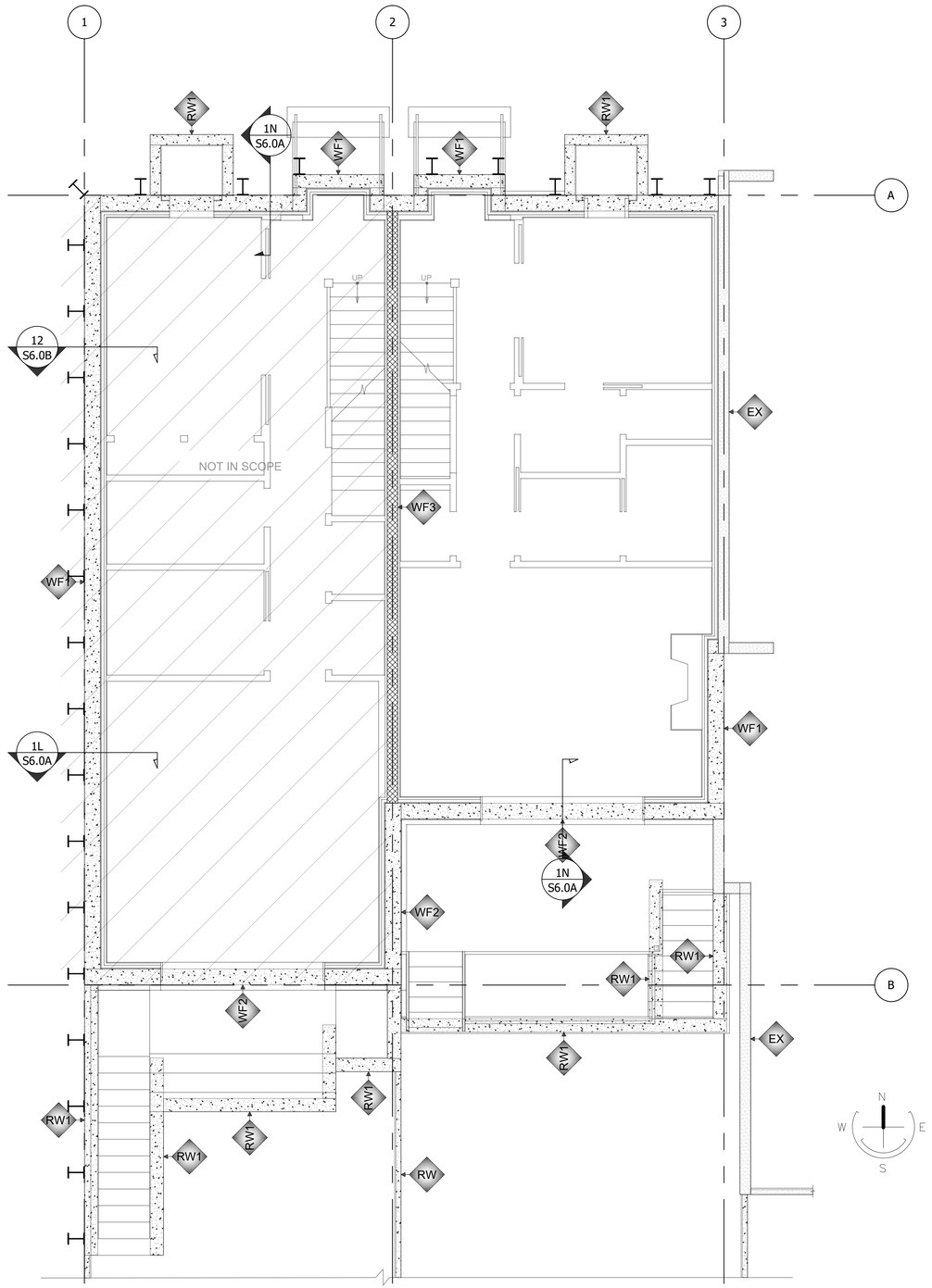
Project ----
Date 3/9/23
Issued For OGB REVIEW
Sheet S6.0B

SHEAR WALL SCHEDULE					PANEL BLOCKING		
MARK	SHEATHING	NAILING (IN.)		BLOCKED	BLOCK SHEATHING	EDGE NAILING	MIN. BLOCK SPACING RATIO
		EDGE	FIELD				
Z	ZIP R-6	3-(8D)	12-(8D)	N	-	-	-
G	5/8" GYP	7-(6D)	12-(6D)	N	5/8" GYP [2]	6 (6D)	1/3
GB	5/8" GYP [2]	7-(6D)	12-(6D)	Y	5/8" GYP [2]	6 (6D)	1/2
P	3/8 PLY	6-(8D)	12-(8D)	Y	3/8 PLY [2]	6 (8D)	2/3
D	15/32 W.S.P.	6-(10D)	12-(10D)	Y	15/32" W.S.P.	3 (8D)	3/5
C	15/32 W.S.P.	3-(10D)	12-(10D)	Y	15/32" W.S.P.	2 (10D)	3/5
B	15/32 W.S.P.	2-(10D)	12-(10D)	Y	15/32" W.S.P.	2 (10D)	4/5
A	19/32 W.S.P.	2-(10D)	12-(10D)	Y	19/32" W.S.P.	2 (10D)	1/1

HOLD DOWN SCHEDULE			
MARK	HOLD DOWN ANCHOR	STRAP / LENGTH	END POST
1	-	CS14/16	(2)2X4
2	HTT4	-	(2)2X4SPF
3	-	CMSTC16/25	(2)2X4SPF
4	HTT5-3/4	-	(3)2X4SPF
5	-	CMST14/30	(3)2X4
6	HD7B	-	(4)2X6SPF
7	-	CMST12/38	(4)2X4
8	HD9B	-	(5)2X6SPF
9	HD12 W/1.00Ø BOLT	-	(4)2X6SYP
11	HD19 W/1.25Ø BOLT	-	(4)2x6SYP

NOTES:

1. WALL MARKS SHOWN ON S6.0# PLANS SHALL BE INSTALLED IN ACCORDANCE WITH THIS SCHEDULE AND THE DETAILS SHOWN ON S6.0# SHEETS.
2. GYP=GYPSUM BOARD, PLY=PLYWOOD, W.S.P.=WOOD STRUCTURAL PANEL (SHEATHING GRADE), ST.1=STRUCT 1 GRADE, [2]=PANELS ON BOTH SIDES.
3. SHEAR WALL NAILING SHOWN IS MAXIMUM SPACING AND MINIMUM NAIL SIZE.
4. ALL WOOD PANELS SHALL BE FASTENED WITH COMMON OR BOX NAILS CONFORMING TO NDS SDPWS TABLE A1.
   4.1. MINIMUM LENGTH/DIAMETER: 6D=2"/0.113", 8D=2.5"/0.131", 10D=3"/0.148"
5. GYP PANELS SHALL BE FASTENED WITH 6D COOLER NAILS 1-7/8" MIN. LENGTH
6. WALL ANCHORS AND STRAPS SHOWN IN SCHEDULE CAN BE SUBSTITUTED FOR ANCHORS AND STRAPS OF WALL MARKS LOWER IN THE TABLE.
7. STRAP LENGTH REFERS TO MINIMUM STRAP LENGTH ABOVE AND BELOW THE FLOOR CAVITY.
8. PROVIDE MAXIMUM NAIL SIZE AND QTY. SHOWN IN SIMPSON STRONG TIE CS/CMST COILED STRAP TABLE.
9. IF MATERIAL TENDS TO SPLIT, SKIP EVERY OTHER ROUND HOLE ON CMST STRAPS.
10. BLOCK SPACING RATIO REFERS TO THE MINIMUM NUMBER OF BLOCKS NEEDED IN A GIVEN NUMBER OF JOIST SPACES. BLOCKS CAN BE ARRANGED AS NEEDED TO ACCOMMODATE PLUMBING AND MECHANICAL.
11. INSTALL SDWF2720-TUW SIMPSON STRONG DRIVE SCREWS AT END OF SHEAR WALLS AT TOP FLOOR OR ROOF.
12. PROVIDE CONTINUES HORIZ. CMST12 STRAP ABOVE AND BELOW ALL WOOD SHEAR WALL OPENINGS WITH 48" PROJECTION PAST THE JAMBS.



1 / S6.01 1ST FLOOR BRACING PLAN
SCALE: 1/4" = 1'

NEW ROW HOUSE
3314 VOLTA PLACE NW
WASHINGTON, DC 20007

Project Name and Address

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FOR OGB REVIEW
DISTRICT OF COLUMBIA
DAVID M. GRIGGS
FEBRUARY 8, 2023
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NOT FOR CONSTRUCTION

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Sheet Title
1ST FLOOR BRACING PLAN

Project: ----
Date: 3/9/23
Issued For: OGB REVIEW
Sheet: S6.01

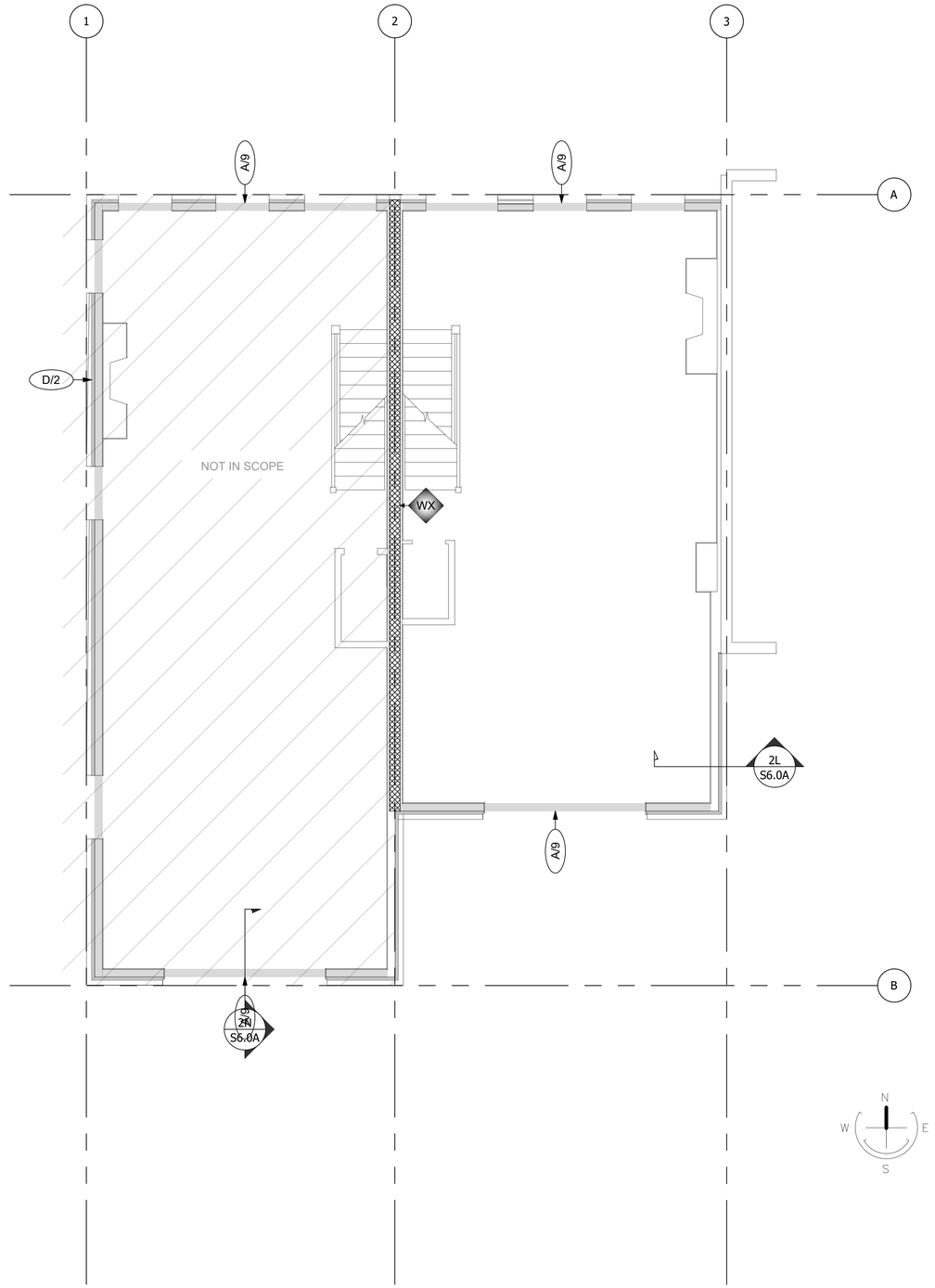
g:\shared drives\work\griggs development\projects\volta 33rd\cad\sheets\s6.01 1st floor bracing plan.dwg

SHEAR WALL SCHEDULE					PANEL BLOCKING		
MARK	SHEATHING	NAILING (IN.)		BLOCKED	BLOCK SHEATHING	EDGE NAILING	MIN. BLOCK SPACING RATIO
		EDGE	FIELD				
Z	ZIP R-6	3-(8D)	12-(8D)	N	-	-	-
G	5/8" GYP	7-(6D)	12-(6D)	N	5/8" GYP [2]	6 (6D)	1/3
GB	5/8" GYP [2]	7-(6D)	12-(6D)	Y	5/8" GYP [2]	6 (6D)	1/2
P	3/8 PLY	6-(8D)	12-(8D)	Y	3/8 PLY [2]	6 (8D)	2/3
D	15/32 W.S.P.	6-(10D)	12-(10D)	Y	15/32" W.S.P.	3 (8D)	3/5
C	15/32 W.S.P.	3-(10D)	12-(10D)	Y	15/32" W.S.P.	2 (10D)	3/5
B	15/32 W.S.P.	2-(10D)	12-(10D)	Y	15/32" W.S.P.	2 (10D)	4/5
A	19/32 W.S.P.	2-(10D)	12-(10D)	Y	19/32" W.S.P.	2 (10D)	1/1

HOLD DOWN SCHEDULE			
MARK	HOLD DOWN ANCHOR	STRAP / LENGTH	END POST
1	-	CS14/16	(2)2X4
2	HTT4	-	(2)2X4SPF
3	-	CMSTC16/25	(2)2X4SPF
4	HTT5-3/4	-	(3)2X4SPF
5	-	CMST14/30	(3)2X4
6	HD7B	-	(4)2X6SPF
7	-	CMST12/38	(4)2X4
8	HD9B	-	(5)2X6SPF
9	HD12 W/1.00Ø BOLT	-	(4)2X6SYP
11	HD19 W/1.25Ø BOLT	-	(4)2x6SYP

NOTES:

1. WALL MARKS SHOWN ON S6.0# PLANS SHALL BE INSTALLED IN ACCORDANCE WITH THIS SCHEDULE AND THE DETAILS SHOWN ON S6.0# SHEETS.
2. GYP=GYPSUM BOARD, PLY=PLYWOOD, W.S.P.=WOOD STRUCTURAL PANEL (SHEATHING GRADE), ST.1=STRUCT 1 GRADE, [2]=PANELS ON BOTH SIDES.
3. SHEAR WALL NAILING SHOWN IS MAXIMUM SPACING AND MINIMUM NAIL SIZE.
4. ALL WOOD PANELS SHALL BE FASTENED WITH COMMON OR BOX NAILS CONFORMING TO NDS SDPWS TABLE A1.
   4.1. MINIMUM LENGTH/DIAMETER: 6D=2"/0.113", 8D=2.5"/0.131", 10D=3"/0.148"
5. GYP PANELS SHALL BE FASTENED WITH 6D COOLER NAILS 1-7/8" MIN. LENGTH
6. WALL ANCHORS AND STRAPS SHOWN IN SCHEDULE CAN BE SUBSTITUTED FOR ANCHORS AND STRAPS OF WALL MARKS LOWER IN THE TABLE.
7. STRAP LENGTH REFERS TO MINIMUM STRAP LENGTH ABOVE AND BELOW THE FLOOR CAVITY.
8. PROVIDE MAXIMUM NAIL SIZE AND QTY. SHOWN IN SIMPSON STRONG TIE CS/CMST COILED STRAP TABLE.
9. IF MATERIAL TENDS TO SPLIT, SKIP EVERY OTHER ROUND HOLE ON CMST STRAPS.
10. BLOCK SPACING RATIO REFERS TO THE MINIMUM NUMBER OF BLOCKS NEEDED IN A GIVEN NUMBER OF JOIST SPACES. BLOCKS CAN BE ARRANGED AS NEEDED TO ACCOMMODATE PLUMBING AND MECHANICAL.
11. INSTALL SDWF2720-TUW SIMPSON STRONG DRIVE SCREWS AT END OF SHEAR WALLS AT TOP FLOOR OR ROOF.
12. PROVIDE CONTINUES HORIZ. CMST12 STRAP ABOVE AND BELOW ALL WOOD SHEAR WALL OPENINGS WITH 48" PROJECTION PAST THE JAMBS.



1 S6.02 2ND FLOOR BRACING PLAN
SCALE: 1/4" = 1'

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Sheet Title
2ND FLOOR BRACING PLAN

Project: ----
Date: 2/9/23
Issued For: OGB REVIEW
Sheet: S6.02

SHEAR WALL SCHEDULE					PANEL BLOCKING		
MARK	SHEATHING	NAILING (IN.)		BLOCKED	BLOCK SHEATHING	EDGE NAILING	MIN. BLOCK SPACING RATIO
		EDGE	FIELD				
Z	ZIP R-6	3-(8D)	12-(8D)	N	-	-	-
G	5/8" GYP	7-(6D)	12-(6D)	N	5/8" GYP [2]	6 (6D)	1/3
GB	5/8" GYP [2]	7-(6D)	12-(6D)	Y	5/8" GYP [2]	6 (6D)	1/2
P	3/8 PLY	6-(8D)	12-(8D)	Y	3/8 PLY [2]	6 (8D)	2/3
D	15/32 W.S.P.	6-(10D)	12-(10D)	Y	15/32" W.S.P.	3 (8D)	3/5
C	15/32 W.S.P.	3-(10D)	12-(10D)	Y	15/32" W.S.P.	2 (10D)	3/5
B	15/32 W.S.P.	2-(10D)	12-(10D)	Y	15/32" W.S.P.	2 (10D)	4/5
A	19/32 W.S.P.	2-(10D)	12-(10D)	Y	19/32" W.S.P.	2 (10D)	1/1

HOLD DOWN SCHEDULE			
MARK	HOLD DOWN ANCHOR	STRAP / LENGTH	END POST
1	-	CS14/16	(2)2X4
2	HTT4	-	(2)2X4SPF
3	-	CMSTC16/25	(2)2X4SPF
4	HTT5-3/4	-	(3)2X4SPF
5	-	CMST14/30	(3)2X4
6	HD7B	-	(4)2X6SPF
7	-	CMST12/38	(4)2X4
8	HD9B	-	(5)2X6SPF
9	HD12 W/1.00Ø BOLT	-	(4)2X6SYP
11	HD19 W/1.25Ø BOLT	-	(4)2x6SYP

NOTES:

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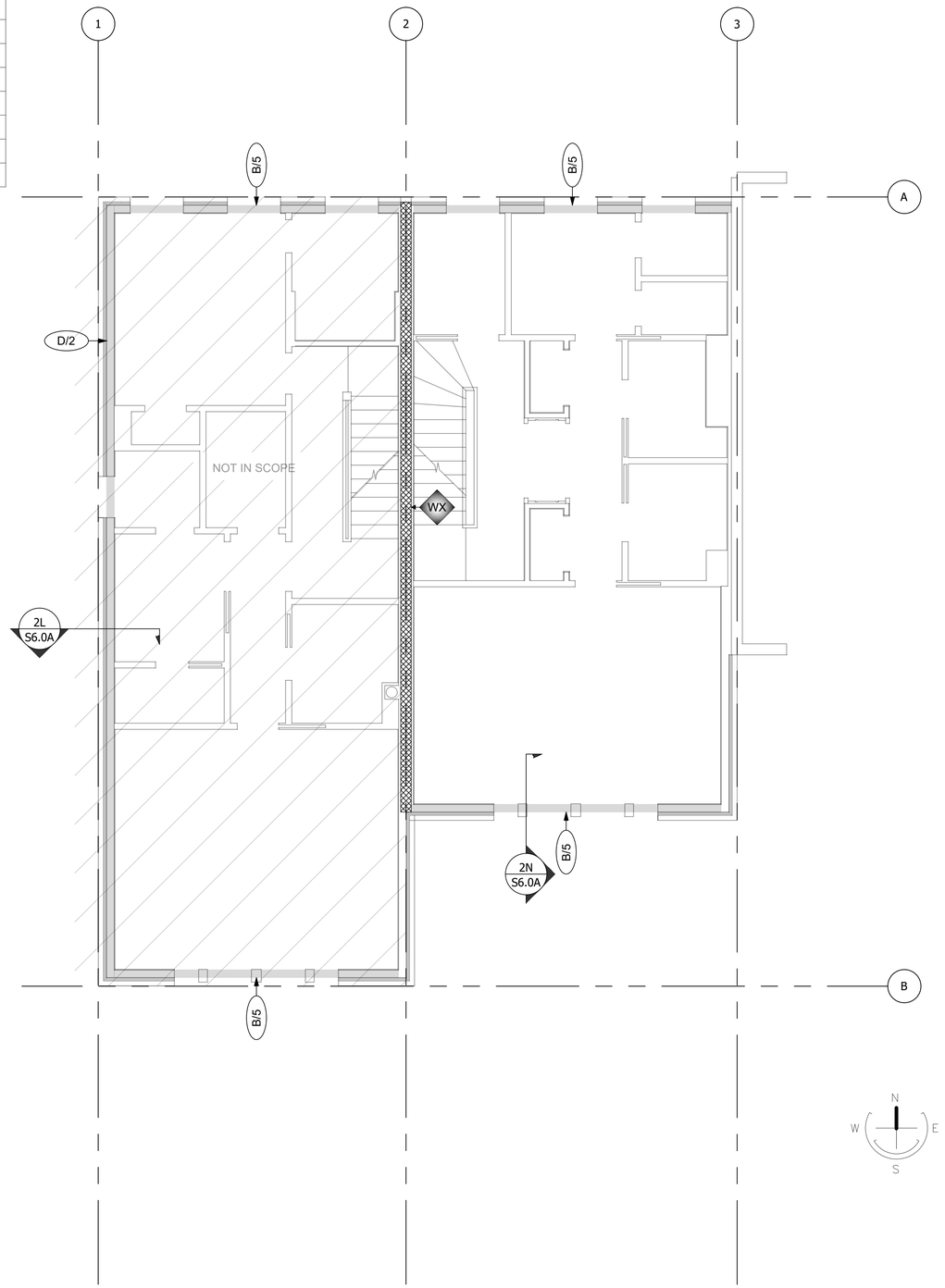
5. GYP PANELS SHALL BE FASTENED WITH 6D COOLER NAILS 1-7/8" MIN. LENGTH
6. WALL ANCHORS AND STRAPS SHOWN IN SCHEDULE CAN BE SUBSTITUTED FOR ANCHORS AND STRAPS OF WALL MARKS LOWER IN THE TABLE.
7. STRAP LENGTH REFERS TO MINIMUM STRAP LENGTH ABOVE AND BELOW THE FLOOR CAVITY.
8. PROVIDE MAXIMUM NAIL SIZE AND QTY. SHOWN IN SIMPSON STRONG TIE CS/CMST COILED STRAP TABLE.
9. IF MATERIAL TENDS TO SPLIT, SKIP EVERY OTHER ROUND HOLE ON CMST STRAPS.
10. BLOCK SPACING RATIO REFERS TO THE MINIMUM NUMBER OF BLOCKS NEEDED IN A GIVEN NUMBER OF JOIST SPACES. BLOCKS CAN BE ARRANGED AS NEEDED TO ACCOMMODATE PLUMBING AND MECHANICAL.
11. INSTALL SDWF2720-TUW SIMPSON STRONG DRIVE SCREWS AT END OF SHEAR WALLS AT TOP FLOOR OR ROOF.
12. PROVIDE CONTINUES HORIZ. CMST12 STRAP ABOVE AND BELOW ALL WOOD SHEAR WALL OPENINGS WITH 48" PROJECTION PAST THE JAMBS.



1 / S6.03 3RD FLOOR BRACING PLAN
SCALE: 1/4" = 1'

Project Name and Address

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FOR OGB REVIEW
DISTRICT OF COLUMBIA
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FEBRUARY 8, 2023
No. PE920027
STRUCTURAL
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

No.	Issue #	Date

Sheet Title

3RD FLOOR BRACING PLAN

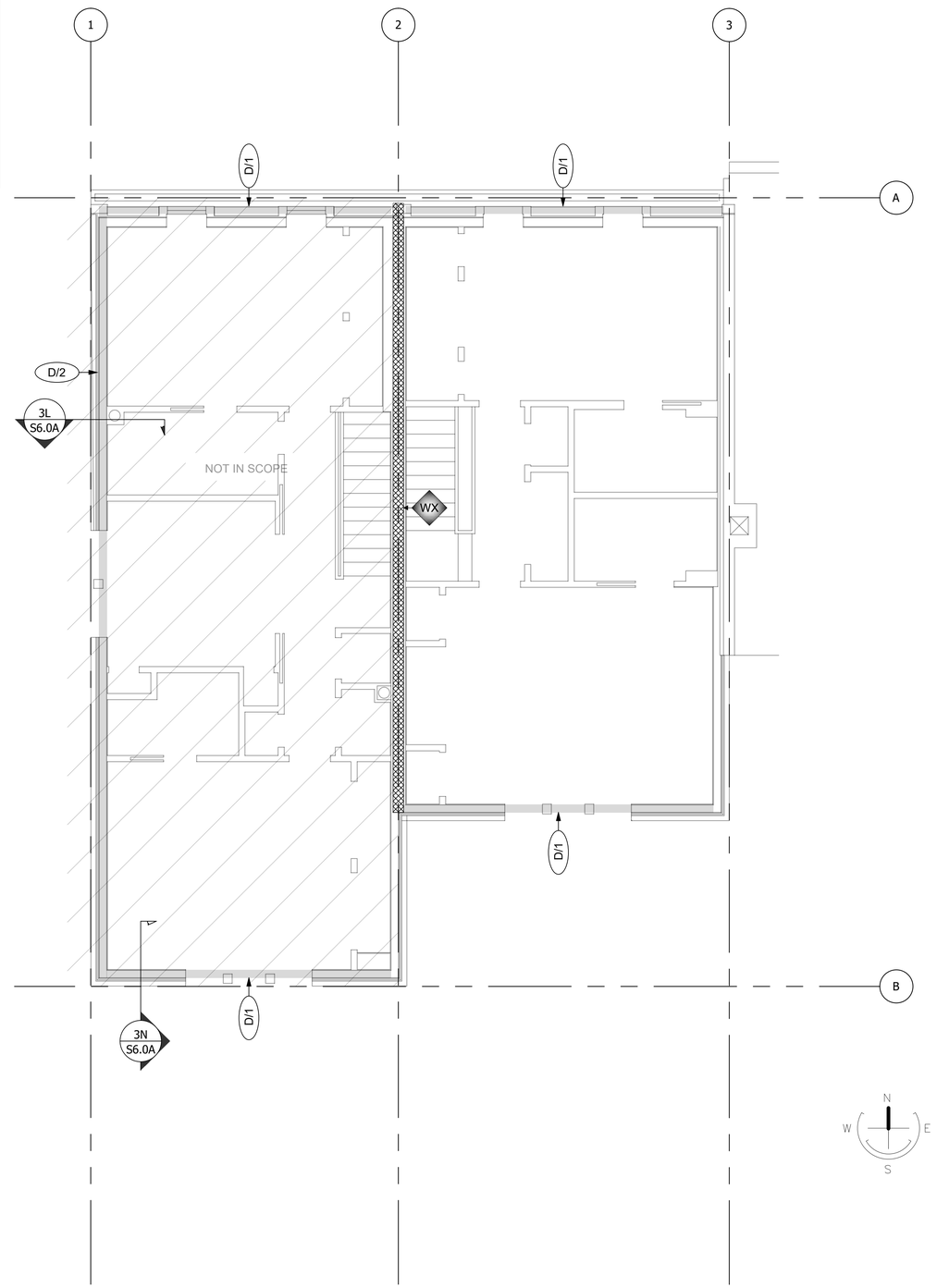
Project: ----
Date: 3/9/23
Issued For: OGB REVIEW
Sheet: S6.03

SHEAR WALL SCHEDULE					PANEL BLOCKING		
MARK	SHEATHING	NAILING (IN.)		BLOCKED	BLOCK SHEATHING	EDGE NAILING	MIN. BLOCK SPACING RATIO
		EDGE	FIELD				
Z	ZIP R-6	3-(8D)	12-(8D)	N	-	-	-
G	5/8" GYP	7-(6D)	12-(6D)	N	5/8" GYP [2]	6 (6D)	1/3
GB	5/8" GYP [2]	7-(6D)	12-(6D)	Y	5/8" GYP [2]	6 (6D)	1/2
P	3/8 PLY	6-(8D)	12-(8D)	Y	3/8 PLY [2]	6 (8D)	2/3
D	15/32" W.S.P.	6-(10D)	12-(10D)	Y	15/32" W.S.P.	3 (8D)	3/5
C	15/32" W.S.P.	3-(10D)	12-(10D)	Y	15/32" W.S.P.	2 (10D)	3/5
B	15/32" W.S.P.	2-(10D)	12-(10D)	Y	15/32" W.S.P.	2 (10D)	4/5
A	19/32" W.S.P.	2-(10D)	12-(10D)	Y	19/32" W.S.P.	2 (10D)	1/1

HOLD DOWN SCHEDULE			
MARK	HOLD DOWN ANCHOR	STRAP / LENGTH	END POST
1	-	CS14/16	(2)2X4
2	HTT4	-	(2)2X4SPF
3	-	CMSTC16/25	(2)2X4SPF
4	HTT5-3/4	-	(3)2X4SPF
5	-	CMST14/30	(3)2X4
6	HD7B	-	(4)2X6SPF
7	-	CMST12/38	(4)2X4
8	HD9B	-	(5)2X6SPF
9	HD12 W/1.00Ø BOLT	-	(4)2X6SYP
11	HD19 W/1.25Ø BOLT	-	(4)2x6SYP

NOTES:

1. WALL MARKS SHOWN ON S6.0# PLANS SHALL BE INSTALLED IN ACCORDANCE WITH THIS SCHEDULE AND THE DETAILS SHOWN ON S6.0# SHEETS.
2. GYP=GYPSUM BOARD, PLY=PLYWOOD, W.S.P.=WOOD STRUCTURAL PANEL (SHEATHING GRADE), ST.1=STRUCT 1 GRADE, [2]=PANELS ON BOTH SIDES.
3. SHEAR WALL NAILING SHOWN IS MAXIMUM SPACING AND MINIMUM NAIL SIZE.
4. ALL WOOD PANELS SHALL BE FASTENED WITH COMMON OR BOX NAILS CONFORMING TO NDS SDPWS TABLE A1.
   4.1. MINIMUM LENGTH/DIAMETER: 6D=2"/0.113", 8D=2.5"/0.131", 10D=3"/0.148"
5. GYP PANELS SHALL BE FASTENED WITH 6D COOLER NAILS 1-7/8" MIN. LENGTH
6. WALL ANCHORS AND STRAPS SHOWN IN SCHEDULE CAN BE SUBSTITUTED FOR ANCHORS AND STRAPS OF WALL MARKS LOWER IN THE TABLE.
7. STRAP LENGTH REFERS TO MINIMUM STRAP LENGTH ABOVE AND BELOW THE FLOOR CAVITY.
8. PROVIDE MAXIMUM NAIL SIZE AND QTY. SHOWN IN SIMPSON STRONG TIE CS/CMST COILED STRAP TABLE.
9. IF MATERIAL TENDS TO SPLIT, SKIP EVERY OTHER ROUND HOLE ON CMST STRAPS.
10. BLOCK SPACING RATIO REFERS TO THE MINIMUM NUMBER OF BLOCKS NEEDED IN A GIVEN NUMBER OF JOIST SPACES. BLOCKS CAN BE ARRANGED AS NEEDED TO ACCOMMODATE PLUMBING AND MECHANICAL.
11. INSTALL SDWF2720-TUW SIMPSON STRONG DRIVE SCREWS AT END OF SHEAR WALLS AT TOP FLOOR OR ROOF.
12. PROVIDE CONTINUES HORIZ. CMST12 STRAP ABOVE AND BELOW ALL WOOD SHEAR WALL OPENINGS WITH 48" PROJECTION PAST THE JAMBS.



1 S6.04 ROOF BRACING PLAN
SCALE: 1/4" = 1'

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ROOF BRACING PLAN

Project: ----
Date: 2/9/23
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GENERAL:

A. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES AND STANDARDS INCLUDING BUT NOT LIMITED TO:

2015 IRC INTERNATIONAL RESIDENTIAL CODE FOR ONE- AND TWO-FAMILY DWELLINGS
2017 DCMR SUPPLEMENTARY CODE

B. HEATING AND COOLING EQUIPMENT SHALL BE SIZED PER ACCA MANUAL S BASED ON LOADS CALCULATED PER ACCA MANUAL J. THE INTERIOR DESIGN TEMPERATURE USED FPR HEATING AND COOLING LOAD CALCULATION SHALL BE MINIMUM OF 72 DEG. FAHRENHEIT FOR HEATING AND MINIMUM OF 75 DEG. FAHRENHEIT FOR COOLING.

C. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO EXAMINE THE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS AND SPECIFICATIONS, AND SHALL VERIFY ALL EXISTING CONDITIONS BEFORE COMMENCING WORK AND SHALL NOTIFY ARCHITECT AND/OR ENGINEER IF A CONDITION EXISTS WHICH PREVENTS THE CONTRACTOR FROM ACCOMPLISHING THE INTENT OF THE DRAWINGS.

D. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL WORK AND MATERIALS TO ACCOMPLISH THE INTENT OF THE PLANS. PLANS INDICATE THE EXTENT, GENERAL CHARACTER AND LOCATION OF WORK DIAGRAMMATICALLY ONLY. WORK INDICATED BY HAVING MINOR DETAILS NOT SHOWN, SHALL BE FURNISHED COMPLETE, BY THIS CONTRACTOR, TO PERFORM THE FUNCTION INTENDED.

E. ALL WORK AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH ALL CODES HAVING JURISDICTION AND TO BE STRICTLY OBSERVED.

F. ALL WORK SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER AND/OR HIS DULY AUTHORIZED REPRESENTATIVE.

G. CONTRACTOR SHALL NOT CORE DRILL CONCRETE SLABS FOR ANY SLEEVES, INSERTS OR FOR ANY REASON WITHOUT THE KNOWLEDGE AND WRITTEN CONSENT OF THE STRUCTURAL ENGINEER AND THE OWNER.

H. ALL WORK AND EQUIPMENT SHALL BE THOROUGHLY CLEANED AND THE CONTRACTOR SHALL PROVIDE A NEW SET OF FILTERS IN ALL HVAC EQUIPMENT AT THE TIME OF SUBSTANTIAL COMPLETION PLUS ONE ADDITIONAL SET FOR ALL HVAC EQUIPMENTS. TO BE READY FOR THE USE OF THE OWNER BEFORE FINAL INSPECTION AND APPROVAL BY THE ARCHITECT AND/OR HIS REPRESENTATIVE.

I. THE CONTRACTOR SHALL LAY OUT HIS WORK WITH THAT OF ALL OTHER TRADES AND BE RESPONSIBLE FOR ALL MEASUREMENTS, HE SHALL NOTIFY ARCHITECT AND/OR ENGINEER IF A CONDITION EXISTS WHICH PREVENTS WORK TO BE INSTALLED IN ACCORDANCE WITH THE INTENT OF THESE DRAWINGS.

J. ALL MATERIAL SHALL BE NEW (UNLESS NOTED OTHERWISE ON THE DRAWINGS) AND SHALL BE OF FIRST QUALITY. THE QUALITY OF WORKMANSHIP SHALL BE THE FINEST AND HIGHEST OBTAINABLE IN EACH PARTICULAR TRADE. WORKMANSHIP SHALL BE ACCEPTABLE TO THE OWNER AND HIS DECISION AS TO ACCEPTABLE QUALITY IS FINAL; UNACCEPTABLE WORK SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

K. IN AREAS WHERE IT IS NECESSARY TO CUT FLOORS, WALLS AND CEILINGS, THIS CONTRACTOR SHALL DO ALL CUTTING AND REPLACEMENT. BEFORE ANY CUTTING OR PATCHING, CONTRACTOR SHALL OBTAIN THE APPROVAL OF THE OWNER.

L. ALL FIXTURES AND EQUIPMENT SHALL BE CONNECTED AND MADE READY FOR USE UNLESS OTHERWISE NOTED.

M. PROVIDE FLUSH MOUNTED SUITABLE BACKBOX AT 48" AFF. TO CENTERLINE OF EACH THERMOSTAT.

N. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ASSURE THAT ALL SYSTEMS AND EQUIPMENT SUPPLIED SHALL BE COMPATIBLE WITH THE EXISTING BASE BUILDING SYSTEMS AND EQUIPMENT.

MECHANICAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY ALL MEASUREMENTS AND LOCATIONS OF EQUIPMENT AND PRIOR TO ANY DUCTWORK FABRICATION. CONTRACTOR SHALL SUBMIT FOR APPROVAL, SHOP DRAWINGS ON ALL NEW WORK AND EQUIPMENT PRIOR TO FABRICATION AND INSTALLATION, INCLUDING EQUIPMENTS SPECS AND DUCTWORK LAYOUT AND SOUND ISOLATION DEVICES.

2. PROPER MOUNTINGS FOR ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE INSTALLED BY THIS CONTRACTOR. PROVIDE APPROVED TYPE VIBRATION DAMPENING MEDIA WHEREVER CALLED FOR BY THE MANUFACTURER BETWEEN EQUIPMENT AND THE FLOOR OR CEILING. ISOLATORS SHALL BE MASON INDUSTRIES OR APPROVED EQUAL AND/OR AS NOTED ON DETAILS. SEE VIBRATION ISOLATION SCHEDULE.

3. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO INSTALL THE HEATING, VENTILATION AND AIR CONDITIONING SYSTEM SO AS TO INSURE QUIET OPERATION. NO VIBRATION OR SOUND SHALL BE TRANSMITTED TO THE BUILDING STRUCTURE OR OCCUPIED AREAS. THE DECISION OF THE ENGINEER AS TO QUIETNESS OF THE SYSTEM AND EQUIPMENT SHALL BE FINAL. IT SHALL BE THIS CONTRACTOR'S RESPONSIBILITY TO CORRECT OR REPLACE ANY NOISY SYSTEMS OR EQUIPMENT AS REQUIRED.

4. PHYSICAL DIMENSIONS AS WELL AS COOLING, HEATING CAPACITIES AND ELECTRICAL CHARACTERISTICS OF SUBMITTED UNITS SHALL MATCH THAT OF SPECIFIED EQUIPMENT. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ALL COSTS DUE TO CHANGES RELATED TO SUBSTITUTED EQUIPMENT.

5. COORDINATE WITH ELECTRICAL CONTRACTOR TO INSURE N.E.C. REQUIRED CLEARANCES FROM DUCTWORK, PIPING, ETC ARE MAINTAINED AROUND ELECTRICAL EQUIPMENT (PANEL BOARDS, SWITCHBOARDS, DISCONNECTS, ETC.)/

6. CONTRACTOR SHALL REFER TO THE ELECTRICAL DRAWINGS FOR THE PROPER ELECTRICAL CHARACTERISTICS FOR ALL MOTORS, HEATERS, AND ALL OTHER ELECTRICAL DEVICES FURNISHED BY THE CONTRACTOR. IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL REQUIRED ELECTRICAL CONNECTIONS AND CIRCUITS, ETC. REQUIRED FOR MECHANICAL EQUIPMENT, HEATERS, CONTROLS, ETC.

7. CONTRACTOR SHALL SUPPLY AND INSTALL ALL NECESSARY DUCT ACCESSORIES; SUCH AS VOLUME DAMPERS, FIRE DAMPERS, TURNING VANES, DUCT HARDWARE, DUCT ACCESS DOORS, FLEXIBLE CONNECTIONS, AND CEILING ACCESS DOORS. THE DUCTWORK SHALL COMPLY WITH SMACNA DUCT CONSTRUCTION STANDARDS. COORDINATE INSTALLATION OF DUCT ACCESSORIES WITH OTHER WORK.

8. PROVIDE FLEXIBLE DUCT CONNECTIONS WHEREVER DUCTWORK CONNECTIONS TO VIBRATION ISOLATED EQUIPMENT. CONSTRUCT FLEXIBLE CONNECTIONS OF NEOPRENE-COATED FLAMEPROOF FABRIC CRIMPED INTO DUCT FLANGES FOR ATTACHMENT TO DUCT AND EQUIPMENT. MAKE AIRTIGHT JOINT. PROVIDE ADEQUATE JOINT FLEXIBILITY TO ALLOW FOR THERMAL, AXIAL, TRANSVERSE, AND TORSIONAL MOVEMENT, AND ALSO CAPABLE OF ABSORBING VIBRATIONS OF CONNECTED EQUIPMENT.

9. RECTANGULAR DUCTWORK: ALL DUCTWORK SHALL CONFORM TO THE RECOMMENDED CONSTRUCTION FOR LOW AND MEDIUM PRESSURE DUCTWORK AS APPROVED BY THE SHEETMETAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION. SEAL CLASS "A" FOR ALL DUCTWORK. ALL DUCTS SHALL BE MADE OF THE BEST GRADE GALVANIZED SHEET STEEL. THE GAUGE OF THE SHEET STEEL AND DUCT SUPPORTS SHALL CONFORM TO SMACNA STANDARDS. EXPOSED ROUND DUCT SHALL BE SPIRAL LOCKSEAM OR LONGITUDINAL WELDED SEAM AS MANUFACTURED BY UNITED MCGILL SHEET METAL COMPANY. MODELS UNISEAL, UNIDAT, OR LONGITUDINAL SEAM.
DUCTWORK SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING PRESSURE CLASSES

DUCTWORK DOWNSTREAM OF AIR HANDLING UNITS - 2" W.G.
TOILET EXHAUST SYSTEM DUCTWORK - 2" W.G.
OUTSIDE AIR SYSTEM DUCTWORK - 2" W.G.
RELIEF AIR SYSTEM DUCTWORK - 2" W.G.
RETURN AIR SYSTEM DUCTWORK - 2" W.G.
RETURN AIR ELBOWS AT AHU ROOMS - 1"

10. FLEXIBLE DUCT: SHALL BE SUPPLIED AND INSTALLED FOR CONNECTIONS BETWEEN LOW PRESSURE MAIN AIR SUPPLY DUCTS AND CEILING DIFFUSERS AND LINEAR DIFFUSERS. FLEXIBLE DUCT TO BE SMOOTH INTERIOR WITH NO SPIRAL SEAM FOR LOW PRESSURE DROP. DUCT SHALL MEET NFPA 90A AND 90B AND UL-181 CLASS 1 AIR DUCT AND SHALL WITHSTAND TEMPERATURES OF 0 DEGREES F TO 250 DEGREES F AND PRESSURE OF 6" WG. WITHOUT LEAKAGE. DUCT SHALL BE GENFLEX WITH 1" INSULATION AND VAPOR BARRIER TYPE IMPR OR APPROVED EQUAL.

11. FLEXIBLE DUCT: PROVIDE INSULATED U.L. LISTED CLASS 1 DUCT COMPLYING WITH NFPA 90A, FLEX MASTER, THERMAFLEX, WIRE MOLD OR CLEVAFLEX.

12. AIR DEVICES

A. PROVIDE TITUS AIR DEVICES AS INDICATED ON PLANS AND SCHEDULED EQUAL TO THE FOLLOWING TITUS MODEL NUMBERS WITH #25 WHITE FINISH. NO SUBSTITUTIONS SHALL BE CONSIDERED OR PERMITTED.
B. PROVIDE REGISTERS WITH BALANCING DAMPERS.
C. SUPPORT ALL AIR DEVICES INDEPENDENT OF CEILING GRID SYSTEM.
D. ADJUST ALL PATTERN CONTROLLERS OR INSTALL BLOW CLIPS TO PROVIDE DISCHARGE PATTER INDICATED.
E. PROVIDE AIR DEVICES AS FOLLOWS:

DESIG	DEVICE	TITUS MODEL	FRAME TYPE
CR	SUPPLY REGISTER	272FL	--
ER	EXHAUST REGISTER	350RL	--

13. INSULATE (DA) AND SUPPLY AIR DUCTWORK (WHERE LOCATED IN UNCONDITIONED SPACES) WITH GLASS FIBER 2" THICK, 1.5 LB./FT3 DENSITY DUCT WRAP, MIN R-6 FACED WITH A REINFORCED ALUMINUM FOIL KRAFT WITH VAPOR BARRIER FACING AND A 2" TAPING FLANGE. CERTAINTEED CUT WRAP OR EQUIVALENT. SUPPLY AND RETURN DUCTS LOCATED IN ATTIC NEED TO BE INSULATED TO A MINIMUM OF R-8 IF THEY ARE AT LEAST 3 INCHES IN DIAMETER. DUCTS SMALLER THAN 3 INCHES LOCATED IN ATTIC NEED A MINIMUM OF R-6 INSULATION. SUPPLY AND RETURN DUCTS LOCATED IN ANY OTHER UNCONDITIONED SPACE, SUCH AS A BASEMENT OR CRAWL SPACE OUTSIDE THE BUILDING THERMAL ENVELOPE OR A GARAGE, NEED A MINIMUM OF R-6 INSULATION IF THEY ARE AT LEAST 3 INCHES IN DIAMETER, AND R-4.2 IF THEY ARE SMALLER THAN THAT. RETURN AIR DUCTS AND PLENUMS, AIR HANDLERS AND FILTER BOXES SHALL BE INSULATED AND SEALED.

DUCT LOCATION	DUCT DIAMETER	MINIMUM DUCT INSULATION
ATTIC	3" OR GREATER	R-8
	LESS THAN 3"	R-6
OTHER UNCONDITIONED SPACES	3" OR GREATER	R-6
	LESS THAN 3"	R-4.2

14. CONDENSATE DRAIN PIPING: SCHEDULE 40, CPVC PIPE AND FITTINGS: ASTM F 441/F 441M, WITH PLAIN ENDS FOR SOLVENT-CEMENTED JOINTS WITH ASTM F 438, SOCKET-TYPE FITTINGS. PITCH AT MINIMUM 1 PERCENT SLOPE. PROVIDE MINIMUM 2 INCH DEEP TRAP AT EACH A/C UNIT. INSULATE WITH 1/2 INCH THICK INSULATION.

15. DUCTWORK EXPOSED ON ROOF SHALL BE ALUMINUM CONSTRUCTION W/ WATER PROOF SEAMS & JOINTS.

16. PROVIDE AUTOMATIC TEMPERATURE CONTROL SYSTEMS TO AFFECT COMPLETE, OPERATING SYSTEMS. PROGRAMMABLE THERMOSTAT. MOUNT NEST THERMOSTATS AT 60" AFF. VIF LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. THERMOSTATS LOCATED IN ACCESSIBLE UNITS SHALL BE LOCATED AT A MAX 48" AAF PER ANSI 117.1, 308. OPERATING TEMPS 32F TO 104F.THERMOSTATIC CONTROLS HAVE A 5 DEGREE F DEADBAND HEATING: 1, 2 AND 3 STAGES. COOLING: 1 AND 2 STAGES. HEAT PUMP: WITH AUXILIARY AND EMERGENCY HEAT. THERMOSTAT SHALL MEET THE REQUIREMENTS OF NEMA STANDARDS PUBLICATION DC 3, ANNEX A, "ENERGY EFFICIENCY REQUIREMENTS FOR PROGRAMMABLE THERMOSTATS.

17. PROVIDE REQUIRED ATC POWER CONNECTIONS TO CIRCUIT BREAKER PANELS.

18. DEMONSTRATE SYSTEM OPERATION TO OWNER.

19. PROVIDE AUTO./ GRAVITY DAMPERS INSTALL ON ALL EXHAUSTS AND PROVIDE MOTORIZED DAMPER ON ALL FRESH AIR INTAKES.

20. PROVIDE 18 GAUGE GALVANIZED SHEET METAL SLEEVES FOR ALL PIPE AND DUCT PENETRATIONS THROUGH CONCRETE FLOORS AND MASONRY WALLS. PACK VOID SPACE WITH FIRE PROOF INSULATION AND /OR NOTED IN DETAILS.

21. OBTAIN AND PAY FOR ALL PERMITS REQUIRED FOR THE WORK.

22. PERFORM THE WORK IN ACCORDANCE WITH ALL APPLICABLE LOCAL & NATIONAL CODES.

23. DUCTWORK DIMENSION SHOWN ON DRAWINGS ARE SHEETMETAL DIMENSIONS. NET FREE AREA SHALL BE SHEETMETAL DIMENSIONS LESS THE LINEAR THICKNESS ON LINED DUCTWORK..

24. BALANCE DAMPERS: SHALL BE INSTALLED WHERE INDICATED AND/OR REQUIRED FOR PROPER BALANCING OF SYSTEM.

25. INSTALL ALL DUCTWORK WITHIN BULKHEAD/ABOVE CEILING AND HOLD TIGHT TO UNDERSIDE OF RATED CEILING ABOVE UNLESS OTHERWISE INDICATED.
SPIRAL DUCT SHALL BE INSTALLED WITH CONCENTRIC.

26. ALL RETURN AIR DUCT OPENINGS ABOVE CEILING SHALL BE COVERED WITH 1/2" MESH SCREEN.

27. CHANGES TO DUCT DUE TO FIELD CONDITIONS SHALL BE MADE ONLY IF THE DUCT SIZE FREE AREA IS MAINTAINED AND SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL.

28. FLEXIBLE CONNECTORS:

A. PROVIDE FLEXIBLE CONNECTORS AT THE INLET AND OUTLET CONNECTION FOR EACH FAN AND AIR HANDLING UNIT.
B. EACH FLEXIBLE CONNECTOR SHALL ALLOW 1" OF FREE MOVEMENT AND SHALL BE COMPLETELY AIR TIGHT.
C. PROVIDE NEOPRENE COATED GLASS FABRIC MATERIAL, MINIMUM 30 OZ. PER SQUARE YARD.
D. CONTRACTOR SHALL BRACE DUCTWORK (AS REQUIRED) AT ALL FLEXIBLE CONNECTORS TO ENSURE THAT DUCTWORK IS KEPT IN ALIGNMENT.

29. TURNING VANES: PROVIDE SINGLE THICKNESS TURNING VANES OF GALVANIZED STEEL IN ALL MITERED ELBOWS 30° OR GREATER.

30. LEAKAGE:

A. ALL DUCT JOINTS SHALL BE SEALED WITH HARD CAST 601. SPIRAL DUCTWORK JOINTS AND FITTINGS SHALL BE SEALED WITH UNITED MCGILL SEALER.ALL JOINTS, SEAMS, AND CONNECTIONS TO BE SEALED TO SMACNA CLASS A REGARDLESS OF PRESSURE CLASS

B. TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULT OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL BEFORE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY OR FINAL INSPECTION. DUCTS SHALL BE PRESSURE TESTED TO DETERMINE AIR LEAKAGE BY ONE OF THE FOLLOWING METHODS:

1- ROUGH-IN TEST: THE TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CUBIC FEET PER MINUTE (113.3 L/MIN) PER 100 SQUARE FEET (9.29 M2) OF CONDITIONED FLOOR AREA WHERE THE AIR HANDLER IS INSTALLED AT THE TIME OF THE TEST. WHERE THE AIR HANDLER IS NOT INSTALLED AT THE TIME OF THE TEST, THE TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 3 CUBIC FEET PER MINUTE (85 L/MIN) PER 100 SQUARE FEET (9.29 M2) OF CONDITIONED FLOOR AREA.

2- POSTCONSTRUCTION TEST: TOTAL LEAKAGE SHALL BE MEASURED WITH A PRESSURE DIFFERENTIAL OF 0.1 INCH W.G . (25 PA) ACROSS THE ENTIRE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. REGISTERS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST.

EXCEPTION:
1-WHERE THE DUCTS AND AIR HANDLERS ARE LOCATED ENTIRELY WITHIN THE BUILDING THERMAL ENVELOPE.
2-WHERE DUCTS FROM AN EXISTING HEATING AND COOLING SYSTEM ARE EXTENDED TO AN ADDITION, DUCT SYSTEMS WITH LESS THAN 40 LINEAR FEET (12.19 M) IN UNCONDITIONED SPACES

C. THE TOTAL LEAKAGE OF THE DUCTS SHALL BE AS FOLLOWS:

1-ROUGH-IN TEST: THE TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CUBIC FEET PER MINUTE (113.3 L/MIN) PER 100 SQUARE FEET (9.29 M2) OF CONDITIONED FLOOR AREA WHERE THE AIR HANDLER IS INSTALLED AT THE TIME OF THE TEST. WHERE THE AIR HANDLER IS NOT INSTALLED AT THE TIME OF THE TEST, THE TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 3 CUBIC FEET PER MINUTE (85 L/MIN) PER 100 SQUARE FEET (9.29 M2) OF CONDITIONED FLOOR AREA.

2-POSTCONSTRUCTION TEST: TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CUBIC FEET PER MINUTE (113.3 L/MIN) PER 100 SQUARE FEET (9.29 M2) OF CONDITIONED FLOOR AREA.

D. PERFORM ALL TESTING AFTER THE SEALS HAVE CURED COMPLETELY AND BEFORE COVERING WITH INSULATION OR CONCEALING IN MASONRY.
E. AIR HANDLERS SHALL HAVE A MANUFACTURER'S DESIGNATION FOR AIR LEAKAGE OF NO MORE THAN 2 PERCENT OF THE DESIGN AIR FLOW RATE WHEN TESTED IN ACCORDANCE WITH ASHRAE 193.
F. WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDE TO THE CODE OFFICIAL PRIOR TO FINAL ENERGY CODE COMPLAINCE SIGN-OFF.

31. SCOPE:

A. AN INDEPENDENT CONTRACTOR WITH NEBB OR AABC CERTIFICATION SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES AND PERFORM ALL OPERATIONS REQUIRED FOR COMPLETE BALANCING OF THE AIR SYSTEMS AND RELATED WORK AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN.
B. BALANCING SHALL NOT BE PERFORMED UNTIL ALL MECHANICAL EQUIPMENT IS PROPERLY INSTALLED AND IS 100% OPERATIONAL, ALL TEMPERATURE CONTROLS ARE INSTALLED AND CALIBRATED AND ALL SYSTEMS ARE CLEANED.
C. IT IS THE INTENT OF THIS SPECIFICATION TO INSURE THAT THE ENTIRE PROJECT IS SUBSTANTIALLY COMPLETE SO THAT ALL COMPONENTS OF ALL MECHANICAL SYSTEMS CAN BE PUT INTO NORMAL OPERATION WITH ALL WINDOWS AND DOORS CLOSED AND WORK IN A PIECEMEAL FASHION.

32. QUALITY ASSURANCE: SUBMIT TO OWNER THREE (3) COPIES OF BALANCING AND TESTING RECORDS OF TESTS SPECIFIED HEREIN SHOWING THE AIR DISTRIBUTION SYSTEMS HAVE BEEN BALANCED AND ARE DELIVERING SPECIFIED QUANTITIES.

33. EACH PIECE OF EQUIPMENT SHALL BE IDENTIFIED AS TO LOCATION, SERVICE, MANUFACTURER AND MODEL NUMBER. THIS INFORMATION SHALL BE RECORDED AND INCLUDED IN THE FINAL BALANCE REPORT.

34. AFTER ADJUSTMENTS ARE COMPLETE, THE AIR CONDITIONING, HEATING, AND VENTILATING SYSTEMS SHALL BE TESTED, AND THE FOLLOWING INFORMATION RECORDED AND INCLUDED IN THE FINAL BALANCE REPORT:

A. AIR DEVICES:
(1) EACH AIR DEVICE SHALL BE IDENTIFIED AS TO LOCATION AND SERVICE.
(2) SIZE, TYPE AND MANUFACTURER OF AIR DEVICES LISTED.
(3) REQUIRED CFM AND TEST RESULTANT CFM EACH AIR DEVICE.

35. AFTER THE SYSTEMS HAVE BEEN BALANCED AND ALL ADJUSTMENTS COMPLETED, RUN A SIX HOUR TEST ON BOTH HEATING AND COOLING CYCLE TO DETERMINE IF SYSTEM IS RESPONDING TO TEMPERATURE CONTROLS. THERMOSTAT SETTING, THERMOSTAT TEMPERATURE READING, AND AN INDEPENDENT TEMPERATURE MEASUREMENT AT THE THERMOSTAT SHALL BE RECORDED AT EACH THERMOSTAT.

36. BUILDING CAVITIES SHALL NOT USED AS DUCTS OR PLENUMS.

37. DUCT LINING SHALL BE 1" THICK SEMI-RIGID, COATED, GLASS FIBER BONDED BOARD, 3 LB. DENSITY. WHERE DUCTWORK ACOUSTICALLY LINED, ADDITIONAL INSULATION IS NOT REQUIRED ON THE EXTERIOR SURFACE. CERTAINTEED UL TRALITE DUCT LINER OR EQUIVALENT.

38. OBTAIN ALL PERMITS AND UPON COMPLETION OF WORK, PRESENT THE OWNER WITH A CERTIFICATE OF FINAL INSPECTION FROM LOCAL AUTHORITY.

39. REFRIGERANT PIPING SHALL BE INSULATED WITH 1" FOAMED PLASTIC OF CLOSED CELL STRUCTURE."K" VALUE OF < 0.27 MAXIMUM AT 75 F. MAXIMUM WATER VAPOR TRANSMISSION RATING OF 0.20 PERM. APPLY WITH EDGES TIGHTLY BUTTED. SEAL JOINTS WITH VAPOR BARRIER TAPE OR SEALER. WHERE INSULATION IS LOCATED OUTDOOR, THE INSULATION SHALL BE PROTECTED FROM WEATHER AT ALL TIMES AND BE APPLIED DURING TIMES WHEN WEATHER IS CLEAR. PROTECT UNFINISHED INSULATION BY COVERING WITH WEATHERPROOF MATERIAL. INSULATION SHALL BE CONTINUOUS THROUGH THE WALLS.
REFRIGERANT PIPING RUN FROM CHASE TO ROOF EQUIPMENT SHALL BE NEATLY SUSPENDED AND SUPPORTED ON UNITRUST OR WITH OTHER SUPPORTS TO BUILDING STRUCTURE AND SHALL NOT BE ATTACHED TO ROOF OR SEAL ON ROOF W/O INTERMSONTE WD OR METAL BLOCKING AND A SECONDARY ROOF MEMBRANE PROTECTIVE SHEET SUPPLIED BY ROOF MEMBRANE MANUFACTURER. INSULATION SHALL BE AP ARMAFLEX WITH SELF-SEALING JOINT. PROVIDE ULTRAVIOLET RESISTANCE FINISH ON EXTERIOR ARMAFLEX INSULATION OR APPROVED EQUAL. REFRIGERANT SUCTION LINE: INSULATION WITH 3/4 INCH ARMAFLEX MATERIAL. EXPOSED HVAC INSULATION SHALL BE PROTECTED.
REFRIGERATION PIPING SHALL BE INSULATED WITH R-3 OR GRATER.

40. ALL MECH. VENT. SYSTEM FANS NOT PART OF TESTED & LISTED HVAC EQUIPMENT SHALL MEET EFFICACY AND AIR FLOW REQUIREMENTS. PROVIDE MIN. 80 CFM BATHROOM EXHAUST FANS AND MIN. 100 CFM AT KITCHEN EXHAUST FANS.

SPLIT SYSTEM GAS FIRED AC UNIT-1 & 2

INDOOR UNIT(AHU-1 & 2)- TRANE VERTICAL MODEL"TUH1B040A9H2"
AIR LEAKAGE SHALL BE 2% OR LESS , 800 CFM @ 0.5" E.S.P., HEATING CAPACITY: 40 MBH GAS INPUT, 38 MBH GAS OUTPUT.
DX-C: TRANE CASED COIL MODEL "4TXCB003DS3" 24,000 BTUH TOTAL AND 18,000 BTUH SENSIBLE COOLING CAPACITY @ 95°F AMBIENT TEMPERATURE & ARI STANDARDS.

ELECTRIC CHARACTERISTICS:
1- FAN MOTOR 1/55 HP
2- 115 VOLTS, 1 PHASE
3- MCA 9.7
4- MOCA 15

OUTDOOR UNIT (ACCU-1 & 2)
TRANE MODEL "4TTR6024J1"TO HAVE NOMINAL CAPACITY OF 24,000 BTUH WITH 40° SST MIN SEER 16 PROVIDE LOW AMBIENT CONTROL DOWN TO 0°F

ELECTRIC CHARACTERISTICS:
1- COMPRESSOR 1 @ 10.1 RLA/ 52 LRA
2- FAN 1 @ 1/8 HP
3- 240 VOLTS, 1 PHASE
4- MCA 13
5- MOCP 20

BUILDING THERMAL ENVELOPE

TESTING. THE BUILDING OR DWELLING UNIT SHALL BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE OF LESS THAN OR EQUAL TO 3 AIR CHANGES PER HOUR AT A PRESSURE OF 0.2 INCHES W.G. (50 PA). TESTING SHALL BE CONDUCTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2 INCHES W.G. (50PA). WHERE REQUIRED BY THE CODE OFFICIAL, TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. TESTING SHALL BE PERFORMED AT ANY TIME AFTER CREATION OF ALL PENETRATIONS OF THE BUILDING THERMAL
ENVELOPE. TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH A METHOD APPROVED BY THE CODE OFFICIAL INCLUDING, BUT NOT LIMITED TO, AN APPROVED SAMPLING PROTOCOL.

DURING TESTING:

1. EXTERIOR WINDOWS AND DOORS, FIREPLACE AND STOVE DOORS SHALL BE CLOSED, BUT NOT SEALED, BEYOND THE INTENDED WEATHERSTRIPPING OR OTHER INFILTRATION CONTROL MEASURES;
2. DAMPERS INCLUDING EXHAUST, INTAKE, MAKEUP AIR, BACKDRAFT AND FLUE DAMPERS SHALL BE CLOSED, BUT NOT SEALED BEYOND INTENDED INFILTRATION CONTROL MEASURES;
3. INTERIOR DOORS, IF INSTALLED AT THE TIME OF THE TEST, SHALL BE OPEN;
4. EXTERIOR DOORS FOR CONTINUOUS VENTILATION SYSTEMS AND HEAT RECOVERY VENTILATORS SHALL BE CLOSED AND SEALED;
5. HEATING AND COOLING SYSTEMS, IF INSTALLED AT THE TIME OF THE TEST, SHALL BE TURNED OFF; AND
6. SUPPLY AND RETURN REGISTERS, IF INSTALLED AT THE TIME OF THE TEST, SHALL BE FULLY OPEN.

SYMBOL LIST

	DUCT UNDER POSITIVE PRESSURE
	DUCT UNDER NEGATIVE PRESSURE
	SQUARE ELBOW WITH TURNING VANES
	ROUND TO RECTANGULAR TRANSITION
	NEW DUCTWORK
	FLEXIBLE CONNECTION
M	MOTORIZED DAMPER
FD	FIRE DAMPER
FSD	FIRE / SMOKE COMBINATION DAMPER
	BALANCING DAMPER
BD	BACKDRAFT DAMPER
R	DUCT INCLINED RISE IN DIRECTION OF FLOW
D	DUCT INCLINED DROP IN DIRECTION OF FLOW
RL	REFRIG. PIPE-LIQUIDE
RS	REFRIG. PIPE-SUCTION
D	CONDENSATE DRAIN
	PIPE SLOPE DIRECTION
L	LOUVERED DOOR
12"Ø	INDICATES ROUND DUCT DIA. (INCHES)
12X12-SL	1" SOUND LINED DUCT - SHEET METAL DIMENSION SHOWN
T	THERMOSTAT
S	SWITCH
AHU-1	DESIGNATION FOR AIR HANDLING UNIT
	UNIT TYPE#1
ACCU-1	DESIGNATION FOR AIR COOLED CONDENSING UNIT
	UNIT TYPE
	FLOOR DRAIN
CR	CEILING REGISTER
TR	TOP REGISTER
BOD	BOTTOM OF DUCT ELEVATION
BE	BOTTOM OF EQUIPMENT ELEVATION
X	INDICATES AIR DEVICE LETTER INDICATES AIR DEVICE DESIGNATION. REFER TO SCHEDULE FOR SIZE AND TYPE

FAN SCHEDULE

NO.	AREA SERVED	FAN TYPE	CFM/ WATT @0.1" SP	CFM	S.P. INCH	MAX. RPM	DRIVE	MOTOR		CONTROL INTERLOCK	BASIS OF DESIGN " PANASONIC "
								H.P.-(WATTS)	VOLTS/PH		
F-1	TOILET ROOMS	CEILING	3.8	80	0.25	1000	DIRECT	31	120V/1Ø	WALL SWITCH	FV0811VFL5

NOTES: 1. ALL TOILET EXHAUST FANS SHALL BE FURNISHED WITH LIGHT, & FACTORY INSTALLED THREE SPEED SWITCH FOR BALANCING.

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DISTRICT OF COLUMBIA
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ROW HOUSE

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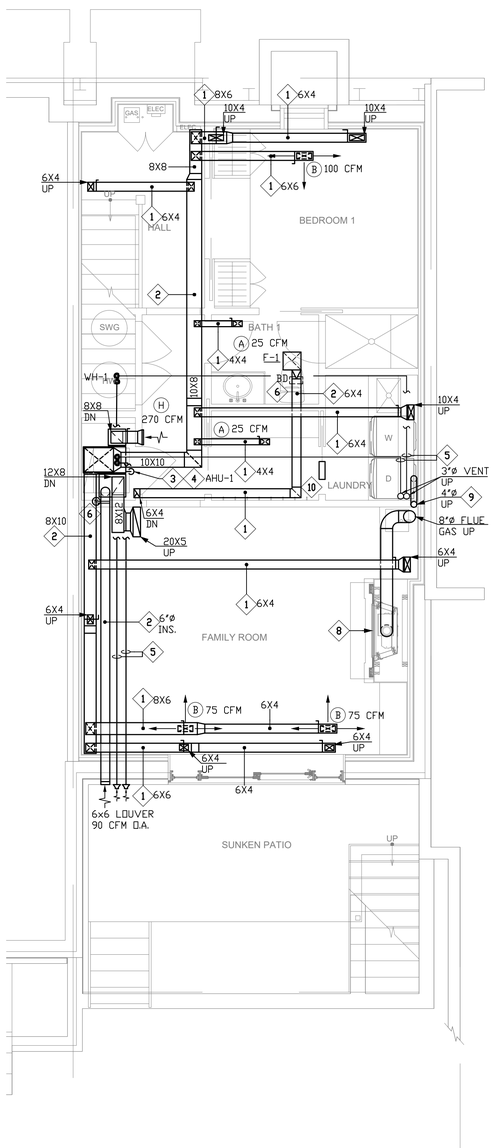
WASHINGTON, DC 20007

LOT: 0889 SQUARE: 1254

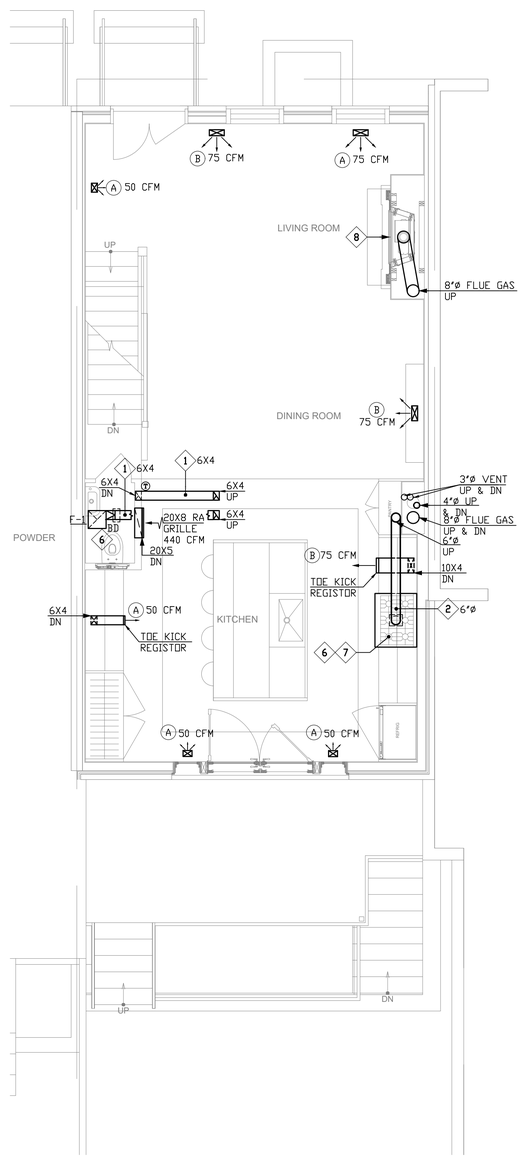
MECHANICAL COVER SHEET

M000

DATE: 09-24-2022



1 MECHANICAL CELLAR FLOOR PLAN
SCALE: 1/4" = 1'-0"



2 MECHANICAL 1ST FLOOR PLAN
SCALE: 1/4" = 1'-0"

OUTDOOR VENTILATION AIR

FLOOR AREAS VENTILATION ARE PROVIDED IN ACCORDANCE WITH IRC 2015.

DESIGN DATA:

AHU-1

PRIVATE DWELLINGS (LIVING AREAS)
PER IRC 2015 TABLE M1507.3.3(1), FOR DWELLING UNIT AREA OF 1500~3000 SQ FT AND NUMBER OF BEDROOM 0 OR 1:

OUT DOOR AIR CFM= 45 CFM

PER TABLE M1507.3.3(2)INTERMITTENT WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM AIRFLOW RATE FACTOR IS 2 FOR 50% OF EACH 4 HOUR SEGMENT.

OUT DOOR AIR CFM= VENTILATION AIR REQUIREMENT TABLE M1507.3.3(1) X AIR FLOW RATE FACTOR TABLE M1507.3.3(2)

OUT DOOR AIR CFM= 45 CFM X 2 = 90 CFM

GENERAL NOTES:

A. REFER TO DRAWING M000 & M003 FOR SYMBOLS, ABBREVIATIONS, SCHEDULES & SPECIFICATIONS & DETAILS.

B. COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION OF AIR DEVICES IN CEILING.

C. PROVIDE ELECTRONIC WATER DETECTION DEVICE W/ ALARM IN CONDENSATION DRAIN PAN INTERLOCKED TO SHUTDOWN AIR HANDLING UNIT.

D. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT MOUNTED AT 48" AFF.

E. HVAC REGISTER BOOTS THAT PENETRATE BUILDING THERMAL ENVELOPE SHALL BE SEALED TO THE SUBFLOOR OR DRYWALL

F. PROVIDE MOTORIZED DAMPER FOR OUTDOOR AIR INTAKES SHALL BE PROVIDED WITH CLASS IA MOTORIZED DAMPERS WITH A MAXIMUM LEAKAGE RATE OF 4 CFM/FT2 AT 1.0 INCH WATER GAUGE (W.G.) WHEN TESTED IN ACCORDANCE WITH AMCA 500D PROVIDE BACKDRAFT (GRAVITY) DAMPER FOR BATHROOM, KITCHEN EXHAUST FANS. SHALL HAVE A LEAKAGE OF 40 CFM/FT2 AT 1.0INCH WATER GAUGE (W.G.) WHEN TESTED IN ACCORDANCE WITH AMCA 500D. THE DAMPER SHALL BE ACCESSIBLE & AUTOMATICALLY SHUT WHEN NOT IN USE.

G. CONTRACTOR SHALL SUPPLY AND INSTALL ALL NECESSARY DUCT ACCESSORIES; SUCH AS VOLUME DAMPERS, FIRE DAMPERS, TURNING VANES, DUCT HARDWARE, DUCT ACCESS DOORS, FLEXIBLE CONNECTIONS, CEILING ACCESS DOORS AND CABLE OPERATED DAMPERS IN CONCEALED AREA. THE DUCTWORK SHALL COMPLY WITH SMACNA DUCT CONSTRUCTION STANDARDS. COORDINATE INSTALLATION OF DUCT ACCESSORIES WITH OTHER WORK.

H. REFRIGERANTS LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER INSTRUCTIONS. REFRIGERANTS PIPING PENETRATIONS OF FIRE- RESISTANCE RATED MEMBRANES MUST BE PROPERLY SEALED.

I. DRYER & KITCHEN EXHAUST DUCTS THAT PENETRATE FIRE RATED ASSEMBLY SHALL BE CONSTRUCTED OF STEEL HAVING A MINIMUM WALL THICKNESS OF 0.0187 INCHES (NO. 26 GAGE).

J. REFER TO M003 FOR GRILLE AND REGISTER SCHEDULE.

K. NEW MECHANICAL EQUIPMENT SHALL BE SEALED COMBUSTION.

DRAWING NOTES

1. RUN DUCTWORK BETWEEN JOISTS.
2. RUN DUCTWORK IN DROP CEILING/BULKHEAD.
3. 3/4" CONDENSATE DRAIN ROUTE TO EXTERIOR & SPILL OVER SPLASH BLOCK.
4. INSTALL, SIZE, AND ROUTE REFRIGERATION PIPING AS RECOMMENDED BY SPLIT SYSTEM MANUFACTURER. REFRIGERANT CIRCUIT ACCESS PORTS LOCATED OUTDOORS SHALL BE FITTED WITH LOCKING-TYPE TEMPER-RESISTANT CAPS OR SHALL BE OTHERWISE SECURED TO PREVENT UNAUTHORIZED ACCESS, IN COMPLIANCE WITH IRC SECTION M1411.8.
5. 3" PVC COMBUSTION AIR EXHAUST & 3" PVC COMBUSTION AIR INTAKE WITH INTEGRAL VENT, TERMINATE MIN 12" ABOVE WINDOW OR MIN 30" ABOVE ROOF. PLASTIC PIPE AND FITTINGS USED TO VENT APPLIANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLIANCE MANUFACTURER'S INSTRUCTIONS. PLASTIC PIPE VENTING MATERIALS LISTED AND LABELED IN ACCORDANCE WITH UL 1738 SHALL BE INSTALLED IN ACCORDANCE WITH THE VENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. FLUID PVC PIPING SHALL NOT BE USED FOR COMBUSTION GAS VENTING.
6. PROPOSED LOCATION OF BACK DRAFT DAMPER FOR BATHROOM EXHAUST AND KITCHEN HOOD AND MOTORIZED DAMPER FOR O.A. DUCT. PROVIDE AN ACCESS PANEL AT DRY WALL CEILING & INSPECTION DOOR AT TO DUCT. SEE DETAIL ON M003.
7. RANGE HOOD, EXHAUST RATES, SHALL BE AT A RATE OF 100 CFM INTERMITTENT OR 25 CFM CONTINUOUS. COORDINATE REQUIREMENTS FOR KITCHEN EXHAUST WITH PRODUCTS SELECTED IN OWNER'S EQUIPMENT SELECTION. EXHAUST HOOD SYSTEMS CAPABLE OF EXHAUSTING IN EXCESS OF 400 CFM SHALL BE PROVIDED WITH MAKEUP AIR AT A RATE APPROXIMATELY EQUAL TO THE EXHAUST AIR RATE. RANGE HOOD SHALL HAVE MINIMUM EFFICACY 2.8 CFM/WATT.
8. AN AIR BARRIER SHALL BE INSTALLED ON FIREPLACE WALLS. FIRE PLACES SHALL HAVE GASKET DOORS AND SHALL BE PROVIDED WITH COMPOSITION AIR IN ACCORDANCE WITH MANUFACTURER'S INSTALLATIONS INSTRUCTION. FIRE PLACE VENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER INSTRUCTIONS.
9. DRYER EXHAUST DUCTWORK ROUTING AND CONFIGURATION SHALL MEET DRYER MANUFACTURER INSTALLATION REQUIREMENT & IN ACCORDANCE TO IRC SECTION 504.6.
10. 12X12 TRANSFER GRILLE.

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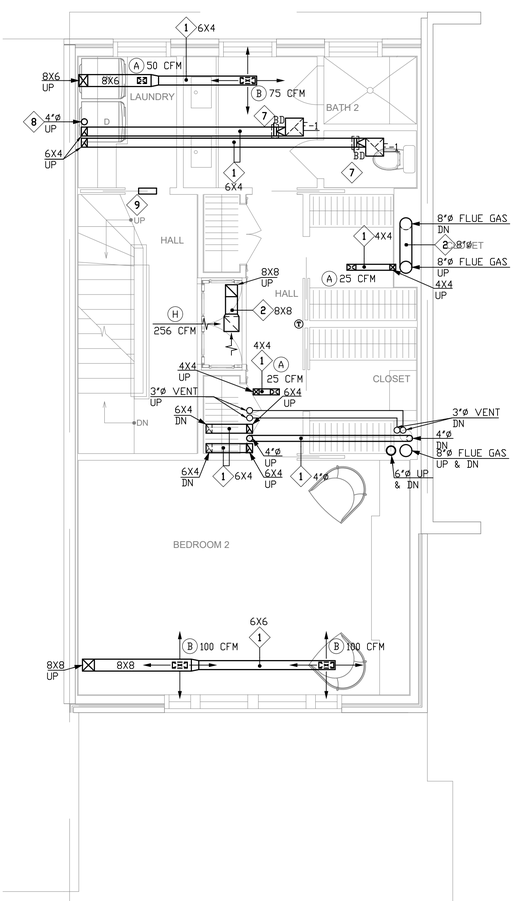
LOT: 0889 SQUARE: 1254

MECHANICAL FLOOR PLANS

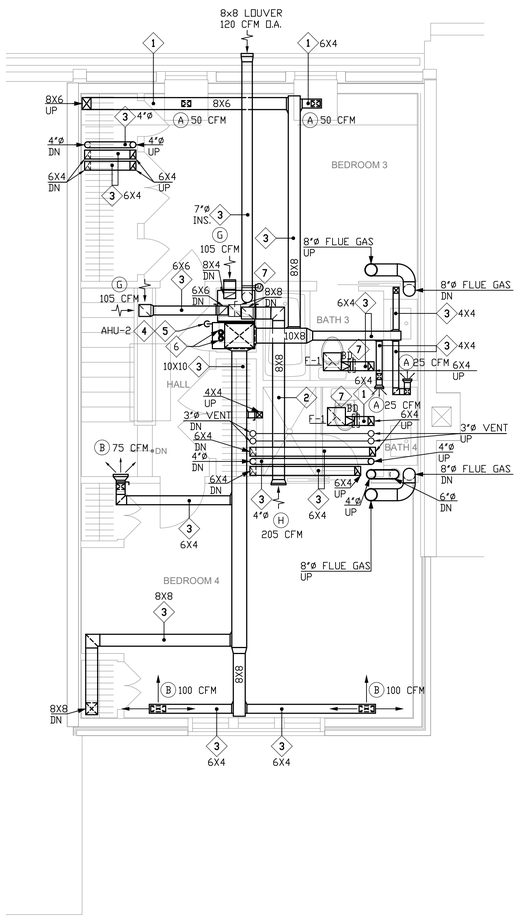
M001

DATE: 09-24-2022

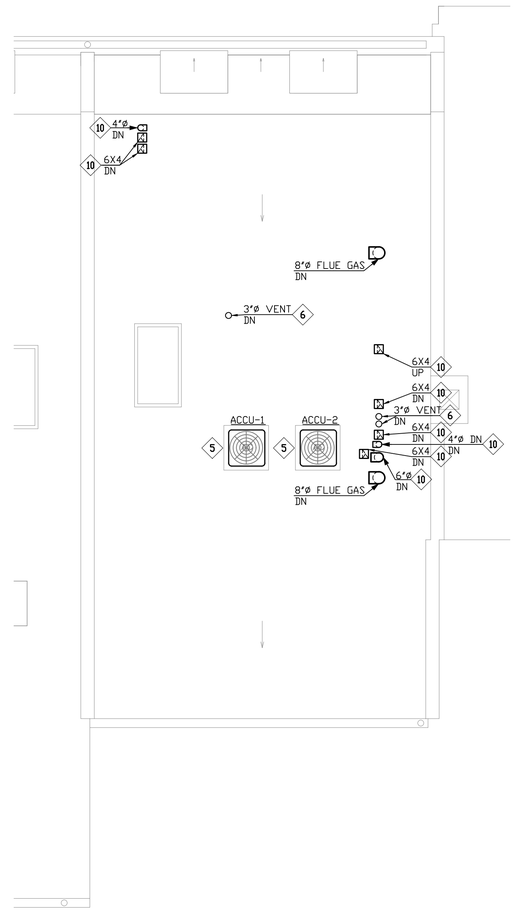
N



1 MECHANICAL 2ND FLOOR PLAN
SCALE: 1/4" = 1'-0"



2 MECHANICAL 3RD FLOOR PLAN
SCALE: 1/4" = 1'-0"



3 MECHANICAL ROOF PLAN
SCALE: 1/4" = 1'-0"

OUTDOOR VENTILATION AIR

FLOOR AREAS VENTILATION ARE PROVIDED IN ACCORDANCE WITH IRC 2015.

DESIGN DATA:

AHU-2

PRIVATE DWELLINGS (LIVING AREAS)
PER IRC 2015 TABLE M1507.3.3(1), FOR DWELLING UNIT AREA OF 1501-3000 SQ FT AND NUMBER OF BEDROOM 2 OR 3:

OUT DOOR AIR CFM= 60 CFM

PER TABLE M1507.3.3(2)INTERMITTENT WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM AIRFLOW RATE FACTOR IS 2 FOR 50% OF EACH 4 HOUR SEGMENT.

OUT DOOR AIR CFM= VENTILATION AIR REQUIREMENT TABLE M1507.3.3(1) X AIR FLOW RATE FACTOR TABLE M1507.3.3(2)

OUT DOOR AIR CFM= 60 CFM X 2 = 120 CFM

GENERAL NOTES:

A. REFER TO DRAWING M000 & M003 FOR SYMBOLS, ABBREVIATIONS, SCHEDULES & SPECIFICATIONS & DETAILS.

B. COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION OF AIR DEVICES IN CEILING.

C. PROVIDE ELECTRONIC WATER DETECTION DEVICE W/ ALARM IN CONDENSATION DRAIN PAN INTERLOCKED TO SHUTDOWN AIR HANDLING UNIT.

D. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT MOUNTED AT 48" AFF.

E. HVAC REGISTER BOOTS THAT PENETRATE BUILDING THERMAL ENVELOPE SHALL BE SEALED TO THE SUBFLOOR OR DRYWALL

F. PROVIDE MOTORIZED DAMPER FOR OUTDOOR AIR INTAKES SHALL BE PROVIDED WITH CLASS IA MOTORIZED DAMPERS WITH A MAXIMUM LEAKAGE RATE OF 4 CFM/FT2 AT 1.0 INCH WATER GAUGE (W.G.) WHEN TESTED IN ACCORDANCE WITH AMCA 500D PROVIDE BACKDRAFT (GRAVITY) DAMPER FOR BATHROOM, KITCHEN EXHAUST FANS. SHALL HAVE A LEAKAGE OF 40 CFM/FT2 AT 1.0INCH WATER GAUGE (W.G.) WHEN TESTED IN ACCORDANCE WITH AMCA 500D. THE DAMPER SHALL BE ACCESSIBLE & AUTOMATICALLY SHUT WHEN NOT IN USE.

G. CONTRACTOR SHALL SUPPLY AND INSTALL ALL NECESSARY DUCT ACCESSORIES; SUCH AS VOLUME DAMPERS, FIRE DAMPERS, TURNING VANES, DUCT HARDWARE, DUCT ACCESS DOORS, FLEXIBLE CONNECTIONS, CEILING ACCESS DOORS AND CABLE OPERATED DAMPERS IN CONCEALED AREA. THE DUCTWORK SHALL COMPLY WITH SMACNA DUCT CONSTRUCTION STANDARDS. COORDINATE INSTALLATION OF DUCT ACCESSORIES WITH OTHER WORK.

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I. DRYER & KITCHEN EXHAUST DUCTS THAT PENETRATE FIRE RATED ASSEMBLY SHALL BE CONSTRUCTED OF STEEL HAVING A MINIMUM WALL THICKNESS OF 0.0187 INCHES (NO. 26 GAGE).

J. REFER TO M003 FOR GRILLE AND REGISTER SCHEDULE.

K. NEW MECHANICAL EQUIPMENT SHALL BE SEALED COMBUSTION.

DRAWING NOTES

1. RUN DUCTWORK BETWEEN JOISTS.
2. RUN DUCTWORK IN DROP CEILING/BULKHEAD.
3. RUN DUCTWORK IN ATTIC SPACE. INSULATE WITH MIN R-8.
4. 3/4" CONDENSATE DRAIN ROUTE TO EXTERIOR & SPILL OVER SPLASH BLOCK.
5. INSTALL, SIZE, AND ROUTE REFRIGERATION PIPING AS RECOMMENDED BY SPLIT SYSTEM MANUFACTURER. REFRIGERANT CIRCUIT ACCESS PORTS LOCATED OUTDOORS SHALL BE FITTED WITH LOCKING-TYPE TEMPER-RESISTANT CAPS OR SHALL BE OTHERWISE SECURED TO PREVENT UNAUTHORIZED ACCESS, IN COMPLIANCE WITH IRC SECTION M1411.8.
6. 3" PVC COMBUSTION AIR EXHAUST & 3" PVC COMBUSTION AIR INTAKE WITH INTEGRAL VENT, TERMINATE MIN 12" ABOVE WINDOW OR MIN 30" ABOVE ROOF. PLASTIC PIPE AND FITTINGS USED TO VENT APPLIANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLIANCE MANUFACTURER'S INSTRUCTIONS. PLASTIC PIPE VENTING MATERIALS LISTED AND LABELED IN ACCORDANCE WITH UL 1738 SHALL BE INSTALLED IN ACCORDANCE WITH THE VENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. FLUID PVC PIPING SHALL NOT BE USED FOR COMBUSTION GAS VENTING.
7. PROPOSED LOCATION OF BACK DRAFT DAMPER FOR BATHROOM EXHAUST AND KITCHEN HOOD AND MOTORIZED DAMPER FOR O.A. DUCT. PROVIDE AN ACCESS PANEL AT DRY WALL CEILING & INSPECTION DOOR AT TO DUCT. SEE DETAIL ON M003.
8. DRYER EXHAUST DUCTWORK ROUTING AND CONFIGURATION SHALL MEET DRYER MANUFACTURER INSTALLATION REQUIREMENT & IN ACCORDANCE TO IMC SECTION 504.6.
9. 12X12 TRANSFER GRILLE.
10. TERMINATE EXHAUST WITH A DUCT SIZE ROOF EXHAUST CAP. EXHAUST VENT SHALL TERMINATED NOT LESS THAN 3 FEET ABOVE ANY FORCED AIR INLET LOCATED WITHIN 10 FT.

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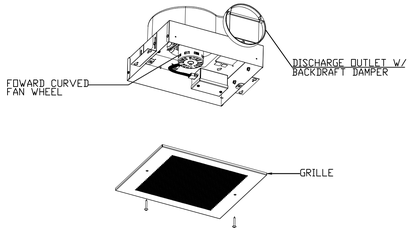
LOT: 0889 SQUARE: 1254

MECHANICAL FLOOR PLANS

M002

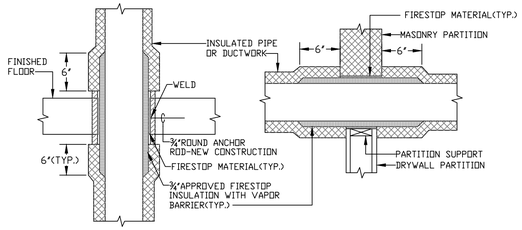
DATE: 09-24-2022

N



CEILING FAN DETAIL
NOT TO SCALE

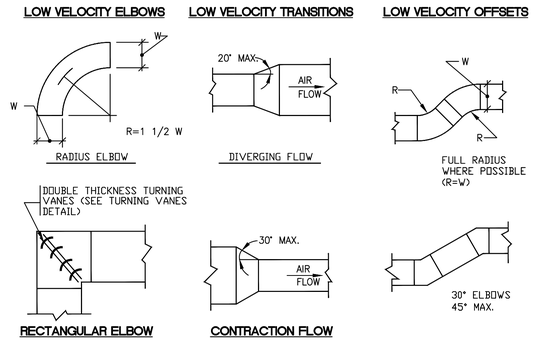
CEILING RADIATION DAMPERS SHALL BE INSTALLED IN ACCORDANCE WITH UL 555C



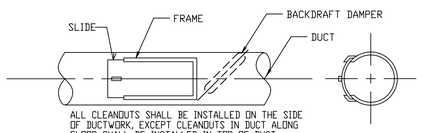
NOTE:

APPLICABLE TO PENETRATIONS OF ALL FIRE RATED MEMBRANES, IN ACCORDANCE WITH 2012 IBC 714. REFER UL LISTED FIRE STOPPING SYSTEMS UL-1479, UL-2043

PENETRATION OF FIRE/SMOKE BARRIERS
NOT TO SCALE



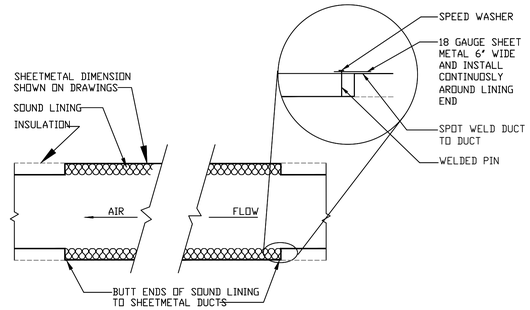
LOW VELOCITY TRANSITIONS, OFFSETS AND ELBOWS
NOT TO SCALE



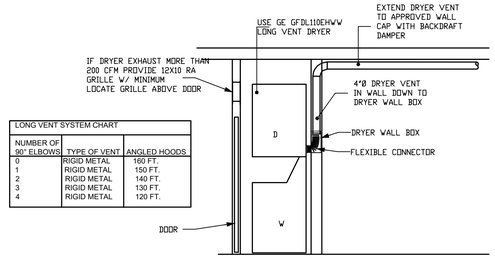
ALL CLEANOUTS SHALL BE INSTALLED ON THE SIDE OF DUCTWORK, EXCEPT CLEANOUTS IN DUCT ALONG FLOOR SHALL BE INSTALLED IN TOP OF DUCT.

DUCT Ø	HOLE SIZE	SLIDE SIZE
4" - 5"	3" X 6"	4" X 8"
6"	4" X 6"	6" X 8"

CLEAN OUT / INSPECTION DETAIL
NO SCALE



TYPICAL SOUND LINING DETAIL
NOT TO SCALE



LONG VENT SYSTEM CHART

NUMBER OF 90° ELBOWS	TYPE OF VENT	ANGLED HOODS
0	RIGID METAL	160 FT.
1	RIGID METAL	150 FT.
2	RIGID METAL	140 FT.
3	RIGID METAL	130 FT.
4	RIGID METAL	120 FT.

DRYER DETAIL
NOT TO SCALE

DRYER SPECS

EXHAUST DUCT VENT PIPE FOR CLOTHES DRYERS SHALL BE SHEET METAL AND HAVE A SMOOTH INTERIOR FINISH AND SHALL BE MINIMUM OF 4"Ø. THE ENTIRE EXHAUST SYSTEM SHALL BE SUPPORTED AND SECURED IN PLACE WITH NO PENETRATIONS OF THE DUCTWORK. THE MALE END OF THE DUCT AT OVERLAPPED DUCT JOINTS SHALL EXTEND IN THE DIRECTION OF AIRFLOW.

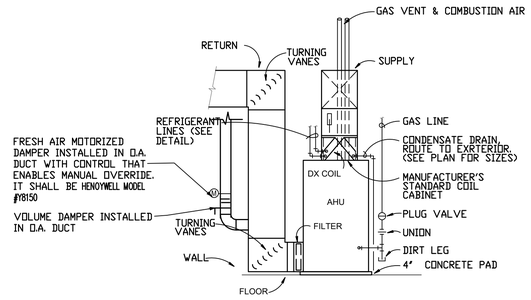
DRYER EXHAUST DUCT SHALL TERMINATE IN WALL AT A DRYER WALL BOX. THE BOX SHALL HAVE A CONNECTION IN THE VERTICAL POSITION FOR FLEXIBLE CONNECTOR TO DRYER COLLAR.

CLEAN-OUT OF THE DRYER VENT EXHAUST SYSTEM CAN BE ACCOMPLISHED BY REMOVING THE FLEXIBLE CONNECTOR AND REMOVING ANY EXCESS DRYER LINT.

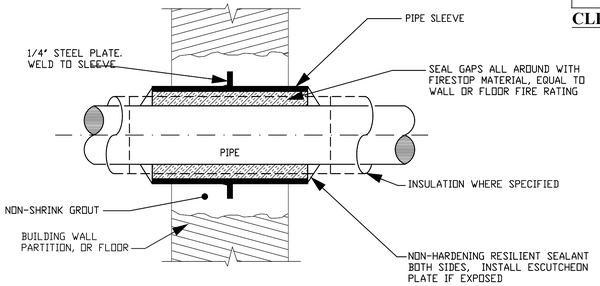
THE MAXIMUM LENGTH OF THE EXHAUST DUCT SHALL BE DETERMINED BY THE DRYER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

WHERE THE EXHAUST DUCT IS CONCEALED WITHIN THE BUILDING CONSTRUCTION, THE EQUIVALENT LENGTH OF THE EXHAUST DUCT SHALL BE IDENTIFIED ON A PERMANENT LABEL OR TAG. THE LABEL OR TAG SHALL BE LOCATED WITHIN 6 FEET (1829 MM) OF THE EXHAUST DUCT CONNECTION

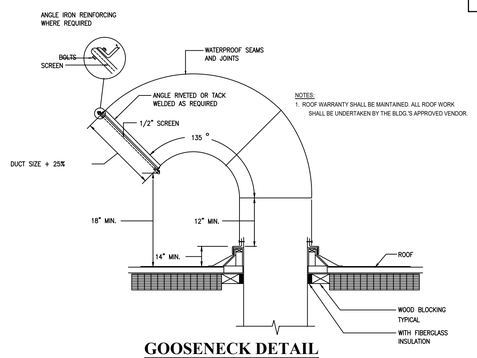
PROTECTIVE SHIELD PLATES SHALL BE PLACED WHERE NAILS OR SCREWS FROM FINISH OR OTHER WORK ARE LIKELY TO PENETRATE THE CLOTHES DRYER EXHAUST DUCT. SHIELD PLATES SHALL BE PLACED ON THE FINISHED FACE OF ALL FRAMING MEMBERS WHERE THERE IS LESS THAN 11/ 4 INCHES (32 MM) BETWEEN THE DUCT AND THE FINISHED FACE OF THE FRAMING MEMBER. PROTECTIVE SHIELD PLATES SHALL BE CONSTRUCTED OF STEEL, HAVE A THICKNESS OF 0.062 INCH (1.6 MM) AND EXTEND A MINIMUM OF 2 INCHES (51 MM) ABOVE SOLE PLATES AND BELOW TOP PLATES.



GAS-FIRED AIR HANDLING UNIT DETAIL
N.T.S.



INTERIOR MASONRY WALL AND FLOOR PENETRATION
NOT TO SCALE



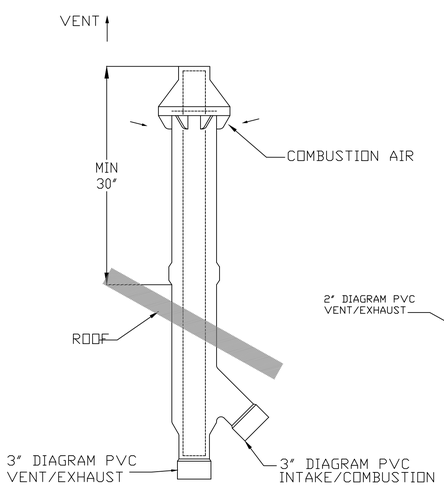
NOTES:
1. ROOF WARRANTY SHALL BE MAINTAINED. ALL ROOF WORK SHALL BE UNDERTAKEN BY THE BLDG.'S APPROVED VENDOR.

GOOSENECK DETAIL
NOT TO SCALE

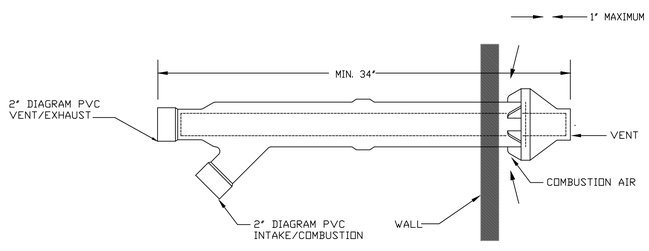
RESIDENTIAL GRILLES & REGISTERS SCHEDULE

DESIG ◯	TYPE (REFER TO DETAILS)	SERVICE	AIR FLOW RANGE (CFM)	NOMINAL SIZE/ DESCRIPTION (INCH)	INLET/ NECK SIZE (IN)	BASIS OF DESIGN/REMARKS
A	REGISTER	SA	0–50	6x4	4"ø	300RL, BORDER TYPE A
B	REGISTER	SA	51–100	6x6 OR 10X4	6"ø	300RL, BORDER TYPE A
C	REGISTER	SA	101–150	10x6	7"ø	300RL, BORDER TYPE A
D	REGISTER	SA	151–200	12x6	8"ø	300RL, BORDER TYPE A
E	REGISTER	SA	201–250	14x6	9"ø	300RL, BORDER TYPE A
F	RG	RA/EA	0–100	6x6	6x6	350RL, BORDER TYPE A
G	RG	RA/EA	101–200	8x8	8x8	350RL, BORDER TYPE A
H	RG	RA/EA	201–300	10x10	10x10	350RL, BORDER TYPE A
I	RG	RA/EA	301–450	12x12	12x12	350RL, BORDER TYPE A
J	RG	RA/EA	451–600	14x14	14x14	350RL, BORDER TYPE A
K	RG	RA/EA	601–800	16x16	16x16	350RL, BORDER TYPE A
L	RG	RA/EA	801–1100	18x18	18x18	350RL, BORDER TYPE A
M	RG	RA/EA	1101–1300	20x20	20x20	350RL, BORDER TYPE A
N	RG	RA/EA	1301–1600	22x22	22x22	350RL, BORDER TYPE A

NOTES:
1. REFER TO ARCHITECT DRAWINGS FOR TYPE OF CEILING.
2. MODEL NUMBERS IN "BASIS OF DESIGN" ARE TITUS
3. PROVIDE HEAVY DUTY FRAME AND CORE WHERE MOUNTED IN FLOORS.
4. PROVIDE WITH FIRE DAMPER FOR UL LISTED CEILING
5. PROVIDE ROUND TO SQUARE ADAPTOR BOOT



VERTICAL VENT TERMINAL/ COMBUSTION AIR INLET
NOT TO SCALE



HORIZONTAL VENT TERMINAL/COMBUSTION AIR INLET
NOT TO SCALE

NOTE-PLASTIC PIPE AND FITTINGS USED TO VENT APPLIANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLIANCE MANUFACTURER'S INSTRUCTIONS. PLASTIC PIPE VENTING MATERIALS LISTED AND LABELED IN ACCORDANCE WITH UL 1738 SHALL BE INSTALLED IN ACCORDANCE WITH THE VENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. FLUID PVC PIPING SHALL NOT BE USED FOR COMBUSTION GAS VENTING.

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DISTRICT OF COLUMBIA
KHALID M. KHATAB
900526
REGISTERED PROFESSIONAL ENGINEER

"I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF, THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION."

NEW
ROW HOUSE

3314 VOLTA PL NW
WASHINGTON, DC 20007

LOT: 0889 SQUARE: 1254

MECHANICAL DETAILS

M003

DATE: 09-24-2022

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES AND STANDARDS INCLUDING BUT NOT LIMITED TO:

2014 NEC NATIONAL ELECTRICAL CODE (DCMR 12C)
2017 DC CONSTRUCTION CODE

ELECTRICAL SPECIFICATIONS

1. WORK TO INCLUDE ALL DEMOLITION, FURNISHING AND INSTALLING ALL ELECTRICAL SYSTEMS AND EQUIPMENT AS SHOWN ON THE PLANS AND AS SPECIFIED HEREIN.

2. THE CONTRACTOR SHALL EXAMINE THE DRAWINGS, AND THE JOB SITE AND FULLY INFORM HIMSELF OF ALL EXISTING CONDITIONS AND WORK REQUIRED BY THEDRAWINGS BEFORE SUBMITTING HIS BID. WAIVER OF RESPONSIBILITY ORREQUEST FOR ADDITIONAL PAYMENT BASED ON LACK OF KNOWLEDGE OF CONDITIONS AT THE SITE WILL NOT BE ACCEPTED OR CONSIDERED.

3. THE ENTIRE ELECTRICAL INSTALLATION SHALL CONFORM TO THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE, LOCAL JURISDICTION REQUIREMENTS. AND LOCAL CODE REQUIREMENTS.

4. ELECTRICAL CONTRACTOR SHALL OBTAIN AND PAY FOR TRADE PERMITS REQUIRED FOR ELECTRICAL WORK.

5. ALL ELECTRICAL EQUIPMENT SHALL BEAR THE UNDERWRITER'S LABORATORIES LABEL.

6. PROVIDE SHOP DRAWINGS FOR THE FOLLOWING ITEMS:

   A. LIGHTING FIXTURES, SWITCHES, RECEPTACLES, PANELBOARDS, AND DISCONNECT SWITCHES. SEE SPECIFICATIONS FOR ADDITIONAL REQUIRED ITEMS

7. ALL EQUIPMENT SUCH AS PANELBOARDS, AND DISCONNECTS SWITCHES TO BE AS MANUFACTURED BY GENERAL ELECTRIC, SQUARE-D, CUTTLER-HAMMER OR SIEMENS.

8. PROVIDE TEMPORARY SERVICE AS NECESSARY FOR LIGHTING AND POWER EQUIPMENT (DRILLS, SAWS, ETC.). VERIFY TEMPORARY REQUIREMENTS WITH GENERAL CONTRACTOR. TEMPORARY LIGHTING AND POWER SHALL MEET OSHA REQUIREMENTS AND LOCAL CODES.

9. ADVANCE NOTICE TO BE GIVEN TO THE OWNER BEFORE COMMENCEMENT OF WORK, WHETHER OR NOT AN OUTAGE IS REQUIRED.

10. ALL CIRCUITRY, EQUIPMENT, DEVICES, ETC., TO BE NEW UNLESS SPECIFICALLY NOTED ON THE PLANS

11. THE FOLLOWING TERMINOLOGY AND MEANINGS WILL BE USED IN THESE SPECIFICATIONS:
    A. PANELBOARDS "EQUIPPED SPACE" OR "SPACE": INCLUDE ALL NECESSARY BUS, DEVICE SUPPORTS AND CONNECTIONS FOR INSERTION OF A FUTURE DEVICE.
    B. "PROVIDE": FURNISH AND INSTALL.

12. FINAL TESTING: AT THE TIME OF FINAL INSPECTION AND TEST, ALL CONNECTIONS AT PANELBOARDS, DEVICES AND EQUIPMENT, AND ALL SPLICES MUST BE COMPLETED. EACH BRANCH CIRCUIT AND ITS RESPECTIVE CONNECTED EQUIPMENT MUST TEST FREE OF SHORT CIRCUITS. UPON COMPLETION OF THE WORK, CLEAN AND POLISH ALL EXPOSED SURFACES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

SWITCHES, RECEPTACLES & OUTLETS

1. PRIOR TO INSTALLATION OF ANY TELEPHONE, TV AND RECEPTACLE OUTLETS, THIS CONTRACTOR SHALL VERIFY ITS FINAL LOCATION WITH THE ARCHITECT AND /OR OWNER REP. THE ARCHITECT MAY, AT HIS OPTION, RELOCATE ANY DEVICE WITHIN 5 FEET FROM THE LOCATION SHOWN ON THE DRAWINGS AT NO CHARGE TO THE OWNER.

2. WHERE TWO OR MORE DEVICES OF THE SAME VOLTAGE ARE SHOWN TOGETHER ON THE PLANS, A GANGED PLATE SHALL BE USED. DEVICES OF DIFFERENT VOLTAGES SHALL BE SEPARATED HORIZONTALLY BY 6" AND SHALL BE HORIZONTALLY OR VERTICALLY ALIGNED.

3. ALL RECEPTACLES, TELEPHONE, AND DATA OUTLETS SHOWN ON A WALL BACK TO BACK SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY.

4. WALL PLATES SHALL BE AS SELECTED BY THE ARCHITECT.

5. COORDINATE LIGHT SWITCHES SHOWN ON DRAWINGS WITH DOOR SWINGS. LOCATE LIGHT SWITCH ON LOCK SIDE OF DOOR. UON ON DRAWINGS

LIGHTING FIXTURES

1. COORDINATE LOCATIONS OF LIGHTING FIXTURES WITH SPRINKLERS, MECHANICAL EQUIPMENT AND ARCHITECTURAL CEILING PLAN. LAYOUT ON PLANS IS APPROXIMATE, ADJUST AND COORDINATE LIGHTING FIXTURES IN FIELD PER ARCHITECTS CEILING PLAN.

2. LIGHTING FIXTURE TYPES SHALL BE COMPATIBLE WITH INSTALLATION COORDINATE ALL FIXTURE TYPES WITH ARCHITECT PRIOR TO ORDERING FIXTURES. PROVIDE ALL MOUNTING ATTACHMENTS FOR A COMPLETE INSTALLATION.

3. ALL NEW LIGHTING FIXTURES SHALL BE INSTALLED COMPLETE WITH LAMPS. SEE PLANS FOR SPECIFIC REQUIREMENTS.

DISCONNECT SWITCHES

1. LOCATE DISCONNECT SWITCH FOR MECHANICAL AND PLUMBING EQUIPMENT TO PERMIT SERVICING OF EQUIPMENT. PROVIDE FUSES IF REQUIRED BY MANUFACTURER OF EQUIPMENT FOR UL APPROVAL. CHECK MOTORS FOR PROPER ROTATION. CONNECT CONDUCTORS AS REQUIRED BY MANUFACTURER.

UTILITY COORDINATION

1. COORDINATE ELECTRICAL SERVICE AND INSTALLATION OF NEW SERVICES WITH UTILITY COMPANY.
2. COORDINATE INSTALLATION OF NEW TELEPHONE SERVICE WITH THE LOCAL TELEPHONE COMPANY.
3. COORDINATE INSTALLATION OF CABLE TV SERVICE WITH THE LOCAL CABLE TV COMPANY.
4. COORDINATE INTERNET SERVICE WITH OWNER SELECTED VENDER.

BRANCH CIRCUITRY

1. ALUMINUM CONDUIT IS NOT PERMITTED.

2. ALL CIRCUITRY RUNS ARE DIAGRAMMATIC. THE CONTRACTOR TO DETERMINE IN FIELD THE MOST SUITABLE ROUTES.

3. MINIMUM SIZE CONDUIT TO BE 3/4".

4. NONMETALLIC CONDUIT IS NOT TO BE USED FOR BRANCH CIRCUIT WORK ABOVE GRADE.

5. CIRCUITRY TO BE INSTALLED CONCEALED IN FINISHED AREAS.

6. CIRCUITRY TO BE INSTALLED TIGHT TO THE UNDERSIDE OF THE FLOOR SLAB ABOVE IN A NEAT WORKMANLIKE MANNER. ALL RUNS TO BE PARALLEL OR PERPENDICULAR TO BUILDING WALLS.

7. PROVIDE ALL EMPTY RACEWAYS WITH A DRAG WIRE. EMPTY RACEWAYS 2" OR LARGER IN SIZE TO HAVE A MAXIMUM OF 3-90 DEGREE BENDS.

8. MAKE FINAL CONNECTION TO ALL MOTORS AND VIBRATING EQUIPMENT WITH FLEXIBLE CONDUIT, MAXIMUM 6'-0" LENGTH

9. ALL CONDUIT/CABLE PENETRATIONS OF EXTERIOR WALLS, FIRE RATED WALLS AND FIRE RATED FLOORS, TO BE CAULKED AND SEALED WATERTIGHT. SEALS FOR FIRE RATED PENETRATIONS TO BE SEALED WITH UL LISTED PUTTY TYPE SEALING COMPOUND.

10. PROVIDE HACR TYPE CIRCUIT BREAKERS FOR ALL CIRCUIT BREAKERS SERVING HVAC EQUIPMENT

INDOOR BRANCH CIRCUITRY

1. NM CABLE IS PERMITTED TO SERVE RECEPTACLE AND OTHER EQUIPMENT LOADS IN UNITS, WHERE APPROVED BY THE AUTHORITY HAVING JURISDICTION.
2. METAL CLAD CABLE (MC CABLE) IS PERMITTED TO SERVE RECEPTACLES AND OTHER EQUIPMENT LOAD. METAL CLAD CABLE (MC) IS PERMITTED IN CONCEALED AREAS SUCH AS CEILING SPACE AND FINISHED WALL AREAS ONLY, INSTALLATION OF CABLE TYPE TO BE APPROVED BY THE AUTHORITY HAVING JURISDICTION
3. ALL INDOOR WIRING TO BE INSTALLED IN GALVANIZED EMT FLEXIBLE CABLE OR HEAVY WALL GALVANIZED RIGID STEEL, EXCEPT AS NOTED
4. EXPOSED RACEWAYS TO BE INSTALLED PARALLEL/PERPENDICULER TO WALL, CEILINGS ETC, SO AS TO BE AS NEAT AS POSSIBLE FOR THE PARTICULAR LOCATION

OUTDOOR BRANCH CIRCUITRY

1. ALL CONDUIT SERVING LIGHTING RECEPTACLES AND EQUIPMENT LOCATED ON THE EXTERIOR OF THE BUILDING SHALL BE HEAVY WALL GALVANIZED RIGID STEEL CONDUIT.
2. OUTDOOR FEEDER CONDUIT SHALL BE HEAVYWALL GALVANIZED RIGID STEEL.
3. RACEWAY FOR UNDERGROUND INCOMING ELECTRICAL AND TELEPHONE SERVICE SHALL BE PVC SCHEDULE 40.
4. LIQUID-TITE , MAXIMUM LENGTH 6'-0"

WIRE AND CABLE

1. ALL WIRING INSULATION TO BE THHN-THWN.
2. ALL WIRING SHALL BE COLOR CODED THROUGHOUT.
3. ALL CONDUCTORS SHALL BE COPPER, MINIMUM NO. 12-EXCEPT CONTROL CONDUCTOR AND LIGHTING TAPS AS PERMITTED BY N.E.C. CONDUCTORS FOR SWITCHING LIGHTS SHALL NOT BE CONSIDERED CONTROL CONDUCTORS. TYPE THW OR EQUIVALENT FOR HEATERS OR OTHER UL LISTED DEVICES RATED AT 75 DEG. F. SUPPLY FEED.
4. ALL RECEPTACLES, LIGHTING FIXTURES, MOTORS, ETC., SHALL BE GROUNDED.
5. INSTALL MULTIPLE HOMERUNS TO ALTERNATELY NUMBERED PANELBOARD CIRCUITS (i.e. 1, 3, 5) SERVING LIGHTING, GENERAL RECEPTACLES, AND MOTORS.
6. ALL 120 VOLT. CIRCUIT HOMERUNS OVER 100 LINEAR FEET TO BE A MINIMUM OF #10 CONDUCTORS UNLESS OTHERWISE INDICATED ON THE PLANS.
7. FEEDERS TO UNIT PANELBOARDS TO BE ALUMINUM CONDUCTORS, SERVICE ENTRANCE RATED SE, SHALL BE INSTALLED IN ACCORDANCE WITH 230.6, 230.7, AND PARTS II, III, AND IV OF ARTICLE 230.

PANELBOARDS

1. BEFORE ORDERING PANELBOARDS, COORDINATE ALL MOTOR CIRCUIT BREAKER TRIPS WITH MECHANICAL EQUIPMENT MANUFACTURER'S REQUIREMENTS. COORDINATE CONDUCTOR SIZE WITH ACTUAL MOTORS AND OTHER MECHANICAL AND ARCHITECTURAL EQUIPMENT FURNISHED BEFORE INSTALLING CIRCUITRY.
2. ALL PANELBOARDS TO HAVE COMMON KEYED LOCKS. PROVIDE A MINIMUM OF TWO KEYS PER PANEL. PANELBOARDS TO BE COMPLETE WITH COVER AND TRIM AND SHALL CONTAIN A GROUND BUS.
3. SURFACE MOUNTED PANELBOARD CABINETS TO BE INSTALLED ON AN APPROVED STEEL FRAMEWORK TO DISTRIBUTE THE WEIGHT EVENLY TO THE WALL OR FLOOR AND TO PROVIDE A 1-INCH AIR SPACE BETWEEN WALL AND CABINET.
4. RECESSED PANELBOARDS, INSTALL ONE 3/4" CONDUIT FROM TOP OF PANEL 6" INTO CEILING SPACE FOR EVERY 3 SPARE CIRCUIT BREAKERS OR SPACES, PANELBOARDS IN UNITS MUST BE COMPLETELY RECESSED AND BE PROVIDED WITH A FLUSH MANUFACTURER COVER
5. PROVIDE ARC-FAULT CIRCUIT INTERRUPTER PROTECTION ON ALL BRANCH CIRCUITS SUPPLYING 125-VOLT, 15-AND 20-AMPERE OUTLETS IN ALL DWELLING UNITS.

GENERAL ELECTRICAL NOTES

A. ALL ELECTRICAL MATERIALS AND EQUIPMENT INSTALLED IN LOCATION EXPOSED TO MOISTURE OR THE ELEMENTS SHALL BE WEATHERPROOF- WHETHER OR NOT SHOWN AND NOTED.

B. ALL 120 VOLT BRANCH CIRCUITS EXTENDING 100 OR MORE FEET (200 FEET FOR 208V OR ABOVE) IN LENGTH FROM THAT CIRCUIT'S PANEL C/B TO THE LAST DEVICE OR CONNECTION ON THE RUN, SHALL BE PROVIDED WITH CONDUCTORS OF A.W.G. AMPACITY RATING MINIMUM ONE SIZE LARGER THAN THE AMPACITY OF THAT CIRCUIT'S C/B SIZE. i.e.: 20A. C/B, 30A. WIRE SIZE, ETC., WHETHER OR NOT SHOWN AND NOTED

C. PROVIDE SEPARATE INSULATED GREEN GROUND CONDUCTOR WITH THE BRANCH CIRCUIT OR FEEDER WIRING FOR ALL SINGLE OR THREE PHASE CIRCUITS, WHETHER OR NOT SHOWN AND NOTED

D. PROVIDE ALL CONDUITS FOR COMMUNICATIONS WITH CAT 5 DATA/TELEPHONE CABLE, COORDINATE WITH OWNER FOR FINAL CONNECTIONS IN BASEMENT TELEPHONE ROOM.

E. ALL DISCONNECT SWITCHES SHALL BE HEAVY DUTY, 240 VOLT RATED, NEMA 1 IN DRY LOCATIONS, NEMA 3R WHERE INSTALLED IN ANY LOCATION EXPOSED TO THE ELEMENTS. WHERE NUMBERS ARE SHOWN ADJACENT TO SYMBOL i.e.: 60/50 FIRST No.= SWITCH SIZE SECOND No.= FUSE (GENERALLY K5 CLASS). NF = NON FUSE TYPE DISCONNECT SWITCH UNLESS OTHERWISE REQUIRED BY MECHANICAL EQUIPMENT WITH 'FUSE ONLY PROTECTION'. FOR THIS SITUATION, CONTRACTOR SHALL PROVIDE FUSED DISCONNECT SWITCH WITH FUSES AS RECOMMENDED BY EQUIPMENT SUPPLIERS.

F. PROVIDE 3/4" x 8'-0" HIGH PLYWOOD BACKBOARD FOR TELEPHONE EQUIPMENT. LOCATION OF BACKBOARD SHALL BE DETERMINED IN FIELD OR AS SHOWN ON DRAWINGS.

G. THIS CONTRACTOR SHALL EXTEND WIRE TO ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS AND MAKE FINAL AND COMPLETE CONNECTIONS TO SAME. BEFORE ROUGHING-IN OUTLETS, THE LOCATION AND TYPE OF OUTLET SHALL BE VERIFIED FROM SHOP DRAWINGS OF THE EQUIPMENT. ALL OUTLETS AND CONNECTIONS TO EQUIPMENT SHALL BE MADE FROM THE WALLS EXCEPT WHERE SPECIAL FLOOR OUTLETS ARE INDICATED. PROVIDE A FLUSH JUNCTION BOX IN THE WALL BENEATH THE OPERATING LEVEL OF THE EQUIPMENT AND CONNECT TO THE EQUIPMENT WITH FLEXIBLE CONDUIT. DO NOT RUN ANY CONDUIT EXPOSED. EQUIPMENT HAVING BUILT-IN SWITCHES SHALL BE COMPLETELY WIRED AS REQUIRED. PLUGS AND CORDS ON THE EQUIPMENT SHALL BE REPLACED, SHORTENED OR LENGTHENED AS REQUIRED BY THIS CONTRACTOR TO SUIT THE OUTLETS FURNISHED. PROVIDE A SEPARATE GROUND WIRE AND CONNECTION FOR ALL EQUIPMENT. THE CONTRACTOR SHALL COORDINATE TO INSURE THAT EACH PIECE OF EQUIPMENT IS SUITABLE FOR THE VOLTAGE CHARACTERISTIC AT THE POINT OF CONNECTION.

H. ELECTRICAL CONTRACTOR SHALL INSTALL ALL MOTOR STARTERS/CONTROLLERS SHOWN OR NOT SHOWN ON THE PLANS. PROVIDE DISCONNECT SWITCHES AS INDICATED ON THE PLANS OR AS REQUIRED. DO NOT INSTALL MOTOR STARTERS/CONTROLLERS SHOWN OR NOT SHOWN IN THE CEILING SPACES, UNLESS OTHERWISE APPROVED.

I. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL TELE/CATV/ OUTLET BOXES AND CONDUIT IN LOCATIONS AS SHOWN ON THE DRAWINGS. WHETHER SHOWN OR NOT SHOWN ON ELECTRICAL DRAWINGS. PROVIDE SLEEVES AS REQUIRED AND FIRE SEAL SLEEVES AFTER ALL CABLES ARE INSTALLED.

J. ALL 125- VOLT, SINGLE PHASE, 15- AND 20 AMPERE RECEPTACLES OVER COUNTERTOPS IN KITCHENS MUST BE GFI PROTECTED REGARDLESS OF PLACEMENT AND/OR DISTANCE FORM THE SINK. WHERE RECEPTACLES INSTALLED WITHIN 6' (MEASURED HORIZONTALLY) OF A SINK, SHALL BE GFCI TYPE (WHETHER OR NOT SHOWN AND NOTED).

K. PROVIDE TOGGLE SWITCH FOR FAN CONTROL AND ALL ASSOCIATED INTERLOCK/INTERCONNECTIONS. VERIFY EXACT LOCATION OF CONNECTION AND SWITCH LOCATION IN FIELD.

L. CONTRACTOR TO VERIFY THE SPECIAL SINGLE RECEPTACLES NEMA CONFIGURATION REQUIRED BY EQUIPMENT SUPPLIER PRIOR TO INSTALLATION.

M. ALL CONDUIT AT THE EXTERIOR OF THE BUILDING SHALL COMPLY WITH 358.10 (C) FOR CORROSION PROTECTION; THAT CONDUIT BE SEALED WHERE IT ENTERS THE BUILDING OR ENTERS REFRIGERATED SPACES IAW NEC 300.7 AND THAT; CIRCUIT CONDUCTORS SHALL BE SUITABLE FOR INSTALLATION IN WET LOCATION PER NEC 300.9.

N. ALL TERMINATIONS OF CONDUCTORS 100A OR LESS SHALL COMPLY WITH NEC 110.14 (C) (1) (a).

O. CIRCUITS PROPOSED AT THE ROOF COMPLY WITH NEC 310.15 (B) (2) (C).

P. CONTRACTOR SHALL PROVIDE LABELS FOR DISCONNECTS COMPLYING WITH NEC 110.22 & 408.4. RELATIVE TO PANEL BOARD CIRCUIT DIRECTORY ENTRIES, SUFFICIENT DESCRIPTION SHALL BE GIVEN TO DETERMINE THE LOAD SERVED BY THE CIRCUIT. THIS DESCRIPTION SHALL BE UNIQUE AND ALLOW THE CIRCUIT TO BE DISTINGUISHED FROM ALL OTHER CIRCUITS SERVED BY THE PANEL.

Q. CONTRACTOR SHALL COMPLY WITH NEC 110.14 (C)(1) & (2).

R. CONTRACTOR SHALL CONFIRM THAT THE CONSTRUCTION DOCUMENTS ARE COORDINATED WITH MECHANICAL AND PLUMBING DISCIPLINES AND COMPLIANCE WITH NEC 110.26(F) IS ACHIEVED. CONFIRM SERVICE EQUIPMENT MOUNTING LOCATION PROVIDES COMPLIANCE WITH NEC 110.26(A), (D), (E), & (F)(2).

S. CONTRACTOR SHALL COMPLY WITH 300.5(B), 300.7(A), 300.9, & 310.8(C) AS REQUIRED.

T. ALL LUMINAIRES SHALL BE SUPPORTED IN ACCORDANCE WITH NEC 410.30 & 410.36

U. ALL NON-LOCKING, 125V, 15 & 20A RECEPTACLES INSTALLED IN ALL AREAS IDENTIFIED IN NEC 210.52 TO BE LISTED TAMPER RESISTANT RECEPTACLES. SEE NEC 406.12.

ELECTRICAL SYMBOLS

- (J) JUNCTION BOX. MOUNT AS SHOWN ON PLANS. SIZE AS REQUIRED.
- $ SWITCH
- THREE-WAY SWITCH
- FOUR-WAY SWITCH
- RHEOSTAT
- SPEAKER CONTROL PANEL
- (S) (EF) CONNECTION FOR CEILING EXHAUST FAN
- (M) MOTOR CONNECTION
- BRANCH CIRCUIT WIRING CONCEALED IN SLAB OR UNDERGROUND
- BRANCH CIRCUIT HOMERUN TO PANELBOARD. NUMBER OF ARROWS DENOTE NUMBER OF CIRCUITS. NUMBER OF HASH MARKS DENOTE NUMBER OF WIRES WHEN MORE THAN TWO. TICK MARK INDICATES GROUND CONDUCTOR. SEE PANEL SCHEDULE FOR WIRE SIZE.
- CONDUIT UP
- CONDUIT DOWN
- DISCONNECT SWITCH SIZE AS REQUIRED TO BE FUSED UNLESS OTHERWISE NOTED. 60/50 NUMERAL INDICATES SWITCH/ FUSE SIZE.
- DUPLEX OUTLET
- SWITCHED DUPLEX OUTLET
- GFCI DUPLEX OUTLET
- WP GFI DUPLEX OUTLET (WEATHERPROOF)
- FLOOR MTD. DUPLEX OUTLET
- FLOOR MTD. SWITCHED DUPLEX OUTLET
- CLG CEILING MTD. DUPLEX OUTLET
- 220V. OUTLET
- AUDIO SYSTEM SPEAKER JACK
- GFCI WP DUPLEX RECEPTACLE 120 VOLT, 20 AMPS, 18" AFF UON GFCI TYPE, WP= WEATHERPROOF COVER
- S X X = CIRCUIT NUMBERS INDICATE HOMERUN TO APARTMENT PANELS UNLESS OTHERWISE INDICATED (TYPICAL)
- GROUND AS PER LOCAL AND NATIONAL ELECTRIC CODES
- ELECTRIC SERVICE PANEL
- GCFI PLUGMOLD LEGRAND WIREMOLD PLUGMOLD 2000TR SERIES STEEL TAMPER-RESISTANT GFCI MULTI-OUTLET SYSTEM, FINISH TBD. PRODUCT TO RUN FULL LENGTH OF CABINET UNDERSIDE. INSTALL PER MANUFACTURER'S BACKFEED PROCEDURE, AND REFER TO INTERIOR ELEVATIONS FOR FINISHING DETAILS.
- PLUGMOLD LEGRAND WIREMOLD PLUGMOLD 2000TR SERIES STEEL TAMPER-RESISTANT MULTI-OUTLET SYSTEM, FINISH TBD. PRODUCT TO RUN FULL LENGTH OF CABINET UNDERSIDE. INSTALL PER MANUFACTURER'S BACKFEED PROCEDURE, AND REFER TO INTERIOR ELEVATIONS FOR FINISHING DETAILS.
- TV TELEPHONE JACK
- TV DATA NETWORK JACK
- COAX SIGNAL JACK
- (B) EXTERIOR DOOR BELL
- (SCM) COMBINED SMOKE DETECTOR / CARBON MONOXIDE DETECTOR 120V WITH INTEGRAL BATTERY BACK-UP
- (SD) SMOKE DETECTOR,S= IN UNIT STAND ALONE, 120V WITH INTEGRAL BATTERY BACK-UP
- (CD) CARBONE MONOXIDE DETECTOR,S= IN UNIT STAND ALONE, 120V WITH INTEGRAL BATTERY BACK-UP
- MMJ COORDINATE WITH ARCHITECT FOR LOCATION
- FLOW SWITCH CONNECTION
- PC PHOTOELECTRIC CONTROL SWITCH
- MS MOTION SENSOR CONTROL SWITCH
- DOOR CHIME

LIGHTING FIXTURE SCHEDULE						
SYMBOL	DESCRIPTION	LOCATION	MANUFACTURER	MODEL #	WATTS	NOTES
A	3" CEILING LED RECESSED DOWNLIGHT	PLAN	TECH LIGHTING	EN3R-LO927AAI	12W (LED)	
B	3" CEILING LED RECESSED DOWNLIGHT	SHOWER	TECH LIGHTING	EN3R-LO927AAI	12W (LED)	RATED FOR WET LOCATIONS
C	UNDER CABINET STRIP LIGHTS	PLAN	WAC LIGHTING	LS-LED-W-WT	TBD	LED DIMMABLE
E	INTERIOR WALL SCONE	PLAN	TBD	TBD	TBD	
G	INTERIOR WALL SCONE	PLAN	TBD	TBD	TBD	
I	CEILING/SURFACE MTD.LIGHT FIXTURE	PLAN	TBD	TBD	TBD	
P	PENDANT/SURFACE MTD.LIGHT FIXTURE	PLAN	TBD	TBD	TBD	
U	24 INCH LINKABLE LED UNDERCABINET LIGHT	PLAN	GE	GE-10449	11 W (LED)	LED DIMMABLE
X	EXISTING FIXTURE TO REMAIN	PLAN	TBD	TBD	TBD	

LIGHTING FIXTURE SCHEDULE NOTES:
1. ALL LIGHTING FIXTURES TO BE APPROVED BY THE ARCH./ OWNER PRIOR TO ORDERING AND INSTALLING.
2. ARCHITECT TO SELECT COLOR OF LIGHTING FIXTURES
3. REFER TO ARCHITECTURAL REFLECTED CEILING AND ELEVATION PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS.
4. A MINIMUM OF 85 PERCENT OF THE LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS OR A MINIMUM OF 85 PERCENT OF THE PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL CONTAIN ONLY HIGH EFFICACY LAMPS.
5. IC-RATED RECESSED LIGHTING FIXTURES SEALED AT HOUSING/INTERIOR FINISH AND LABELED TO INDICATE ≤ 2.0 CFM LEAKAGE AT 75 PA.
6. RECEPTACLES AS INDICATED AND WHERE REQUIRED BY CODE.

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REGISTERED
PROFESSIONAL ENGINEER

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NEW
ROW HOUSE

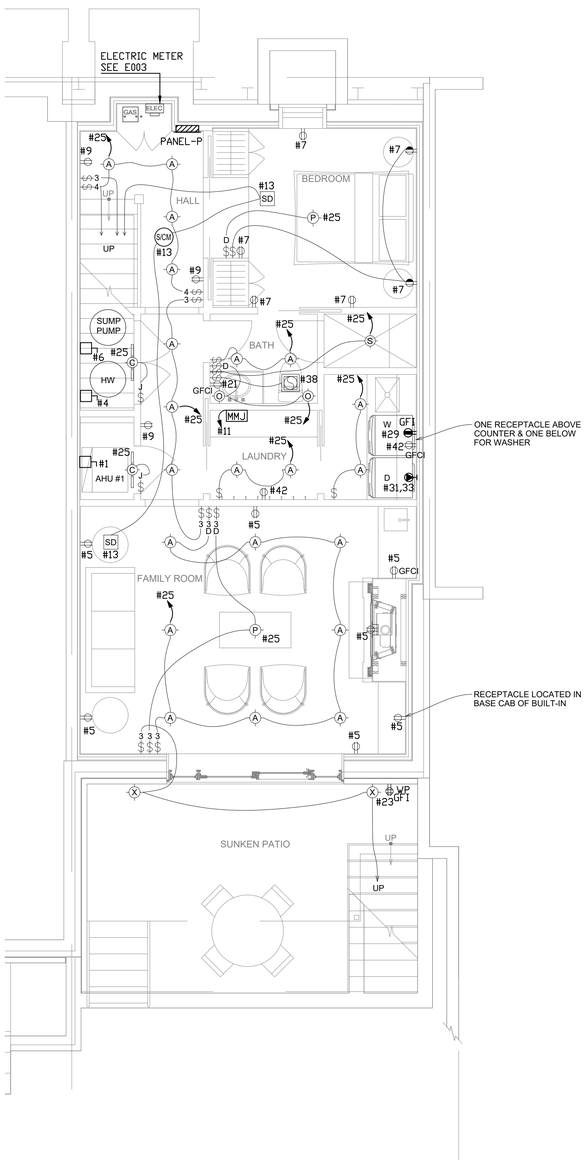
3314 VOLTA PL NW
WASHINGTON, DC 20007

LOT: 0889 SQUARE: 1254

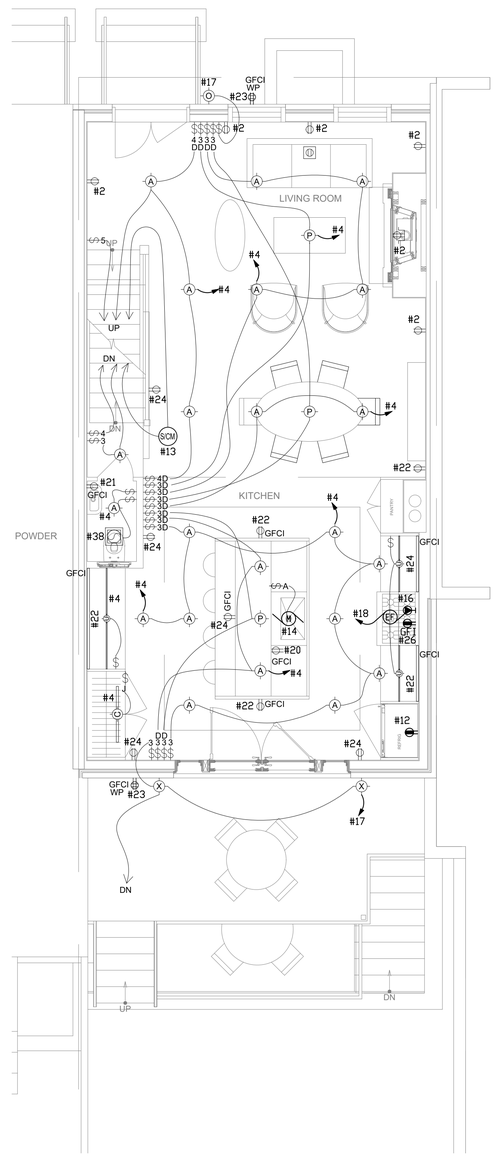
ELECTRICAL COVERSHEET

E000

DATE: 09-24-2022



1 ELECTRICAL CELLAR FLOOR PLAN
SCALE: 1/4" = 1'-0"



2 ELECTRICAL 1ST FLOOR PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

A. REFER TO DRAWING E000 & E003 FOR SPECIFICATION, POWER RISER DIAGRAM & PANEL SCHEDULES.

B. ALL 120-VOLT, SINGLE-PHASE, 15- AND 20-AMPE RE BRANCH CIRCUITS SUPPLYING OUTLETS OR DEVICES INSTALLED IN DWELLING UNIT KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY ANY OF THE MEANS DESCRIBED IN NEC 2014 210.12(A) (1) THROUGH (6).

C. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS, QUANTITY AND POWER REQUIREMENTS FOR ALL MECHANICAL EQUIPMENT.

D. REFER TO PLUMBING DRAWINGS FOR LOCATIONS, QUANTITY AND POWER REQUIREMENTS FOR ALL PLUMBING EQUIPMENT.

E. COORDINATE WITH THE OWNER FOR FINAL LIGHTING SWITCH LOCATIONS. TYPICAL THROUGHOUT PLAN.

F. NO BACK TO BACK OUTLET INSTALLATION IS ALLOWED. ALL OUTLET SHALL BE INSTALLED IN ACCORDANCE WITH ARTICLE 210-52 OF NEC.

G. PROVIDE TAMPER-RESISTANT OUTLETS IN ALL ROOMS. EXCEPT RECEPTACLES LOCATED MORE THAN 5-1/2 FT ABOVE THE FLOOR.

H. ALL CEILING MOUNTED SMOKE DETECTOR IN THE HOUSE TO BE 120VAC WITH BATTERY BACKUP AND SHALL BE INTERCONNECTED TO OTHERS SO THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL THE ALARMS IN THE SAME UNIT. SMOKE DETECTOR AND CARBON MONOXIDE SHALL BE INSTALLED NOT LESS THAN 3 FEET HORIZONTALLY FROM THE DOOR OR OPENING OF A BATHROOM THAT CONTAINING A SHOWER OR TUB. IT SHALL NOT BE LOCATED IN DIRECT AIRFLOW OR CLOSER THAN 3 FT FROM AIR SUPPLY DIFFUSER OR RETURN AIR OPENING. IT SHALL NOT BE INSTALLED WITHIN 10 FEET OF COOKING APPLIANCES UNLESS THEY ARE SPECIFICALLY LISTED FOR THAT LOCATION. BETWEEN 10 AND 20 FEET FROM THE COOKING APPLIANCE, EITHER A PHOTOELECTRIC SMOKE ALARM OR A SMOKE ALARM EQUIPPED WITH AN ALARM-SILENCING MEANS IS PERMITTED.

I. RECESSED LIGHT FIXTURES INSTALLED IN THE BUILDING THERMAL ENVELOPE SHALL BE AIR TIGHT, IC RATED, AND SEALED TO THE DRYWALL. FOR FIRE RATED CEILING, RECESSED LUMINARIES SHALL BE LISTED FOR INSTALLATION IN THE FIRE RATED FLOOR-CEILING/ ROOF-CEILING ASSEMBLY OR PROVIDE 1-HR FIRE RATED UL LISTED ENCLOSURE. SEE DETAIL ON E003.

J. THE DISHWASHER RECEPTACLE MUST BE ACCESSIBLE & GFI (UNDER THE SINK) OR, IF HARDWIRED, MUST HAVE A DISCONNECT CAPABLE OF BEING LOCKED IN THE OPEN POSITION.

K. ALL 15- AND 20-AMPERE, 125- AND 250-VOLT NONLOCKING RECEPTACLES USED IN WET & DAMP LOCATIONS SHALL BE A LISTED WEATHER-RESISTANT TYPE PER NEC 406.9 (A) & (B).

L. RECEPTACLES SHALL BE GFCI TYPE INSTALLED FOR KITCHEN/BAR COUNTERTOPS, WITHIN SIX FEET OF SINK, BATHROOMS, LAUNDRY AREAS, AND OUTDOOR. (NEC 2017 210.8(A).)

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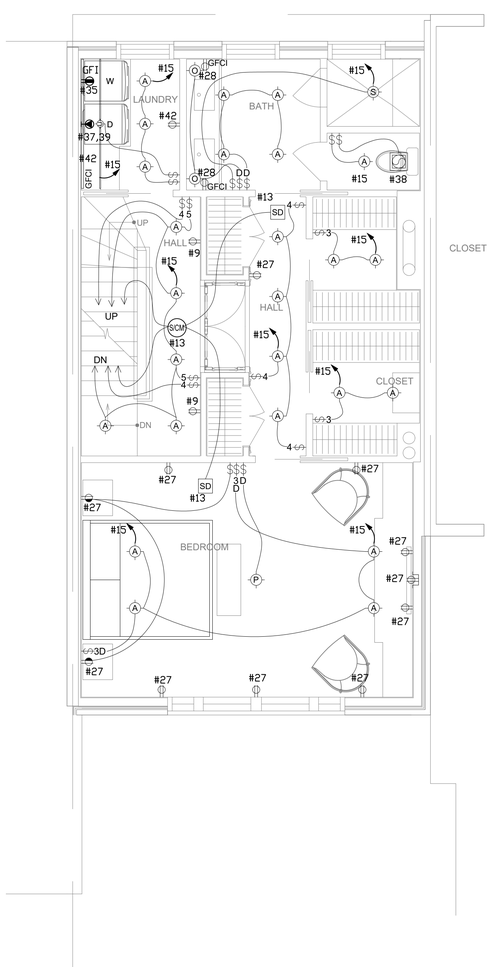
LOT: 0889 SQUARE: 1254

ELECTRICAL FLOOR PLANS

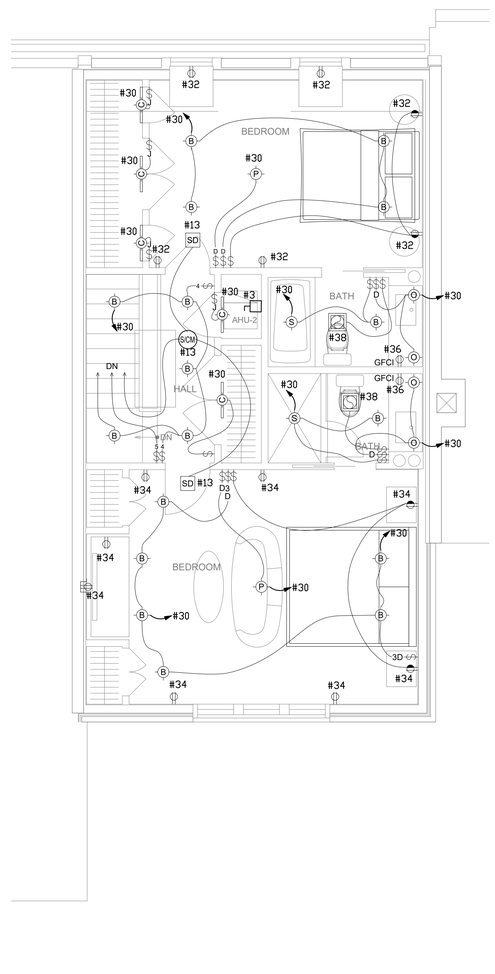
E001

DATE: 09-24-2022

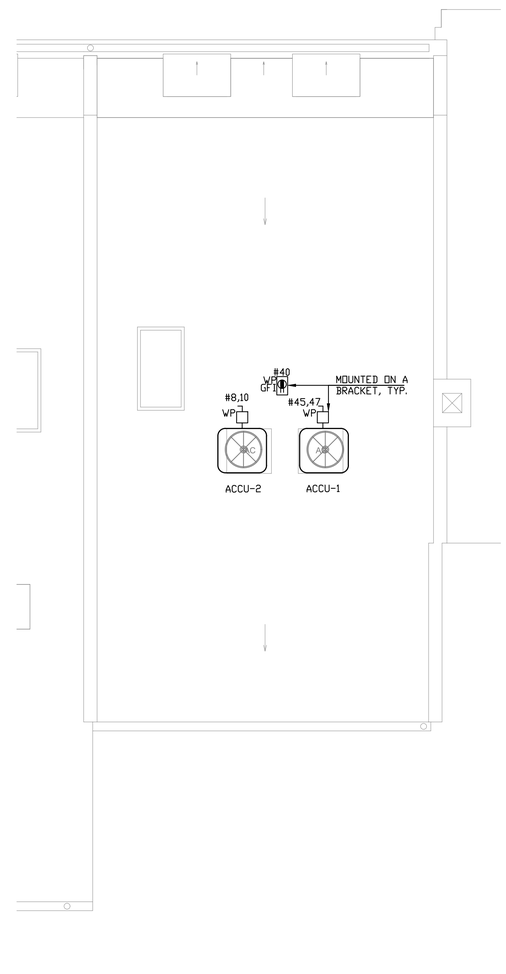
N



1 ELECTRICAL 2ND FLOOR PLAN
SCALE: 1/4" = 1'-0"



2 ELECTRICAL 3RD FLOOR PLAN
SCALE: 1/4" = 1'-0"



3 ELECTRICAL ROOF PLAN
SCALE: 1/4" = 1'-0"

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LOT: 0889 SQUARE: 1254

ELECTRICAL FLOOR PLANS

E002

DATE: 09-24-2022

N

DISTRIBUTION PANEL SCHEDULE

PANEL NAME:	P	3314 VOLTAGE PLACE			
BUS AMP RATING:	200A	VOLTAGE	120 / 240	200A MAIN CIRCUIT BREAKE	X SURFACE MOUNT
PANEL LOCATION:	MECH ROOM	PHASE	1	MAIN LUGS ONLY	FLUSH MOUNT
I.C. RATING:	10K	WIRE	3	SUB FEED LUGS	SINGLE NEUTRAL BUS
			X GROUND BUS	FEED THROUGH LUGS	DOUBLE NEUTRAL BUS

REV. NO.	CONDUCTOR SIZE	CIRCUIT DESCRIPTION:	KVA A	KVA B	DEVICE AMP/POLE	CIRCUIT NUMBER		DEVICE AMP/POLE	KVA A	KVA B	CIRCUIT DESCRIPTION	CONDUCTOR SIZE	REV. NO.
	2#12+1#12G(CU)	AHU-1	0.65		15/1	1	2	20/1	1.00		LIVING ROOM RECEP	2#12+1#12G(CU)	
	2#12+1#12G(CU)	AHU-2		0.65	15/1	3	4	20/1		0.50	WATER HEATER	2#12+1#12G(CU)	
	2#12+1#12G(CU)	FAMILY ROOM CELLAR RECEPT	1.00		20/1	5	6	20/1	0.50		SUMP PUPM	2#12+1#12G(CU)	
	2#12+1#12G(CU)	BEDROOM RECEPT CELLAR FLOOR		1.20	20/1	7	8	20/2		1.56	ACCU-1	2#12+1#12G(CU)	
	2#12+1#12G(CU)	CORRIDOR RECEPT	1.00		20/1	9	10		1.56				
	2#12+1#12G(CU)	MULTIMEDIA CABINET		1.00	20/1	11	12	20/1		1.20	REFRIGERATOR	2#12+1#12G(CU)	
	2#12+1#12G(CU)	SMOKE /CO DETECTORS	1.00		20/1	13	14	20/1	0.80		DISPOSAL	2#12+1#12G(CU)	
	2#12+1#12G(CU)	2ND FLOOR LIGHTS		1.00	20/1	15	16	20/1		0.20	RANGE	2#12+1#12G(CU)	
	2#12+1#12G(CU)	EXTERIOR LIGHT	0.50		15/1	17	18	20/1	0.40		HOOD	2#12+1#12G(CU)	
		SPARE				19	20	20/1		1.20	DISHWASHER	2#12+1#12G(CU)	
	2#12+1#12G(CU)	BATHROOM GFI CELLAR & 1ST FLR	1.00		20/1	21	22	20/1	1.50		KITCHEN RECEPTACLE	2#12+1#12G(CU)	
	2#12+1#12G(CU)	EXTERIOR RECEPT		1.00	20/1	23	24	20/1		1.50	KITCHEN RECEPTACLE	2#12+1#12G(CU)	
	2#12+1#12G(CU)	BASEMENT LIGHT	1.00		20/1	25	26	20/1	1.50		MICROWAVE	2#12+1#12G(CU)	
	2#12+1#12G(CU)	BEDROOM RECPT 2ND FLOOR		1.00	20/1	27	28	20/1		1.00	BATHROOM GFI 2ND FLOOR	2#12+1#12G(CU)	
	2#12+1#12G(CU)	WASHER CELLAR FLOOR	1.50		15/1	29	30	20/1	1.00		3RD FLOOR LIGHTS	2#12+1#12G(CU)	
	3#10+1#10G(CU)	DRYER CELLAR FLOOR		2.50	30/2	31	32	20/1		1.00	BEDROOM RECPT 3RD FLOOR	2#12+1#12G(CU)	
			2.50			33	34	20/1	1.00		BEDROOM RECPT 3RD FLOOR	2#12+1#12G(CU)	
	2#12+1#12G(CU)	WASHER 2ND FLOOR		1.50	20/1	35	36	20/1		1.00	BATHROOM GFI 3RD FLOOR	2#12+1#12G(CU)	
	3#10+1#10G(CU)	DRYER 2ND FLOOR	2.50		20/1	37	38	20/1	0.25		EXHAUST FAN	2#12+1#12G(CU)	
				2.50	20/1	39	40	20/1		0.54	EXTERIOR CONV OUTLET	2#12+1#12G(CU)	
	2#12+1#12G(CU)	ACCU-2	1.56		20/2	41	42	20/1	0.72		LAUNDRY & MECH ROOM RECEPT	2#12+1#12G(CU)	
				1.56		43	44				SPARE		
		SPARE				45	46				SPARE		
		SPARE				47	48				SPARE		

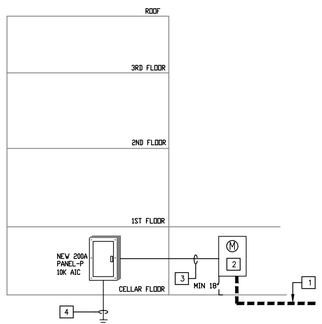
TOTAL KVA/PHASE:	PHASE A	24.4	PHASE B 23.6
TOTAL AMPS/PHASE:	PHASE A	204	PHASE B 197

TOTAL CONNECTED LOAD (KVA):	48
TOTAL CONNECTED CURRENT (AMPS):	200.2
TOTAL DEMAND CURRENT (AMPS):	110.11

NOTES:

RISER DIAGRAM NOTES

1. INCOMING 120/240V 1PH, 3WIRE SERVICE FROM UTILITY SERVICE TRANSFORMER.ONE SET OS 3#3/0 SERVICE ENTRANCE CONDUCTORS TO BE PROVIDED BY PEPCO.
2. 200 AMP, 240V, 1P, 3W, NEMA 3R, UTILITY APPROVED METER.
3. ONE SET OF #4/0 + 1#2/0 GND SER CABLE, TO BE VERIFIED BY THE CONTRACTOR ON THE FIELD.
4. GROUNDING PER NEC 250.66, CONTRACTOR TO FILED VERIFY.



POWER RISER DAIGRAM

PANEL AIC RATING IS PRELIMINARY CALCULATED BASED ON PRELIMINARY FAULT CURRENT INFO OBTAINED FROM UTILITY CO. THE MAXIMUM FAULT CURRENT MUST BE CALCULATED PRIOR TO PANEL PURCHASE. CONTRACTOR SHALL COORDINATE WITH LOCAL ELECTRIC UTILITY AT SITE PROVIDE MAX THE MAXIMUM FAULT CURRENT CALCULATIONS. PANEL P AIC RATING SHALL COMPLY WITH NEC 2014 ARTICLE 110.10 AND 110.9

Conditions: Single family dwelling, air-conditioning load is larger than heating load.
(Based on NEC 220.82)

Existing plus Added Loads (less HVAC)

2680	sq. ft. @ 3 watts sq. ft	8040	watts
2	Small Appliance Circuits @ 1500 watts ea. **(Minimum is 2)**	3000	watts
2	Laundry Circuit(s) @ 1500 watts ea. **(Minimum is 1)**	3000	watts
500	Range **(Nameplate Rating)**	500	watts
10000	Electric Clothes Dryer **(Enter larger: 5000 Watts or Nameplate Rating)**	10000	watts
1200	Dishwasher	1200	watts
800	Disposal	800	watts
500	Sump Pump	500	watts
1500	Microwave Oven	1500	watts
1200	Refrigerator	1200	watts
	Total Calculated Load (less HVAC)	**29740**	**watts**

Service Demand

General Load:

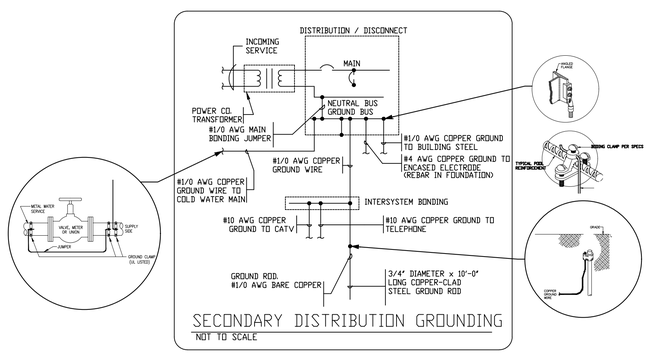
First 10kw of Total Calculated Load (less HVAC) @ 100%	10000	watts
Remainder of Total Calculated Load (less HVAC) @ 40%	7896	watts
Total General Load	**17896**	**watts**

HVAC Load:

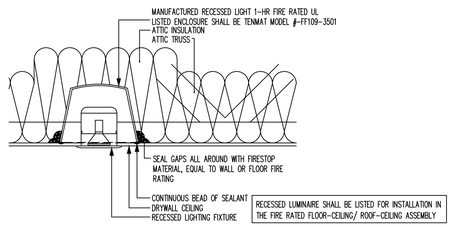
2330	Air Conditioning Load @ 100% (Volts X Amps = Watts)	2330	watts
2590	Furnace/Air Handler Load (Volts X Amps = Watts)	2590	watts
	Total HVAC Load	**4920**	**watts**

Total General Load		+	Total HVAC Load		=	Calculated Service Load	
17896	watts	+	4920	watts	=	22816	watts

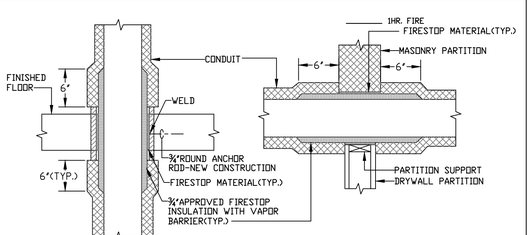
Calculated Service Load		÷	Service Voltage		=	Minimum Service Ampacity	
22816	watts	÷	240	volts	=	95.07	amps



SECONDARY DISTRIBUTION GROUNDING
NOT TO SCALE



AIR SEALING AT RECESSED LIGHTING IN CEILING
NTS



FLOOR OR DECK PENETRATION — PARTITION OR CHASE PENETRATION

NOTE:

APPLICABLE TO PENETRATIONS OF ALL FIRE RATED MEMBRANES, IN ACCORDANCE WITH 2012 IBC 714. REFER UL LISTED FIRE STOPPING SYSTEMS UL-1479, UL-2043

PENETRATION OF FIRE/SMOKE BARRIERS
NOT TO SCALE

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ELECTRICAL POWER RISER DIAGRAM & PANEL

E003

DATE: 09-24-2022

PLUMBING

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE GOVERNING CODES AND REGULATIONS.

2015 IRC INTERNATIONAL RESIDENTIAL CODE FOR ONE- AND TWO-FAMILY DWELLINGS
2017 DCMR SUPPLEMENTARY CODE

WHERE ANY PORTION OF THE SYSTEM SHOWN IS NOT IN ACCORDANCE WITH ALL APPLICABLE LAWS, ORDINANCES, REGULATIONS OR CODES, THIS CONTRACTOR SHALL MAKE ALL CHANGES REQUIRED BY THE ENFORCING AUTHORITIES IN A MANNER APPROVED BY THE ENGINEER AND AT NO ADDITIONAL COST TO THE OWNER.
2. THIS CONTRACTOR SHALL ORDER AND OBTAIN ALL NECESSARY TESTS, PERMITS AND CERTIFICATES OF APPROVAL AND PAY ANY REQUIRED FEES FOR IT.
3. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.4. ALL EQUIPMENT, FIXTURES AND MATERIALS SHALL BE NEW AND SHALL BE INSTALLED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
7. EQUIPMENT CAPACITIES AND MANUFACTURER MODEL NUMBERS ARE INDICATED ON THE DRAWINGS.
8. ALL EQUIPMENT REQUIRING ELECTRIC POWER SHALL BE SUITED FOR USE WITH THE POWER TO BE SUPPLIED. SEE ELECTRICAL DRAWINGS. ALL ELECTRICAL REQUIREMENTS SHALL BE COORDINATED WITH THE ELECTRICAL CONTRACTOR.
9. THIS CONTRACTOR SHALL COORDINATE ALL HIS WORK WITH THE GENERAL CONTRACTOR FOR THE EXACT LOCATION OF CHASES, FURRING SPACES, DROPPED CEILINGS, STRUCTURE PENETRATIONS, PAINTING, ETC.
10. THIS CONTRACTOR SHALL INSTRUCT THE OWNER IN THE OPERATION AND MAINTENANCE OF ALL COMPONENTS OF THE INSTALLATION. A ONE YEAR SERVICE CONTRACT SHALL BE INCLUDED AS PART OF THIS WORK.
11. CORE DRILLING SHALL NOT BE DONE UNTIL THE AREA TO BE DRILLED IS X-RAYED AND WRITTEN APPROVAL IS OBTAINED FROM THE PROJECT STRUCTURAL ENGINEER AND OWNER.
BASIC MATERIALS AND METHODS

1. ALL PIPING CONNECTIONS TO EQUIPMENT SHALL BE MADE WITH GROUND JOINT UNIONS.
2. ALL HOT WATER AND TEMPERED WATER PIPING FROM THE SOURCE OF HOT WATER TO THE FIXTURES MUST NOT EXCEED 50 FEET IN LENGTH.
3. PIPE HANGER AND SUPPORTS: CLEVIS OR SPLIT RING TYPE SPACING AND ROD SIZE AS RECOMMENDED IN MSSSP-69, MECHANICAL CODE AND IN ACCORDANCE WITH INDUSTRY PRACTICE. SELECT TO FIT AROUND BARE PIPE OR AROUND INSULATION WITH INSULATION SADDLE/SHIELD FOR INSULATED PIPING. HANGERS FOR COPPER PIPE SHALL BE COPPER OR COPPER PLATED. BAND IRON HANGERS SHALL NOT BE USED. HANGERS AND ACCESSORIES SHALL BE F&M CORPORATION OR APPROVED EQUAL.
4. PIPE SUPPORTS: SUPPORTS TO BE PROVIDED IN ACCORDANCE WITH APPLICABLE CODES AND IN ACCORDANCE WITH INDUSTRY PRACTICE. STEEL RISER CLAMPS WITHPLASTIC COATING OR COPPER PLATED OR COOPER PIPES. F & M CORPORATION OR EQUAL.
PIPING SPECIALTIES

1. PROVIDE FACTORY FABRICATED PIPING SPECIALTIES OF TYPES RECOMMENDED BY MANUFACTURERS FOR SERVICES INDICATED.
2. PROVIDE ESCUTCHEON PLATES WHEREVER PIPES PASS THROUGH WALLS, FLOORS OR CEILINGS, OUTSIDE DIAMETER TO COVER COMPLETELY PIPE PENETRATION HOLE OR PIPING SLEEVE, NICKEL OR CHROME FINISH FOR EXPOSED AREAS, PRIME PAINT FINISH FOR CONCEALED AREAS.
3. UNIONS: PROVIDE DIELECTRIC UNIONS AT CONNECTIONS BETWEEN FERROUS AND NON-FERROUS PIPING. EPCO, STOCKHAM OR EQUAL.

INSULATION

1. PROVIDE INSULATION FOR PIPING, AND EQUIPMENT OF TYPES AND THICKNESS SPECIFIED HEREIN. INSULATION SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50. INSTALL INSULATION IN STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. A CONTINUOUS VAPOR BARRIER SHALL BE PROVIDED ON ALL COLD WATER PIPING AND COLD AIR DUCTWORK. INSULATION SHALL BE ARMSTRONG, CERTAINTEED, OWENS-CORNING OR JOHNS-MANVILLE.
2. PIPING INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED FROM DAMAGE, INCLUDING THAT DUE TO SUNLIGHT, MOISTURE, EQUIPMENT MAINTENANCE AND WIND, AND SHALL PROVIDE SHIELDING FROM SOLAR
3. INSULATE ALL HOT WATER PIPE WITH A MINIMUM THERMAL RESISTANCE (R-VALUE) OF R-3.

FOR AUTOMATIC-CIRCULATING HOT WATER AND HEAT-TRACED SYSTEMS, PIPING SHALL BE INSULATED WITH NOT LESS THAN 1 INCH OF INSULATION HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 BTU PER INCH/H X FT2 X°F.

PIPING INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED FROM DAMAGE, INCLUDING THAT DUE TO SUNLIGHT, MOISTURE, EQUIPMENT MAINTENANCE AND WIND, AND SHALL PROVIDE SHIELDING FROM SOLAR PIPING
1. INSTALL PIPE TUBE AND FITTINGS IN ACCORDANCE WITH INDUSTRY PRACTICE WHICH WILL ACHIEVE PERMANENTLY LEAKPROOF PIPING SYSTEMS, CAPABLE OF PERFORMING EACH INDICATED SERVICE WITHOUT PIPING FAILURE. TEST PIPING FOR LEAKAGE. REPAIR PIPING SYSTEMS SECTIONS WHICH FAIL TEST BY DISASSEMBLY AND RE-INSTALLATION, USING NEW MATERIALS TO THE EXTENT REQUIRED TO OVERCOME LEAKAGE. UNDER NO CIRCUMSTANCES USE CHEMICALS, STOP-LEAK COMPOUNDS, MASTICS, TAPES OR OTHER TEMPORARY REPAIR METHODS.
2. ALL SANITARY PIPING SHALL BE SLOPED AS NOTED ON PLANS. WHERE NOT NOTED, SLOPE PIPING AT MINIMUM REQUIRED BY CODE.
3. ALL PIPING SHOWN ON THE FLOOR PLANS SHALL BE LOCATED ABOVE THE CEILING OR INSIDE CHASES UNLESS OTHERWISE NOTED.
4. STORM, WASTE AND VENT PIPING SHALL BE SERVICE WEIGHT NO-HUB CAST IRON PIPE AND FITTINGS CISPI 301, HUB & SPIGOT SOIL PIPE AND FITTINGS ASTM A-74, GALVANIZED STEEL PIPE WITH DRAINAGE PATTERN SCREWED GALVANIZED CAST IRON FITTINGS ANSI/ASTM A-74 OR DWV COPPER WITH WROUGHT COPPER FITTINGS, ASTM B306. OR SCHEDULE 40 PVC
5. DOMESTIC WATER PIPING SHALL BE TYPE 'L' HARD-DRAWN TEMPER, WROUGHT COPPER FITTINGS. NON-LEAD SOLDERED JOINTS WITH NON-CORROSIVE FLUX, ANSI B-88.

CLEANOUTS:

1. CLEANOUTS SHALL BE INSTALLED NOT MORE THAN 50 FT. APART IN HORIZONTAL DRAINAGE LINES. A CLEANOUT SHALL BE PROVIDED AT THE BASE OF EACH VERTICAL WASTE, SOIL STACK, OR RAINLEADER. THERE SHALL BE A CLEANOUT AT THE JUNCTION OF THE SANITARY BUILDING DRAINS AND BUILDING SEWERS, AND THE STORM AND BUILDING SEWERS.

2. CLEANOUTS ON CONCEALED PIPING SHALL BE EXTENDED THROUGH AND TERMINATE FLUSH WITH THE FINISHED WALL OR FLOOR WITH ACCESS COVER OF SUFFICIENT SIZE TO PERMIT REMOVAL OF THE CLEANOUT PLUG. CLEANOUTS SHALL NOT BE INSTALLED IN AREAS OF FLOORS TO RECEIVE TERRAZZO, CERAMIC TILE OR STONE FINISH.

3. CLEANOUTS SHALL BE INSTALLED SO THAT THE CLEANOUT OPENS IN THE DIRECTION OF THE DRAINAGE LINE OR AT RIGHT ANGLES THERETO.

4. CLEANOUTS SHALL BE OF THE SAME NOMINAL SIZE AS THE PIPES THEY SERVE UP TO 4" AND NOT LESS THAN ONE NOMINAL PIPE SIZE SMALLER FOR LARGER PIPE.

5. A FIXTURE TRAP OR A FIXTURE WITH INTEGRAL TRAP, READILY REMOVABLE WITHOUT DISTURBING CONCEALED PIPING, MAY BE ACCEPTED AS A CLEANOUT EQUIVALENT.

6. CLEANOUTS SHALL BE ' ZURN', 'JAY R. SMITH', 'WADE', OR 'JOSAM'.

A. EXPOSED CONCRETE FLOOR: Z-1400-HB
B. KITCHEN FLOORS: ZN-1400
C. TILE FLOORS: ZN-1400-X
D. CARPETED FLOORS: ZN-1400-CM
E. FINISHED FLOORS: ZN-1400
F. FINISHED WALLS: Z-1445-1468 ACCESS COVER AND PLUG.
G. EXPOSED PIPING: Z-1445
H. EXTERIOR (CONCRETE): Z-1449

7. LOCATE CLEANOUTS IN ACCESSIBLE LOCATIONS WHEREVER POSSIBLE, ABOVE SUSPENDED CEILINGS ETC. IF LOCATED ABOVE OR BEHIND DRYWALL CEILINGS, PROVIDE STEEL ACCESS PANELS DIRECTLY IN FRONT OF VALVES. PROVIDE CHROME PLATED BRASS COVER PLATES FOR CLEANOUTS LOCATED WITHIN DRYWALL PARTITIONS. LOCATIONS MUST BE COORDINATED AND APPROVED BY ARCHITECT PRIOR TO INSTALLATION OF PIPING SYSTEM.

VALVES

1. GATE VALVES, 2-INCH AND SMALLER: MSS SP-80; CLASS 125, BODY AND BONNET OF ASTM B 62 CAST BRONZE; WITH THREADED OR SOLDER ENDS, SOLID DISC, COPPER-SILICON ALLOY STEM, BRASS PACKING GLAND, "TEFLON" IMPREGNATED PACKING, AND MALLEABLE IRON HANDWHEEL. PROVIDE CLASS 150 VALVES MEETING THE ABOVE AND MALLEABLE IRON HANDWHEEL. PROVIDE CLASS 150 VALVES MEETING THE ABOVE WHERE SYSTEM PRESSURE REQUIRES. DO NOT USE SOLDER END VALVES FOR HOT WATER HEATING OR STEAM PIPING APPLICATIONS.
2. BALL VALVES: 2-PIECE, BRONZE BODY, BLOW-OUT PROOF STEM, METAL BALL, TEFLON SEAL RING, SCREWED OR SOLDERED ENDS, 400 LB. WOG. NIBCO OR STOCKHAM.
3. PROVIDE VALVES FOR THE FOLLOWING SERVICES:
a. DOMESTIC WATER 1" AND LARGER - GATE VALVE
b. DOMESTIC WATER SMALLER THAN 1" - BALL VALVE
4. LOCATE VALVES IN ACCESSIBLE LOCATIONS WHEREVER POSSIBLE, ABOVE SUSPENDED CEILINGS ETC. IF LOCATED ABOVE OR BEHIND DRYWALL CEILINGS OR WALLS, PROVIDE STEEL ACCESS PANELS DIRECTLY IN FRONT OF VALVES. LOCATION MUST BE COORDINATED AND APPROVED BY ARCHITECT PRIOR TO INSTALLATION OF PIPING SYSTEM.

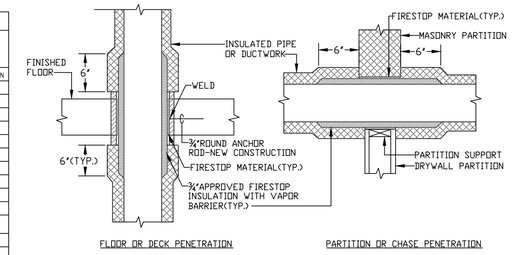
FIXTURES

1. FIXTURES, FITTINGS, TRIM AND ACCESSORIES SHALL BE SAME MANUFACTURERS TO THE EXTENT POSSIBLE.
2. BARRIER FREE STANDARDS: COMPLY WITH APPLICABLE ANSI STANDARDS PERTAINING TO PLUMBING FIXTURES AND SYSTEMS INCLUDING ANSI A 117.1 STANDARD PERTAINING TO PLUMBING FIXTURES FOR THE HANDICAPPED. COMPLY WITH THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT". FIXTURES DESIGNATED BARRIER FREE ARE INTENDED TO BE "USABLE BY PHYSICALLY HANDICAPPED PEOPLE". FIXTURES FOR USE BY HANDICAPPED PEOPLE SHALL BE INSTALLED IN ACCORDANCE WITH ANSI A 117.1.
3. ENERGY CONSERVATION CODE COMPLIANCE: COMPLY WITH LOCAL AUTHORITY STANDARDS FOR PLUMBING FIXTURE FLOW CONTROLS. WHERE NO CODE OR STANDARD IS IN USE, USE THE CURRENT 2012 IECC. WHEN A SPECIFIED DEVICE IS MORE RESTRICTIVE THAN THE LOCAL STANDARDS, THE SPECIFIED DEVICE SHALL BE INSTALLED EXCEPT WHERE PROHIBITED.
4. SUBMIT MANUFACTURER'S SPECIFICATIONS FOR PLUMBING FIXTURES AND TRIM, INCLUDING CATALOG LITERATURE AND MANUFACTURER'S NAME OF EACH FIXTURE TYPE AND TRIM ITEM FURNISHED, ROUGHING-IN DIMENSIONED DRAWINGS, FIXTURE CARRIERS, AND INSTALLATION INSTRUCTIONS. PROPOSED SUBSTITUTIONS SHALL BE INDICATED AND DRAWINGS, CATALOG LITERATURE, OR OTHER DATA SHALL BE FURNISHED FOR COMPARISON.
5. FIXTURES SHALL BE WHITE EXCEPT WHERE INDICATED OTHERWISE OR WHERE FIXTURE IS PROVIDED IN A MANUFACTURED FINISH.
6. EXPOSED METAL FITTINGS, TRIM, AND ACCESSORIES SHALL HAVE POLISHED CHROME PLATED FINISH.
7. SUPPLIES: PROVIDE A STOP ON EACH WATER SUPPLY TO EACH FIXTURE. PROVIDE ACCESS PANELS FOR CONCEALED STOPS.
8. TRAPS: PROVIDE A TRAP ON EACH FIXTURE, EXCEPT WHERE FIXTURE SPILLS OVER A PROPERLY TRAPPED DRAIN OR OTHER RECEPTOR. ALL SINK AND LAVATORY TRAPS SHALL BE CHROME PLATED CAST BRASS SWIVEL PATTERN WITH CLEANOUT. ALL TUBING DRAINS SHALL BE MINIMUM 17 GAUGE THICKNESS CHROME PLATED METAL.
9. ESCUTCHEONS: PROVIDE DEEP PATTERN ESCUTCHEONS FOR SUPPLIES AND TRAPS WHERE ROUGH-IN PIPING WOULD BE VISIBLE USING STANDARD ESCUTCHEONS.

PLUMBING LEGEND

THIS LEGEND IS A MASTER OF PLUMBING SYMBOLS AND IS NOT INTENDED TO BE A SPECIFICATION OF PRODUCTS FOR THIS PROJECT

SYMBOL	DESCRIPTION	ABBREVATION
	SOIL/WASTE PIPE	SP/WP
	STORM PIPE	ST
	VENT PIPE	VP
	COLD WATER PIPE	CW
	HOT WATER PIPE	HW
	BALL VALVE	
	CHECK VALVE	
	GAS COCK	
	UNION	
	CLEANOUTS	CO
	SHOCK ABSORBER	SA
	WALL HYDRANT/HOSE BIBB	WH/HB
WS	WET STACK	WS
RL	RAIN LEADER	RL
	FLOOR DRAIN	FLD
	OPEN DRAIN	OD
	SIDEWALL SPRINKLER	SPKR
	BACK FLOW PREVENTER	BFP
	EXTEND AND CONNECT TO EXISTING PIPE OF EQUAL OR LARGER SIZE. LOCATE IN FIELD AND VERIFY INVERTS PRIOR TO EXCAVATIONS FOR NEW PIPING SYSTEM	



FLOOR OR DECK PENETRATION PARTITION OR CHASE PENETRATION

NOTE:

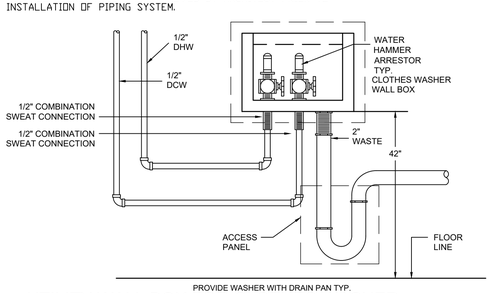
APPLICABLE TO PENETRATIONS OF ALL FIRE RATED MEMBRANES, IN ACCORDANCE WITH NFPA 101. REFER TO SPECIFICATIONS SECTION 07270, FIRE STOPPING SYSTEMS.

PENETRATION OF FIRE/SMOKE BARRIERS

NOT TO SCALE

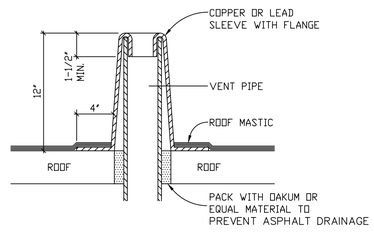
PLUMBING FIXTURE CONNECTION SCHEDULE

ITEM	DESCRIPTION	WASTE	H.W.	C.W.	MAX FLOW RATE	REMARKS	NOTES
WC	WATER CLOSET	3"	-	1/2"	1.28 GALLONS PER FLUSHING CYCLE	FLOOR MOUNTED/TANK TYPE WATERSENSE LABELED	
LAV	LAVATORY,	1-1/2"	1/2"	1/2"	1.5 GPM @ 60PSI	COUNTER TOP WATERSENSE LABELED	
BT	BATHTUB	2"	1/2"	1/2"	2.0 GPM AT 80PSI	WATERSENSE LABELED WITH ANTI SCALD VALVE	
SH	SHOWER,	2"	1/2"	1/2"	2.0 GPM AT 80PSI		
KS	KITCHEN SINK	1-1/2"	1/2"	1/2"	2.2 GPM AT 60PSI	COUNTER TOP	
CW	CLOTHES WASHER	2"	1/2"	1/2"		WASHER SUPPLY AND DRAIN BOX	
FD	FLOOR DRAIN	2"	-	-		WITH TRAP PRIMER	
LT	LAUNDRY TUB	2"	1/2"	1/2"			
HB	HOSE BIB	-	-	1/2"		INTEGRATED VACUUM BREAKER	



UTILITY WALL BOX FOR CLOTHES WASHER

N.T.S.



VENT THRU ROOF DETAIL

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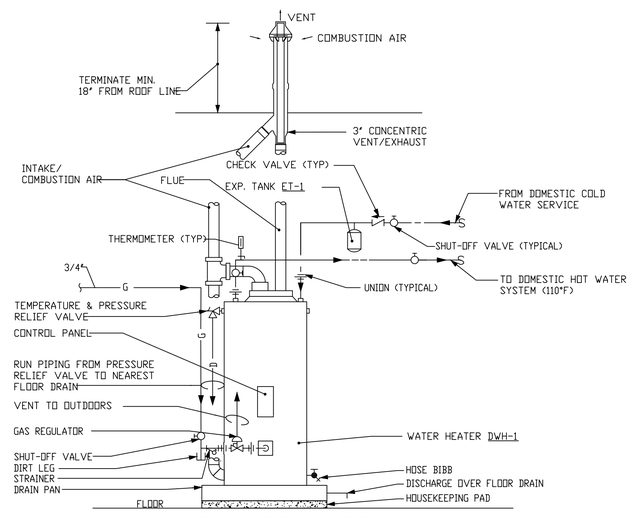

GAS-FIRED WATER HEATER

NO SCALE

WH 1 "AO SMITH" MODEL #GDHE-75 VERTEX, 75 GAL, 100,000 BTU INPUT. THERMAL EFFICIENCY 96% - ENERGY FACTOR 86% - RECOVERY RATE 129 GPH. SET WATER HEATER THERMOSTAT TO 110°F(ENERGY STAR)

TEMPERATURE CONTROLS SHALL BE PROVIDED THAT ALLOW FOR STORAGE TEMPERATURE ADJUSTMENT FROM 120°F OR LOWER TO A MAXIMUM TEMPERATURE COMPATIBLE WITH THE INTENDED USE.

PLASTIC PIPE AND FITTINGS USED TO VENT APPLIANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLIANCE MANUFACTURER'S INSTRUCTIONS. PLASTIC PIPE VENTING MATERIALS LISTED AND LABELED IN ACCORDANCE WITH UL 1738 SHALL BE INSTALLED IN ACCORDANCE WITH THE VENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. FLUID PVC PIPING SHALL NOT BE USED FOR COMBUSTION GAS VENTING.

PLUMBING GENERAL NOTES

1. PLUMBING SYSTEM
   A. ALL PLUMBING WORK SHALL BE PERFORMED PER REQUIREMENTS OF LOCAL CODES AND REGULATIONS.
   B. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR LIMITS OF WORK AND BUILDING STANDARDS.
   C. COORDINATE WORK WITH ALL OTHER TRADES AND INSPECT EXISTING CONDITIONS PRIOR TO BEGINNING INSTALLATION. SCHEDULE WITH THE OWNER TEMPORARY SHUT-OFF SERVICES TO PUBLIC/OTHER AREAS.
   E. INSTALL AND CONCEAL ALL WASTE, VENT AND WATER PIPING BETWEEN FLOOR AND CEILING OR WITHIN PARTITIONS AND/OR WALLS.
   F. CONTRACTOR SHALL IDENTIFY THE EXACT LOCATION, AND SIZE OF EXISTING PLUMBING PIPING AND STACKS, BEFORE THE START OF WORK.

STORM DRAINAGE NOTES:
STORM DRAINS AND PIPING SYSTEM SIZED FOR A MAXIMUM RATE OF RAINFALL OF 3.2" PER HOUR FOR A ONE HOUR DURATION AND A ONE HUNDRED YEAR RETURN PERIOD. CONVENTIONAL ROOF DRAINAGE AT 0.0333 GPM PER SQ. FT.

SPRINKLER SYSTEM NOTES:

1. PROVIDE AND INSTALL FOR ENTIRE BUILDING, INCL. MECHANICAL AND ELECTRICAL ROOMS, A FULLY AUTOMATIC WET TYPE SPRINKLER SYSTEM, HYDRAULICALLY CALCULATED IN ACCORDANCE WITH NFPA 13D AND ALL CODES, LAWS AND REGULATIONS GOVERNING THE CONSTRUCTION OF THIS BUILDING. COORDINATE SPRINKLER MAINS AND BRANCHES WITH LIGHTS, DUCTS, PIPES AND TRUCTURAL MEMBERS. SPRINKLER SYSTEM IS A DESIGN/BUILD CONTRACT.
2. COORDINATE CROSS-OVERS AND PARALLEL PIPING SYSTEMS SO THAT SPRINKLER PIPE REMAINS AS HIGH AS POSSIBLE.
3. FINAL METHOD OF SPRINKLER PIPING PATTERN SHOULD TAKE INTO ACCOUNT MAXIMUM SYSTEM ELEVATIONS AS WELL AS HYDRAULIC CALCULATIONS, LOCAL CODE REQUIREMENTS, AND PIPING ECONOMIES.
4. COORDINATE WITH ELECTRICAL CONTRACTOR TO ENSURE COMPLIANCE WITH N.E.C. ARTICLES 110 AND 384 FOR CLEARANCES AROUND ELECTRICAL DISTRIBUTION EQUIPMENT (PANELBOARDS, SWITCHBOARDS, DISCONNECTS, ETC.). LOCATE PIPING IN FIELD AS REQUIRED TO ASSURE COMPLIANCE REGARDLESS OF WHERE PIPING IS SHOWN ON PLANS.
5. PIPING SHALL BE BLACK STEEL OR PLASTIC. BALCK STEEL SHALL BE SCHEDULE 40 PIPE WITH CLASS 125 CAST-IRON THREADED OR GROOVED FITTINGS. PLASTIC PIPE SHALL BE CHLORINATED POLYVINYL CHLORIDE (CPVC) CONFORMING TO ASTM F442/F442M, 175 PSI RATING AND LISTED IN UL FIRE PROTECTION DIR FOR USE IN WET PIPE SPRINKLER SYSTEMS.
6. SPRINKLER HEADS SHALL BE UL LISTED FOR THEIR INTENDED APPLICATIONS. USE QUICK RESPONSE HEADS WHEREVER APPLICABLE
7. SPRINKLER DESIGN SHOULD TAKE INTO ACCOUNT ALL OTHER PROPOSED INSTALLATIONS TO AVOID CONFLICT.

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NEW
ROW HOUSE

3314 VOLTA PL NW
WASHINGTON, DC 20007

LOT: 0889 SQUARE: 1254

PLUMBING COVER SHEET

P000

DATE: 09-24-2022

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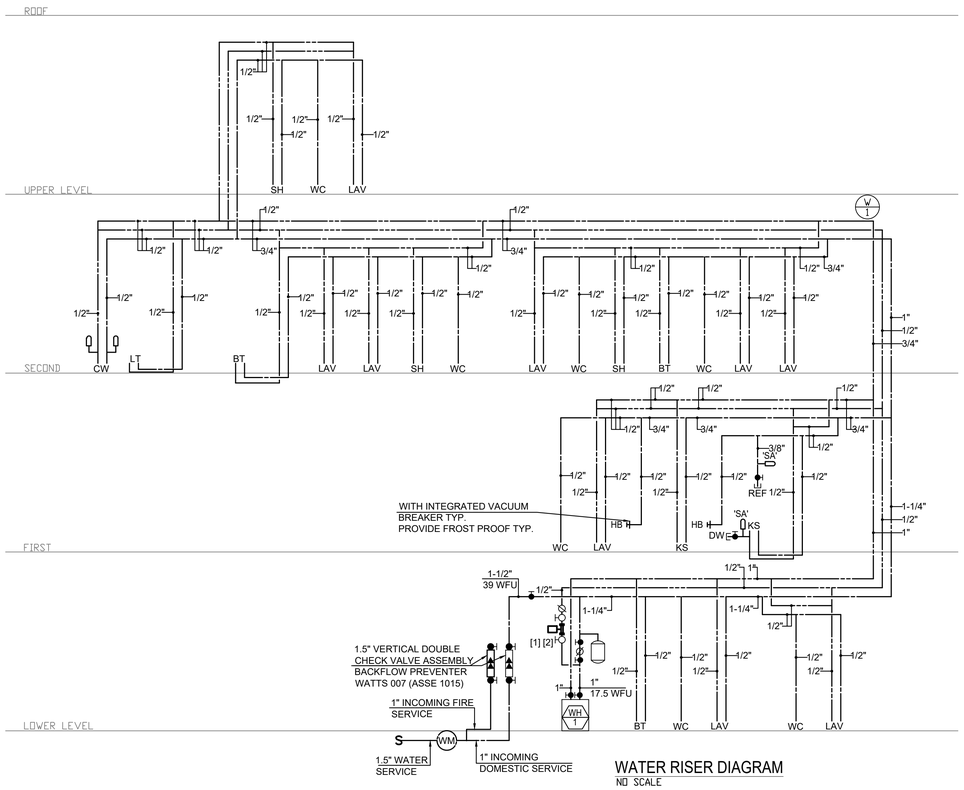
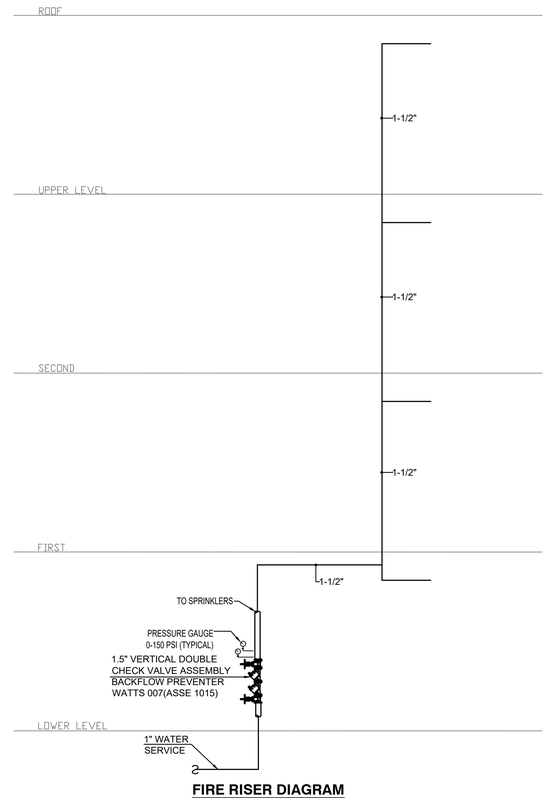


WATER RISER DIAGRAM

NO SCALE

[1] TACO HW RE-CIRCULATOR MODEL SMART PLUS WITH PRESSURE SWITCH

[2] THE CONTROL SHALL START THE PUMP UPON RECEIVING A SIGNAL FROM ACTION OF A USER OF A FIXTURE OR APPLIANCE, SENSING THE PRESENCE OF A USER OF A FIXTURE OR SENSING THE FLOW OF HOT OR TEMPERED WATER TO A FIXTURE FITTING OR APPLIANCE. THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD WATER PIPING 104 °F(40°C)



FIRE RISER DIAGRAM

NO SCALE

DISINFECTION OF POTABLE WATER SYSTEM GENERAL: NEW OR REPAIRED POTABLE WATER SYSTEMS SHALL BE PURGED OF DELETERIOUS MTTER AND DISINFECTED PRIOR TO UTILIZATION. THE METHOD TO BE FOLLOWED SHALL BE THAT PRESCRIBED BY THE HEALTH AUTHORITY OR WATER PURVEYOR HAVING JURISDICTION OR, IN THE ABSENCE OF A PRESCRIBED METHOD, THE PROCEDURE DESCRIBED IN EITHER AWWA C651 OR AWWA C652, OR AS DESCRIBED IN THIS SECTION. THIS REQUIREMENT SHALL APPLY TO "ONSITE" OR "IN-PLANT" FABRICATION OF A SYSTEM OR TO A MODULAR PORTION OF A SYSTEM.

1. THE PIPE SYSTEM SHALL BE FLUSHED WITH CLEAN, POTABLE WATER UNTIL DIRTY WATER DOES NOT APPEAR AT THE POINTS OF OUTLET.
2. THE SYSTEM OR PART THEREOF SHALL BE FILLED WITH A WATER/ CHLORINE SOLUTION CONTAINING NOT LESS THAN 50 PARTS PER MILLION (50 MG/L) OF CHLORINE, AND THE SYSTEM OR PART THEREOF SHALL BE VALVED OFF AND ALLOWED TO STAND FOR 24 HOURS; OR THE SYSTEM OR PART THEREOF SHALL BE FILLED WITH A WATER/ CHLORINE SOLUTION CONTAINING NOT LESS THAN 200 PARTS PER MILLION (200 MG/L) OF CHLORINE AND ALLOWED TO STAND FOR 3 HOURS.
3. FOLLOWING THE REQUIRED STANDING TIME, THE SYSTEM SHALL BE FLUSHED WITH CLEAN POTABLE WATER UNTIL THE CHLORINE IS PURGED FROM THE SYSTEM.
4. THE PROCEDURE SHALL BE REPEATED WHERE SHOWN BY A BACTERIOLOGICAL EXAMINATION THAT CONTAMINATION REMAINS

A WATER-HAMMER ARRESTOR SHALL BE INSTALLED WHERE QUICK-CLOSING VALVES ARE UTILIZED. WATER-HAMMER ARRESTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. WATER-HAMMER ARRESTORS SHALL CONFORM TO ASSE1010.

INDIVIDUAL SHOWER AND TUBSHOWER COMBINATION VALVES SHALL BE BALANCED-PRESSURE, THERMOSTATIC OR COMBINATION BALANCED-PRESSURE /THERMOSTATIC VALVES THAT CONFORM TO THE REQUIREMENTS OF ASSE 1016 OR ASME A112.18.1/CSA B125.1 AND SHALL BE INSTALLED AT THE POINT OF USE.

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WASHINGTON, DC 20007

LOT: 0889 SQUARE: 1254

PLUMBING RISERS

P001

DATE: 09-24-2022

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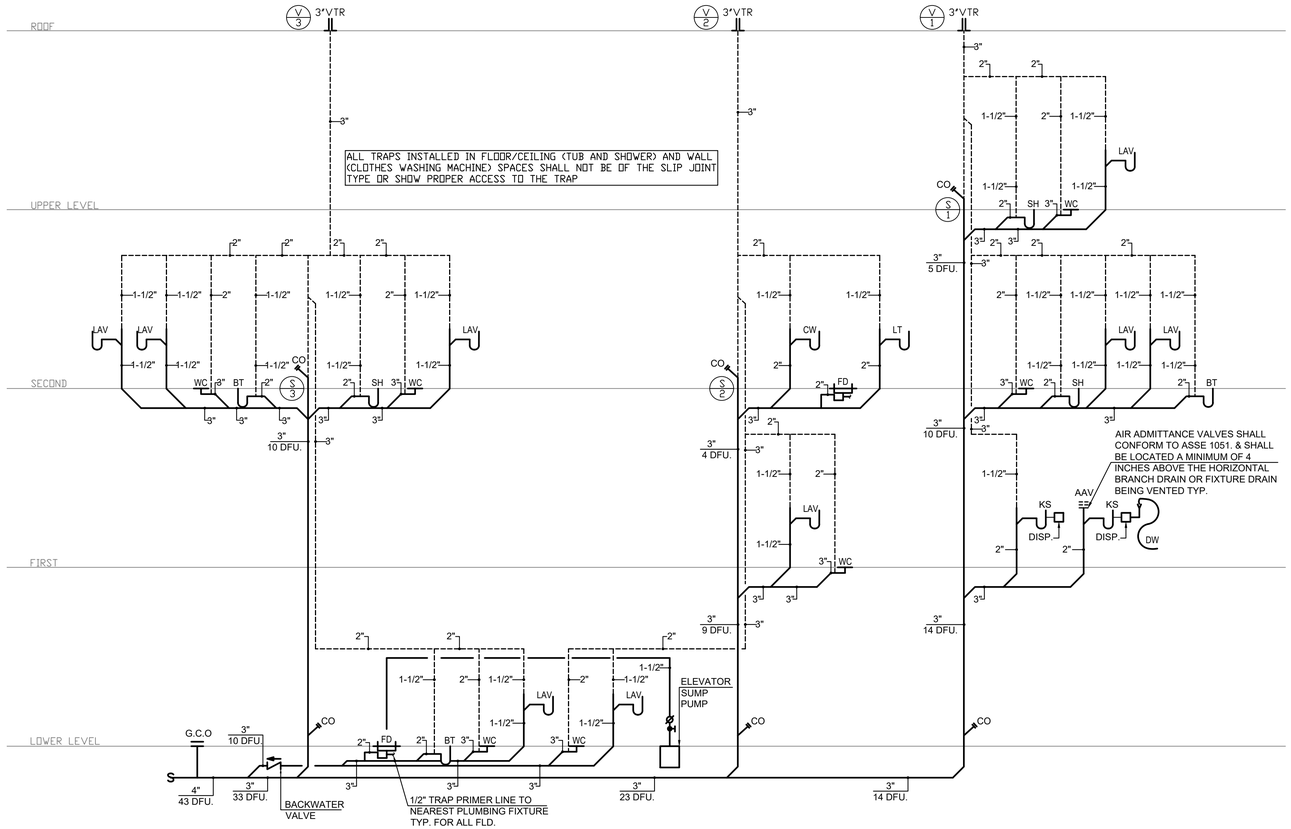
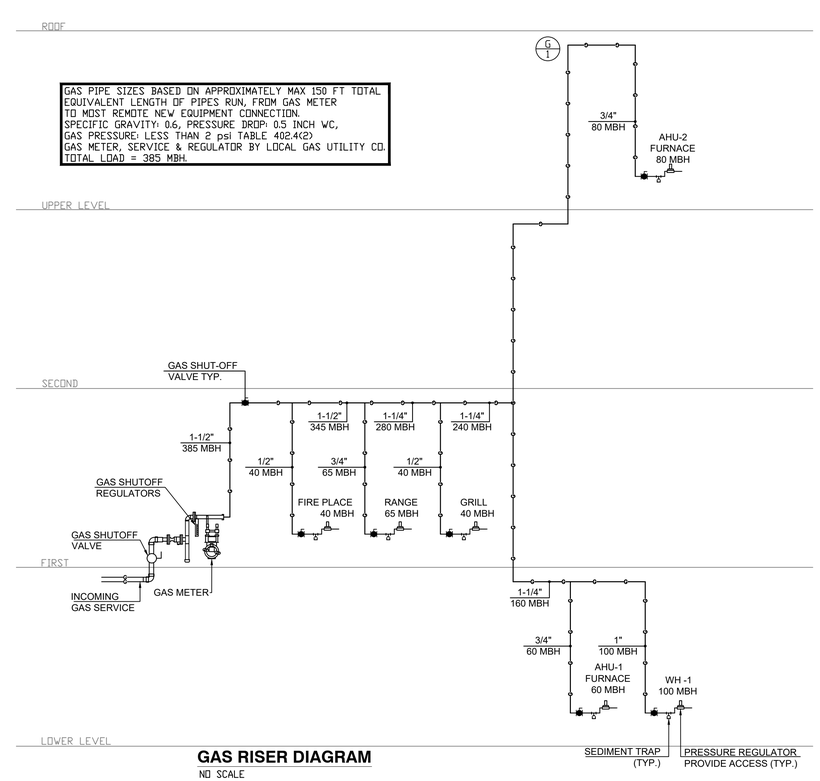


SANITARY RISER DIAGRAM

NO SCALE



GAS RISER DIAGRAM

NO SCALE

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P002

DATE: 09-24-2022

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DOEE APPROVAL STAMPS

GENERAL NOTES

1) TWO-FOOT CONTOUR DATA BASED ON A SURVEY PERFORMED BY CAS ENGINEERING, DATED MAY, 2022.

2) BOUNDARY INFORMATION BASED ON A SURVEY PERFORMED BY CAS ENGINEERING, DATED MAY, 2022, AND A SURVEY-TO-MARK PERFORMED BY CAS ENGINEERING, DATED MAY, 2022 (RECORDATION PENDING). MEASUREMENTS: "(R)" DENOTES RECORD DIMENSIONS, "(S)" DENOTES SURVEY DIMENSIONS, SHOWN HEREON.

3) ZONING: R-20
MINIMUM LOT WIDTH = 20 FEET
MINIMUM LOT AREA = 2,000 SQUARE FEET
MAXIMUM BUILDING HEIGHT = 35 FEET / 3 STORIES
FRONT B.R.L. = NONE PER DC SURVEYORS OFFICE
MINIMUM REAR YARD = 20 FEET
MINIMUM SIDE YARD = NONE REQUIRED
MAXIMUM LOT OCCUPANCY = 60%
MINIMUM PERVIOUS SURFACE COVERAGE = 20%

NOTE: SITE IS LOCATED IN THE GEORGETOWN HISTORIC DISTRICT AND THE COMMISSION OF FINE ARTS JURISDICTION AREA AND MAY BE SUBJECT TO ADDITIONAL REVIEWS/REQUIREMENTS.

4) TOTAL LOT AREA: LOT 0889 = 9,736 SQUARE FEET (0.224 ACRES)

5) PROJECT IS WITHIN FLOOD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS PER FEMA FLOOD INSURANCE RATE MAP PANEL No. 1100010012C.

6) D.C. STANDARD DETAILS (DDOT, DOEE, DC WATER, ETC.) WHERE SHOWN ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL OBTAIN THE MOST CURRENT APPLICABLE D.C. DETAILS AND STANDARDS AND PERFORM CONSTRUCTION ACCORDINGLY.

7) CONTRACTOR IS TO VERIFY FIELD CONDITIONS PRIOR TO AND DURING CONSTRUCTION AND NOTIFY CAS ENGINEERING AT (202) 393-7200 IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THE APPROVED PLANS. CONTRACTOR SHALL HOLD WORK RELATED TO OR SURROUNDING DISCREPANCY AREAS UNTIL RESOLUTION IS AGREED UPON OR DIRECTION IS PROVIDED FROM THE ENGINEER OF RECORD.

8) CONTRACTOR SHALL OBTAIN OR ENSURE THAT OTHERS HAVE OBTAINED ALL NECESSARY PERMITS AND APPROVALS PRIOR TO PROCEEDING WITH DEMOLITION/RAZING OF EXISTING IMPROVEMENTS AND CONSTRUCTION OF NEW IMPROVEMENTS.

PROJECT NARRATIVE

THIS PROJECT PROPOSES TO RENOVATE AN EXISTING SINGLE-FAMILY ATTACHED RESIDENTIAL DWELLING, AS WELL AS CONSTRUCT TWO (2) NEW SINGLE-FAMILY ATTACHED RESIDENTIAL DWELLINGS WITH ASSOCIATED SITE APPURTENANCES.

TREE PROTECTION NOTES

CONTRACTOR TO SECURE ALL NECESSARY PERMITS, AND COORDINATE ANY DISTURBANCE WITHIN CRITICAL ROOT ZONE OR DRIP LINE OF STREET TREES WITH DDOT URBAN FORESTRY ARBORIST. DDOT UFA WARD 2 ARBORIST = MATTHEW LEHTONEN, matthew.lehtonen@dc.gov, (202) 497-0103.

1) STREET TREES TO BE PROTECTED WITH A 6-FT. TALL CHAIN LINK FENCE TO THE EXTENT OF THE TREE BOX (MINIMUM 4' x 9') OR THE DRIP LINE IN A PLANTING STRIP. DRIP LINE IS THE GROUND AREA UNDER THE CANOPY OF A TREE.

2) ALL TREE PROTECTION MEASURES AND EXCAVATION SHALL COMPLY WITH 2013 DDOT STANDARD SPECIFICATIONS (GOLD BOOK), SECTIONS 207.03, 608.07 AND 608.08.

3) NONE OF THE FOLLOWING SHALL OCCUR WITHIN THE ROOT ZONE OF A STREET TREE WITHOUT DDOT UFA PERMISSION: ALTERATION OR DISTURBANCE TO EXISTING GRADE, STAGING/STORAGE OF CONSTRUCTION MATERIALS, EQUIPMENT, SOIL OR DEBRIS, DISPOSAL OF ANY LIQUIDS (E.G. CONCRETE, GAS, OIL, PAINT AND BLACKTOP), AND TRENCHING.

4) SILT FENCE AND SUPER SILT FENCE ARE PROHIBITED WITHIN THE ROOT ZONE OF A STREET TREE. TRENCHLESS METHODS SUCH AS FILTER LOGS, STRAW BALES OR APPROVED EQUIVALENTS SHALL BE USED UNLESS SPECIFICALLY NOTED OTHERWISE.

5) ROOT ZONE IS MEASURED AT 4.5-FT. ABOVE GRADE FROM THE NEAR SIDE OF THE TRUNK TO THE DISTANCE THAT EQUALS THE TREE DIAMETER x 1.5-FEET OR TO THE DRIP LINE OF A STREET TREE, WHICHEVER IS GREATER.

6) NO HEAVY EQUIPMENT SHALL BE USED TO REMOVE EXISTING HARDSCAPE WITHIN THE DRIP LINE OF AN EXISTING STREET TREE.

7) EXCAVATIONS WITHIN THE DRIP LINE SHALL PROCEED WITH CARE BY USE OF HAND TOOLS OR EQUIPMENT THAT WILL NOT CAUSE INJURY TO TREE TRUNKS, BRANCHES AND ROOTS.

8) NO ROOTS GREATER THAN TWO (2) INCHES IN DIAMETER SHALL BE CUT WITHOUT DDOT UFA PERMISSION. EXPOSED ROOTS TWO (2) INCHES AND LARGER IN DIAMETER SHALL BE WRAPPED IN BURLAP OR OTHER APPROVED MATERIAL AND KEPT MOIST AT ALL TIMES.

9) IF THERE ARE ANY TREE CONFLICTS ON THIS JOB SITE, THE PERMIT HOLDER MUST SUSPEND ALL WORK THAT CONTRIBUTES TO THE CONFLICT AND CONTACT THE DDOT UFA WARD ARBORIST TO RECEIVE CLEARANCE TO CONTINUE.

10) IF A STREET TREE REQUIRES REMOVAL, APPLICANT MUST APPLY FOR A CONSTRUCTION/EXCAVATION PERMIT FOR ITS REMOVALS AS PER THE FOLLOWING – HEALTHY STREET TREE: LANDSCAPING – TREE REMOVAL @ $200 PER INCH DIAMETER OR UNHEALTHY STREET TREE: LANDSCAPING – TREE REPLACEMENT @ 1:1 REPLACEMENT PLANTING.

SITE CONSTRUCTION NOTES

1) PROPOSED UTILITY LOCATIONS SUBJECT TO FIELD MODIFICATION AND UTILITY COMPANY APPROVAL. FINAL GAS AND ELECTRIC ALIGNMENT SUBJECT TO UTILITY COMPANY APPROVAL.

2) CONTRACTOR TO ADJUST ALL EXISTING UTILITY TOPS (I.E. CLEANOUTS, MANHOLES, VALVE COVERS, ETC.) TO FINAL GRADE WHERE NECESSARY.

3) CONTRACTOR TO COORDINATE ABANDONMENT OF ALL EXISTING UTILITIES AS NECESSARY. FOR FIELD LOCATION AND ABANDONMENT / REMOVAL OF GAS MAINS AND ELECTRIC CONDUITS AND SERVICE CONNECTIONS, CONTRACTOR SHALL NOTIFY WASHINGTON GAS LIGHT COMPANY, (703) 750-1000 AND PEPCO, 72 HOURS PRIOR TO THE START OF ANY EXCAVATION OR CONSTRUCTION.

4) CONTRACTOR TO COORDINATE ON-SITE UTILITY CROSSINGS TO ENSURE ADEQUATE SEPARATION AT INTERSECTIONS. THE CONTRACTOR SHALL HAND DIG TEST PITS AT ALL UTILITY CROSSINGS AND CONNECTING POINTS TO DETERMINE THE EXACT LOCATION AND DEPTH WELL IN ADVANCE OF CONSTRUCTION AND ENSURE SEPARATIONS AT CROSSINGS ARE MET AS REQUIRED. CONTRACTOR TO ADJUST AS NECESSARY TO CONNECT TO EXISTING MAINS, MAINTAIN REQUIRED SLOPES AND SEPARATIONS PER PLANS.ANY FIELD MODIFICATION TO BE COORDINATED WITH APPROPRIATE UTILITY, CAS ENGINEERING-DC, LLC, AND/OR DC INSPECTOR.

5) PROPOSED RETAINING WALLS AND OTHER STRUCTURAL APPURTENANCES/FEATURES SHOWN ARE TO BE DESIGNED BY OTHERS, TYPICAL. WINDOW-WELLS AND AREAWAY WALLS SHALL HAVE A MINIMUM OF 6 INCHES FREE BOARD TO PREVENT DRAINAGE FROM ENTERING SUNKEN AREAS. CONTRACTOR TO REVIEW FOOTING DETAILS AND ELEVATIONS TO ENSURE THAT ADEQUATE BEARING CAPACITY IS OBTAINED, DEPTH EXTENDS BELOW FROST DEPTH AND THAT FOUNDATIONS/FOOTINGS DO NOT BEAR ONTO STORMWATER MANAGEMENT STRUCTURES/BMPS. CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, IDENTIFICATION OF SHEETING AND SHORING OR OTHER SUPPORT OF EXCAVATION DEVICES/METHODS AND ASSOCIATED PERMITTING, TEMPORARY WATER ACCESS TO SUBJECT PROPERTY DURING CONSTRUCTION, ETC.

6) FOR FINAL LANDSCAPE/HARDSCAPE DETAILS, SPECIFICATIONS, ELEVATIONS, AND DIMENSIONS SEE LANDSCAPE PLANS, POOL PLANS, OR ARCHITECTURAL PLANS, AS APPROPRIATE.

7) ANY NECESSARY TREE PROTECTION MEASURES, FOR ON-SITE OR OFF-SITE TREES, ARE TO BE ADDRESSED BY OTHERS UNLESS EXPLICITLY IDENTIFIED HEREIN.

8) CONTRACTOR TO MAINTAIN DRAINAGE FACILITIES ON AND THROUGH THE SITE AT ALL TIMES DURING CONSTRUCTION. UTILIZE TEMPORARY FACILITIES/FEATURES AND/OR CONNECTIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.

9) CONTRACTOR TO COMPLETE SITE GRADING AND PAVING TO ENSURE POSITIVE DRAINAGE TO ALL INLETS OR NATURAL DRAINAGE COURSES TO PREVENT PONDING AND THE CREATION OF LOW SPOTS. SUMP PUMP DISCHARGES SHALL DISCHARGE IN A MANNER TO NOT CREATE PONDING, PERSISTENT WET CONDITIONS, EROSION, STRUCTURE DAMAGE, RECIRCULATION OR NUISANCE FLOODING ONTO ANY ADJACENT PROPERTIES. SUMP PUMP DISCHARGES SHALL NOT CONCENTRATE FLOW DIRECTLY ONTO SIDEWALKS OR PUBLIC WAYS, OR THROUGH CURBS. WHEN TIED INTO THE SITE STORM DRAIN PIPE NETWORK CONNECTION SHALL BE LOOSE AND CONTAIN AN AIR GAP TO ALLOW FOR FREE DRAINAGE AND PREVENT BACKUPS INTO THE BUILDING OR FROM STOPPING PUMP OPERATION. AREAWAY AND WINDOW-WELL DRAINS TO TIE INTO BUILDING SUMP PUMP AS DESIGNED BY THE MEP ENGINEER UNLESS NOTED OTHERWISE HEREIN.

10) CONTRACTOR TO REVIEW TIE IN POINTS WITH EXISTING PAVING AND GRADING WHERE PROPOSED ON AND ADJACENT TO PROJECT SITE, ADJUST WITH TRANSITIONS AND COORDINATE WITH CAS ENGINEERING AS APPROPRIATE.

11) CONTRACTOR RESPONSIBLE FOR ENSURING THAT ROUTES MEET AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS, WHERE REQUIRED/APPLICABLE, 5% MAXIMUM SLOPE, 2% MAXIMUM CROSS SLOPE. CONTRACTOR ALSO RESPONSIBLE FOR ENSURING THAT RAMPS MEET ADA REQUIREMENTS, WHERE REQUIRED/APPLICABLE, 8.3% MAXIMUM SLOPE AND 2% MAXIMUM CROSS SLOPE.

12) CONTRACTOR TO MAINTAIN FIRE DEPARTMENT AND EMERGENCY ACCESS ROUTES TO SITE AND TO APPLICABLE APPURTENANCES (I.E. FIRE HYDRANTS) DURING CONSTRUCTION UNLESS PRIOR APPROVAL IS OBTAINED FROM APPROPRIATE DISTRICT AGENCIES.

13) CONTRACTOR RESPONSIBLE FOR ENVIRONMENTAL STUDIES, REMEDIATION PERMITS AND ABATEMENT AS REQUIRED INCLUDING, BUT NOT LIMITED TO, LEAD PAINT, ASBESTOS, ETC.

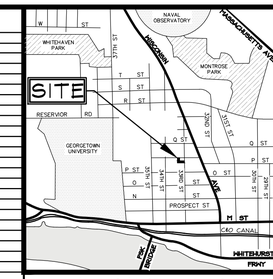
14) CONTRACTOR SHALL CONTACT DEPARTMENT OF PUBLIC WORKS – PUBLIC SPACE MAINTENANCE ADMINISTRATION, 48 HOURS PRIOR TO START OF CONSTRUCTION, AT (202) 645-7050 AND PROVIDE NOTICE AS REQUIRED/NOTED ON DDOT PERMITS OBTAINED FOR THE PROJECT.

15) THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING, REPLACING AND/OR RESTORING ANY AND ALL UTILITY SERVICE CONNECTIONS DISTURBED DURING CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE ACTIVE/INACTIVE STATUS OF ANY EXISTING UTILITIES ENCOUNTERED ON SITE AND ABANDON OR RELOCATE AS APPROPRIATE. ABANDONMENT SHALL BE IN ACCORDANCE WITH DC WATER OR OTHER APPLICABLE UTILITY COMPANY STANDARDS AND DETAILS.

16) THE CONTRACTOR SHALL PERFORM ALL CONSTRUCTION IN PUBLIC SPACE IN ACCORDANCE WITH D.C. DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND STRUCTURES, LATEST EDITION. THE CONTRACTOR SHALL OBTAIN SAID SPECIFICATIONS.

17) CONTRACTOR AND PROPERTY OWNER SHALL MAINTAIN STORMWATER MANAGEMENT FACILITIES INCLUDING, BUT NOT LIMITED TO, GUTTERS, PIPING, INLETS, SWALES, BMPS ON A REGULAR BASIS, TWICE YEARLY OR AS NECESSITATED.

INDEX OF CIVIL DRAWINGS

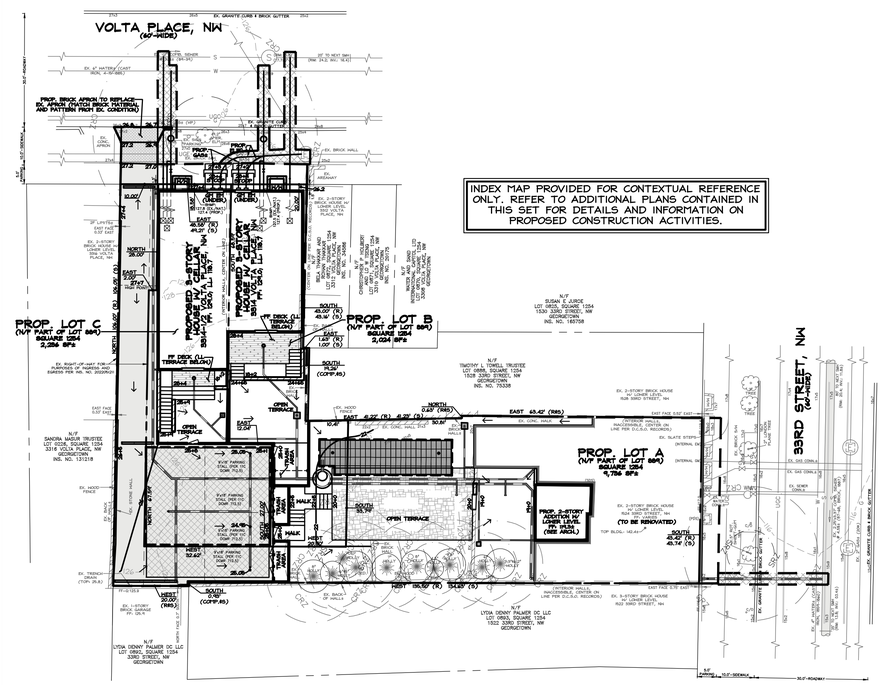


VICINITY MAP

ADC MAP 5527, GRID K-5
SCALE: 1" = 2000'

INDEX MAP/OVERALL PLAN

SCALE: 1"=20'



INDEX MAP PROVIDED FOR CONTEXTUAL REFERENCE ONLY. REFER TO ADDITIONAL PLANS CONTAINED IN THIS SET FOR DETAILS AND INFORMATION ON PROPOSED CONSTRUCTION ACTIVITIES.

STORMWATER MANAGEMENT NARRATIVE AND FACILITY PROTECTION NOTE

STORMWATER MANAGEMENT FOR THIS PROJECT WILL BE PROVIDED AS FOLLOWS:

PRIVATE PROPERTY:
- INFILTRATION TRENCH CONTAINING RAINTANK MODULES
- ENHANCED PERMEABLE PAVEMENT

PUBLIC SPACE:
- MAXIMUM EXTENT PRACTICABLE (MEP) APPROACH

SEE THIS SHEET AND CIV200/CIV400-SERIES SHEETS FOR MORE DETAILS.

PURSUANT TO DOEE REQUIREMENTS, AREAS INTENDED FOR BMP INSTALLATION INVOLVING INFILTRATION SHALL BE PROTECTED FROM COMPACTION DURING CONSTRUCTION TO THE MAXIMUM EXTENT PRACTICABLE/FEASIBLE WHILE FACILITATING OTHER CONSTRUCTION ACTIVITIES ON-SITE. COORDINATE WITH DOEE INSPECTOR AND CAS ENGINEERING-DC, LLC AS APPROPRIATE.

DC WATER NARRATIVE

THIS PROJECT PROPOSES TO RENOVATE AN EXISTING SINGLE-FAMILY ATTACHED RESIDENTIAL DWELLING, AS WELL AS CONSTRUCT TWO (2) NEW SINGLE-FAMILY ATTACHED RESIDENTIAL DWELLINGS WITH ASSOCIATED SITE APPURTENANCES. THE SCOPE OF WORK SHOWN HEREIN WILL RESULT IN THREE (3) NEW SINGLE-FAMILY RESIDENTIAL UNITS ON THREE (3) RESIDENTIAL LOTS.

THE FOLLOWING CONNECTIONS ARE TO BE ABANDONED PER DC WATER REQUIREMENTS:

NONE

THE FOLLOWING CONNECTIONS ARE TO BE REUSED:

1524 33RD STREET, NW

EX. 4" (ASSUMED) SEWER CONNECTION IN 33RD STREET, NW
EX. 1" WATER CONNECTION IN 33RD STREET, NW

NEW CONNECTIONS FOR THE PROPOSED BUILDINGS ARE AS FOLLOWS:

1524 33RD STREET, NW

6" STORM SEWER CONNECTION IN 33RD STREET, NW

3314 VOLTA PLACE, NW

1.5" COMBINED WATER CONNECTION (DOM./FIRE) IN VOLTA PLACE, NW
4" SANITARY SEWER CONNECTION IN VOLTA PLACE, NW

3314-1/2 VOLTA PLACE, NW

1.5" COMBINED WATER CONNECTION (DOM./FIRE) IN VOLTA PLACE, NW
4" SANITARY SEWER CONNECTION IN VOLTA PLACE, NW

THE DEVELOPER IS TO ABANDON ANY ADDITIONAL ACTIVE CONNECTIONS PER DC WATER REQUIREMENTS AND/OR AS DIRECTED BY THE DC WATER INSPECTOR.

UTILITY INFORMATION

EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD VERIFIED. UTILITY LOCATIONS ARE BASED UPON AVAILABLE RECORDS AND ARE SHOWN TO THE BEST OF OUR ABILITY.

UTILITY	REQUEST DATE	BY	INFO RECEIVED	PLAN REVISED	BY
AT&T	04/11/2022	MSL	04/11/2022	NO FACILITIES	–
COMCAST	04/11/2022	MSL	05/27/2022	05/27/2022	MSL
MCI/WORLDCOM	04/11/2022	MSL	04/19/2022	NO FACILITIES	–
PEPCO	04/11/2022	MSL	04/13/2022	05/27/2022	MSL
VERIZON	04/11/2022	MSL	04/26/2022	05/27/2022	MSL
WASH. GAS	04/11/2022	MSL	04/19/2022	05/27/2022	MSL
DC SEWER	04/11/2022	MSL	ON FILE	05/27/2022	MSL
DC WATER	04/11/2022	MSL	ON FILE	05/27/2022	MSL

MISS UTILITY

FOR LOCATION OF UTILITIES, CALL "MISS UTILITY" AT 1-800-257-7777, OR LOG ON TO WWW.MISSUTILITY.NET/TITC 48 HOURS IN ADVANCE OF ANY WORK IN THIS VICINITY. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDER GROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. THE EXCAVATOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL JURISDICTIONAL REQUIREMENTS.

STORM DRAIN NOTES

1) ALL STORM DRAIN PIPE TO BE SCHEDULE 40 PVC OR OF HIGHER QUALITY. TRACING/MARKING SHALL BE UTILIZED IN AREAS WHERE FUTURE DETECTION IS NECESSARY.

2) DOWNSPOUT LEADERS ORIGINATING DIRECTLY FROM DOWNSPOUTS TO BE 4" PVC (OR APPROVED EQUIVALENT), UNLESS INDICATED OTHERWISE ON PLAN.

3) PROVIDE CLEANOUTS, AS SHOWN ON PLAN AT A MINIMUM, OR AS REQUIRED BY PLUMBING CODE.

4) ALL STORM DRAIN UNDER DRIVEWAY OR PAVED AREAS TO BE BEDDED IN GRAVEL AND TO HAVE A MINIMUM OF 12" OF COVER. STORM DRAIN UNDER NON-TRAFFIC AREAS TO HAVE 12" COVER, BUT MAY BE SET IN SUITABLE SUBGRADE/SOIL. WHERE 12" OF COVER CANNOT BE MAINTAINED, PVC PIPING IS TO BE BEDDED IN CONCRETE ON ALL SIDES.

5) PROPOSED STORM DRAIN PIPING TO BE AT 2.0% MINIMUM SLOPE, UNLESS OTHERWISE INDICATED. USE VERTICAL BENDS WHERE NECESSARY TO FOLLOW FINISHED GRADES.

6) SEE PLANS BY OTHERS FOR DRAIN LOCATIONS IN TERRACE, WINDOW-WELL, AREAWAY AND SIMILAR AREAS.

7) STORM DRAIN PIPING THROUGH OR UNDER BUILDING, LEDGE AND/OR WALL AREAS TO BE AT 2.0% MINIMUM OR AS SHOWN ON MEP PLANS. INVERTS PROVIDED ARE MINIMUM UNLESS OTHERWISE NOTED. CONTRACTOR TO ADJUST PIPING AS NECESSARY FOR DOORS, WINDOWS AND OTHER APPURTENANCES.

DC WATER ABANDONMENT NOTES

1) ASSURE THAT FINAL METER READING HAS BEEN OBTAINED.

2) RETURN DC WATER OWNED METER WITH AMR READING, TRANSMITTER (IF ANY) TO DC WATER CUSTOMER SERVICE METER BRANCH.

3) EXCAVATE AND EXPOSE THE EXISTING TAP, AND CAP THE CONNECTION AT PUBLIC WATER MAIN. THE REMAINING WATER SERVICE PIPE IS ABANDONED IN PLACE.

4) WHEN METER PIT IS LOCATED IN PUBLIC SPACE, REMOVE FRAME AND COVER, AND BACKFILL IT.

5) A MINIMUM OF THE TOP TWO (2) FEET OF ALL EXISTING VALVE BOXES DESIGNATED TO BE ABANDONED, INCLUDING THE FRAME AND COVER, SHALL BE REMOVED. THE REMAINING PORTION OF THE STRUCTURE SHALL BE FILLED WITH NON-COMPACTABLE SELECT STONE BACKFILL.

SEE SHEET CIV002 FOR SUPPLEMENTAL COVER SHEET NOTES

PERMIT APPLICATION NUMBERS

DDOT OCCUPANCY NUMBER	–
DDOT CONSTRUCTION NUMBER	–
DC WATER NEW CONSTRUCTION MAXIMO	–
DC WATER RAZE MAXIMO	N/A
DOEE PLAN NUMBER	7528
DOEE RAZE NUMBER	N/A
DCRA BUILDING PERMIT NUMBER	–
DCRA RAZE PERMIT NUMBER	N/A

CAS ENGINEERING-DC, LLC
Experience you can build on.

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info@cas-dc.com
CIVIL • SURVEYING • LAND PLANNING

OWNER/CLIENT
COBA PROPERTIES
1716 14TH STREET, NW, SUITE 300
WASHINGTON, DC 20009
(202) 596-7459 (CELL)
abdo@cobadc.com
ATTN: ABDO ROFFE

ARCHITECT
OVERMYER ARCHITECTS
3213 P STREET, NW
WASHINGTON, DC 20007
(202) 333-5596 (PHONE)

LOT 0889, SQUARE 1254
GEORGETOWN

1524 33RD STREET, NW

N.W. WASHINGTON,
DISTRICT OF COLUMBIA

ENGINEER ATTESTATION:

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

I FURTHER CERTIFY THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER IN THE DISTRICT OF COLUMBIA, LICENSE NUMBER PE906954, EXPIRATION DATE 31 DEC 2023, QUALIFIED TO PRACTICE ONLY IN CIVIL ENGINEERING AND RELATED COMPONENTS TO THE EXTENT THEREOF WITHIN OUR SCOPE OF SERVICES FOR THIS PROJECT, AND BEAR MY SEAL AND SIGNATURE.

DISTRICT OF COLUMBIA
DAVID C. LANGSHAW
PE906954
PROFESSIONAL ENGINEER
CIVIL

02/09/2023

BASE SHEET ISSUED	06.06.2022
PERMIT SET	11.11.2022
REVISED PER DC WATER COMMENTS	12.01.2022
REVISED PER DOEE COMMENTS	12.16.2022
TO DOEE FOR APPROVAL	01.18.2023
DGB PERMIT SET	02.09.2023
REVISION	DATE

CAS PROJECT	22-0282-DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	1"=20'

10 0 10 20 40
SCALE: 1 INCH = 20 FEET

NORTH

DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE

CIVIL COVER SHEET

CIV001

SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION

THIS PROJECT PROPOSES TO RENOVATE AN EXISTING RESIDENTIAL BUILDING AND CONSTRUCT TWO (2) NEW ATTACHED RESIDENTIAL SINGLE–FAMILY DWELLINGS ON A SITE APPROXIMATELY 9,736 SQUARE FEET IN SIZE.
THE TOTAL DISTURBED AREA = 10,850 SQUARE FEET±.
PROJECTED EARTHWORK QUANTITIES ARE:
CUT = 1,150 CUBIC YARDS, FILL = 150 CUBIC YARDS.

EXISTING SITE CONDITIONS

THIS LOT CURRENTLY IMPROVED WITH A SINGLE–FAMILY ATTACHED RESIDENTIAL DWELLING AND ASSOCIATED SITE APPURTENANCES.

ADJACENT AREAS

THIS NEIGHBORHOOD CAN BE CHARACTERIZED AS RESIDENTIAL THIS PARTICULAR LOT IS BOUNDED ON ALL SIDES BY SINGLE–FAMILY DWELLINGS ON RESIDENTIAL LOTS, TO THE EAST BY 33RD STREET, NW, AND TO THE NORTH BY VOLTA PLACE, NW.

OFF–SITE AREAS

THERE IS AN ANTICIPATED NEED FOR A SPOILS SITE. A SITE WILL BE LOCATED DURING CONSTRUCTION ACTIVITIES, BASED ON THE STATUS OF OTHER CONSTRUCTION SITES IN THE VICINITY.

CRITICAL AREAS

NONE EXIST ON THIS SITE.

SOILS

THE SOILS ON SITE CONSIST OF UxB (URBAN LAND–SASSAFRAS COMPLEX) SOILS. UxB SOILS CONSIST OF URBAN LAND AND WELL DRAINED SASSAFRAS SOILS. EXAMINATION AND IDENTIFICATION OF SOILS OR SOIL–LIKE MATERIALS IN THIS UNIT IS IMPRACTICAL BECAUSE SOILS ARE LARGELY COVERED BY IMPERVIOUS SURFACES. CAREFUL ONSITE INVESTIGATION IS RECOMMENDED TO DETERMINE THE POTENTIAL AND LIMITATIONS FOR ANY PROPOSED USES.

SEDIMENT CONTROL MEASURES

SEE SHEETS CIV001, CIV002, CIV101, CIV300, CIV301, CIV302, AND CIV303 FOR THE SEDIMENT CONTROL SEQUENCE OF CONSTRUCTION, DETAILED SEDIMENT CONTROL INFORMATION, DETAILS, SPECIFICATIONS, ETC.

PERMANENT STABILIZATION

THE SITE SHALL BE PERMANENTLY STABILIZED PER THE SEQUENCE OF CONSTRUCTION ON SHEET CIV002 AND IN ACCORDANCE WITH D.C. STANDARDS AS PROVIDED FOR ON SHEETS, CIV301, CIV302, AND CIV303.

STORMWATER MANAGEMENT

STORMWATER MANAGEMENT WILL BE PROVIDED VIA AN ONSITE INFILTRATION TRENCH AND PERMEABLE PAVEMENT.

SEDIMENT CONTROL "GOOD HOUSEKEEPING" NOTES

(SOURCE: DOEE STORMWATER MANAGEMENT GUIDEBOOK, APPENDIX R, JANUARY, 2020)

POLLUTION PREVENTION

THIS APPENDIX IS MEANT TO COMPLEMENT APPENDIX Q STORMWATER HOTSPOTS AND AN EROSION AND SEDIMENT CONTROL PLAN (ESCP), BUT NOT REITERATE EPA'S CONSTRUCTION GENERAL PERMIT REQUIREMENTS. THESE NOTES SHALL APPEAR AS STAMPED NOTES ON STORMWATER MANAGEMENT PLANS (SWMPS) WHERE LAND DISTURBANCE IS GREATER THAN 5,000 SQUARE FEET AND LESS THAN 1 ACRE. THESE NOTES SHALL CONSTITUTE A MINIMUM STORMWATER POLLUTION PREVENTION PLAN AND PROVIDE GUIDANCE ON GOOD HOUSEKEEPING PRACTICES TO PREVENT POTENTIAL CONSTRUCTION SITE POLLUTANTS FROM INTERACTING WITH STORMWATER.

STORMWATER MANAGEMENT PLAN (SWMP) GOOD HOUSEKEEPING STAMP NOTES

1) FUELS AND OILS. ON–SITE REFUELING WILL BE CONDUCTED IN A DEDICATED LOCATION AWAY FROM ACCESS TO SURFACE WATERS. TANKS FABRICATED WITH DOUBLE WALLS DO NOT REQUIRE AN ADDITIONAL BERMED AREA. INSTALL CONTAINMENT BERMS AND/OR SECONDARY CONTAINMENTS AROUND REFUELING AREAS AND STORAGE TANKS. SPILLS WILL BE CLEANED UP IMMEDIATELY AND CONTAMINATED SOILS DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL AND DISTRICT OF COLUMBIA REGULATIONS. PETROLEUM PRODUCTS WILL BE STORED IN CLEARLY LABELED TIGHTLY SEALED CONTAINERS. ALL VEHICLES ON–SITE WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE ACTIVITIES. ANY ASPHALT SUBSTANCES USED ON–SITE WILL BE APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. SPILL KITS WILL BE INCLUDED WITH ALL FUELING SOURCES AND MAINTENANCE ACTIVITIES.

2) SOLID WASTE. NO SOLID MATERIALS SHALL BE DISCHARGED TO SURFACE WATER. SOLID MATERIALS INCLUDING BUILDING MATERIALS, GARBAGE, AND PAINT DEBRIS SHALL BE CLEANED UP DAILY AND DEPOSITED INTO DUMPSTERS, WHICH WILL BE PERIODICALLY REMOVED AND DEPOSITED INTO A LANDFILL. A COVER IS REQUIRED FOR ALL DUMPSTERS WHEN THE DUMPSTER IS NOT ACTIVELY BEING LOADED WITH WASTE MATERIALS.

3) ABRASIVE BLASTING. WATER BLASTING, SANDBLASTING, AND OTHER FORMS OF ABRASIVE BLASTING ON PAINTED SURFACES BUILT PRIOR TO 1978 MAY ONLY BE PERFORMED IF AN EFFECTIVE CONTAINMENT SYSTEM PREVENTS DISPERSAL OF PAINT DEBRIS.

4) FERTILIZER. FERTILIZERS WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER, WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER, AND STORED IN A COVERED SHED. PARTIALLY USED BAGS WILL BE TRANSFERRED TO A SEALABLE BIN TO AVOID SPILLS.

5) PAINT AND OTHER CHEMICALS. ALL PAINT CONTAINERS AND CURING COMPOUNDS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWERS, BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. SPRAY GUNS WILL BE CLEANED ON A REMOVABLE TARP. CHEMICALS USED ON–SITE ARE KEPT IN SMALL QUANTITIES AND IN CLOSED CONTAINERS UNDERCOVER AND KEPT OUT OF DIRECT CONTACT WITH STORMWATER. AS WITH FUELS AND OILS, ANY INADVERTENT SPILLS WILL BE CLEANED UP IMMEDIATELY AND DISPOSED OF ACCORDING FEDERAL AND DISTRICT OF COLUMBIA REGULATIONS.

6) CONCRETE. CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH ON–SITE, EXCEPT IN A SPECIALLY DESIGNATED CONCRETE DISPOSAL AREA. FORM RELEASE OIL FOR DECORATIVE STONE WORK WILL BE APPLIED OVER A PALLET COVERED WITH AN ABSORBENT MATERIAL TO COLLECT EXCESS FLUID. THE ABSORBENT MATERIAL WILL BE REPLACED AND DISPOSED OF PROPERLY WHEN SATURATED.

7) WATER TESTING. WHEN TESTING AND/OR CLEANING WATER SUPPLY LINES, THE DISCHARGE FROM THE TESTED PIPE WILL BE COLLECTED AND CONVEYED TO A COMPLETED STORMWATER CONVEYANCE SYSTEM FOR ULTIMATE DISCHARGE INTO A STORMWATER BEST MANAGEMENT PRACTICE (BMP).

8) SANITARY WASTE. PORTABLE LAVATORIES LOCATED ON–SITE WILL BE SERVICED ON A REGULAR BASIS BY A CONTRACTOR. PORTABLE LAVATORIES WILL BE LOCATED IN AN UPLAND AREA AWAY FROM DIRECT CONTACT WITH SURFACE WATERS. ANY SPILLS OCCURRING DURING SERVICING WILL BE CLEANED IMMEDIATELY AND CONTAMINATED SOILS DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL AND DISTRICT OF COLUMBIA REGULATIONS.

SUPPLEMENTAL EROSION AND SEDIMENT CONTROL NOTES

A. EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF GUTTERS AND DOWNSPOUTS AS SOON AS PRACTICABLE.

B. MEASURES SHALL BE TAKEN TO ACHIEVE A NON–ERODING VELOCITY FOR STORMWATER EXITING FROM A ROOF OR DOWNSPOUT OR TO TEMPORARILY PIPE THAT STORMWATER DIRECTLY INTO A STORM DRAIN.

C. THE SITE WORK SHALL MAXIMIZE THE PRESERVATION OF NATURAL VEGETATION AND LIMIT THE REMOVAL OF VEGETATION TO WHAT IS NECESSARY FOR CONSTRUCTION OR LANDSCAPING ACTIVITY.

D. IF SITE CONDITIONS PRECLUDE EMPLOYMENT OF OTHER MEANS OF EROSION CONTROL, THE DEPARTMENT (DOEE) MAY APPROVE INSTALLATION OF SMALL DIKES CONSTRUCTED ALONG A LOW–LYING PERIMETER AREA OF A JOB SITE.

E. SEDIMENTS TRAPS OR BASINS AND OTHER EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED NO LATER THAN THE FIRST PHASE OF LAND GRADING.

F. SEDIMENT TRAPS OR BASIN AND OTHER ESC's SHALL BE INSTALLED AS SOON AS NEW SITE–RELATED RUNOFF IS DETECTED AND EMPLOYED AT ALL TIMES TO PROTECT INLETS OR STORM SEWERS BELOW SILT PRODUCING AREAS.

G. NO LATER THAN THE FIRST DAY OF CONSTRUCTION INSTALL SITE ACCESS MEASURES TO MINIMUM OFF–SITE VEHICLE TRACKING OF SEDIMENTS. EACH CONSTRUCTION ENTRANCE MUST BE STABILIZED AND INCLUDE EACH ADDITIONAL MEASURE REQUIRED TO KEEP SEDIMENT FROM BEING CARRIED ON TO PUBLIC STREETS BY CONSTRUCTION VEHICLES AND WASHED INTO A STORM DRAIN OR WATER WAYS.

H. REMOVE OFF–SITE ACCUMULATION OF SEDIMENT DAILY DURING CONSTRUCTION AND IMMEDIATELY AT THE REQUEST OF A DOEE INSPECTOR.

DEMOLITION SEQUENCE

CONTRACTOR TO SECURE ALL NECESSARY PERMITS, AND CONDUCT A PRE–CONSTRUCTION MEETING WITH THE SEDIMENT CONTROL INSPECTOR PRIOR TO THE START OF CONSTRUCTION OR ANY LAND DISTURBANCE. CALL (202) 535–2977, OR (202) 590–0075 AND melinda.church@dc.gov, TO SCHEDULE A PRE–CONSTRUCTION MEETING.

1) INSTALL SEDIMENT CONTROL MEASURES AS SHOWN ON PLAN ON SHEET CIV101.

2) PROCEED WITH SELECTIVE DEMOLITION. DEMOLISH EXISTING STRUCTURES WITH APPROPRIATE EQUIPMENT.

3) REMOVE DEBRIS FROM SITE BY TRUCK. TEMPORARILY STABILIZE ALL DISTURBED AREAS PER DC SEDIMENT CONTROL REQUIREMENTS.

UTILITY GENERAL NOTES (DC WATER)

1) CONTACT: NOTIFY THE FOLLOWING DC WATER DEPARTMENTS PRIOR TO THE COMMENCEMENT OF UTILITY CONSTRUCTION:
   A) CONSTRUCTION INSPECTION SECTION AT 202–787–4024 AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF UTILITY CONSTRUCTION TO SCHEDULE PRE–CONSTRUCTION MEETING.
   B) WATER SERVICES AT 202–612–3400 AT LEAST ONE WEEK PRIOR TO THE COMMENCEMENT OF WATER UTILITY CONSTRUCTION.
   C) SEWER SERVICES AT 202–264–3862 OR 3873 AT LEAST ONE WEEK PRIOR TO THE COMMENCEMENT OF SEWER UTILITY CONSTRUCTION.

2) STANDARDS: ALL CONSTRUCTION, MATERIALS, AND APPURTENANCES SHALL COMPLY WITH THE LATEST EDITIONS OF THE DC WATER PROJECT DESIGN MANUAL, STANDARD DETAILS & DESIGN GUIDELINES, AND SPECIFICATIONS.

3) LEAD SERVICE REPLACEMENT: IF THIS PROJECT INCLUDES THE REPLACEMENT OF A WATER MAIN THAT HAS EXISTING LEAD WATER SERVICE LATERALS, THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE DC WATER CONSTRUCTION INSPECTION SECTION AT 202–787–4024 AT LEAST 90 DAYS PRIOR TO CONSTRUCTION TO ALLOW ADEQUATE TIME TO INITIATE STANDARD LEAD SERVICE REPLACEMENT PROTOCOL. LATERAL REPLACEMENT INCLUDES THE FULL LENGTH OF PIPE IN PUBLIC SPACE.

4) OWNER RESPONSIBILITY: THE OWNER IS RESPONSIBLE FOR ALL WORK AND COSTS ASSOCIATED WITH EXCAVATION, INSTALLATION, AND RESTORATION OF PUBLIC SPACE TO PERFORM A WATER/SEWER CONNECTION/ABANDONMENT. ONCE THE CONTRACTOR HAS OBTAINED A PUBLIC SPACE PERMIT HE/SHE MUST THEN CONTACT DC WATER PRIOR TO PERFORMING THE EXCAVATION TO INSTALL/INSPECT THE UTILITY WORK. THE OWNER SHALL BE HELD RESPONSIBLE FOR ALL DAMAGES TO EXISTING STRUCTURES AND UTILITIES CAUSED BY CONSTRUCTION ACTIVITY.

5) DC WATER RESPONSIBILITY: DC WATER IS ONLY RESPONSIBLE FOR INSTALLATION OF SMALL WATER SERVICE TAPS (2" DIAMETER AND LESS) TO THE PUBLIC MAIN, SMALL WATER SERVICE TAP REMOVALS FROM THE PUBLIC MAIN, FURNISHING & INSTALLING THE METER IN PUBLIC SPACE, AND INSPECTION OF WORK PERFORMED ON THE PUBLIC SYSTEMS.

6) MISS UTILITY: CONTACT MISS UTILITY AT 800–257–7777 48 HOURS BEFORE ANY DIGGING.

7) PLAN SET: A SET OF SIGNED & SEALED AND DC WATER STAMPED PLANS SHALL BE KEPT AT ALL TIMES AT THE JOB SITE ON WHICH ALL CHANGES OR VARIATIONS IN THE WORK, INCLUDING ALL EXISTING UTILITIES, ARE TO BE RECORDED AND/OR CORRECTED DAILY.

8) ABANDONMENTS: THE OWNER MUST PHYSICALLY DISCONNECT EXISTING WATER, SEWER, AND STORM LATERALS THAT ARE TO BE ABANDONED AT THEIR CONNECTION TO THE PUBLIC MAIN.

9) UNMETERED WATER: THERE SHALL BE NO UNMETERED CONNECTIONS TO THE CITY'S WATER SYSTEM, INCLUDING CONNECTIONS BYPASSING METERS FOR TESTING ON–SITE PLUMBING OR FOR OBTAINING CONSTRUCTION WATER.

10) PRESSURE TESTING AGAINST VALVES: PRESSURE TESTING AGAINST VALVES WILL NOT BE ALLOWED.

11) WATER METER INSTALLATION: TO SCHEDULE THE INSTALLATION OF A DOMESTIC WATER METER CONTACT DC WATER AT 202–646–8600. DC WATER WILL FURNISH AND INSTALL THE METER AFTER THE CONNECTION TO THE MAIN HAS BEEN MADE AND THE METER PIT/VAULT HAS BEEN INSTALLED.

12) CROSS CONTAMINATION CONTROL: ASSE 1048 CERTIFIED BACKFLOW PREVENTION ASSEMBLIES ARE REQUIRED ON ALL FIRE SERVICES AND ARE TO BE LOCATED INSIDE THE BUILDING (UNLESS AN EXTERNAL LOCATION IS NECESSARY OR REQUIRED BY DC WATER) WHERE IT IS SUPPLIED, OWNED, OPERATED, AND MAINTAINED BY THE OWNER. DC WATER DOES NOT FURNISH NOR INSTALL FIRE DOUBLE CHECK DETECTOR FIRE PROTECTION BACKFLOW PREVENTION ASSEMBLIES.

13) UTILITY SERVICE DISRUPTIONS: PHASE ALL UTILITY WORK TO MAINTAIN UTILITY SERVICES TO THE SURROUNDING AREA DURING ALL PHASES OF CONSTRUCTION. LIMIT REQUIRED UTILITY SHUT–DOWNS IN NUMBER AND DURATION. COORDINATE THESE SHUT DOWNS WITH DC WATER CONSTRUCTION INSPECTION STAFF.

14) WATER VALVE OPERATION: THE CONTRACTOR IS REQUIRED TO COORDINATE WITH DC WATER FOR ALL NECESSARY WATER MAIN SHUT DOWNS WITH ADEQUATE ADVANCED NOTICE. ONLY DC WATER EMPLOYEES MAY SHUT DOWN A PUBLIC WATER MAIN. A CERTIFIED PLUMBER IS ONLY AUTHORIZED TO TURN OFF VALVES INSIDE METER PITS.

15) WATER GATE VALVE LOCATION: LOCATE GATE VALVES FOR DOMESTIC AND FIRE SERVICES AS CLOSE TO THE PUBLIC WATER MAIN TEE AS POSSIBLE. HOWEVER, IF NECESSARY ADJUSTMENTS ARE REQUIRED DUE TO CONFLICTS, COORDINATE WITH A DC WATER INSPECTOR.

16) MATERIAL: THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING SHOP CUTS TO THE APPROPRIATE DC WATER OFFICE FOR APPROVAL OR OBTAINING A DC WATER APPROVAL STAMP FOR ALL WORK IN PUBLIC SPACE IN ADVANCE OF INSTALLATION. ONLY APPROVED MATERIALS MAY BE USED.

17) TEMPORARY CONDITIONS MINIMUM COVER: A NOMINAL FOUR FEET OF COVER IS REQUIRED FOR ALL WATER MAINS AT FINAL GRADE. COVER OF LESS THAN FOUR FEET REQUIRES DC WATER APPROVAL.

18) AS–BUILT: DEVELOPERS, CONTRACTORS AND/OR PLUMBERS MUST SUBMIT FINAL CONSTRUCTION AS–BUILT INFORMATION TO THE APPROPRIATE DC WATER INSPECTOR(S) FOR REVIEW AND APPROVAL, UPON COMPLETION OF INSTALLATION OF NEW SERVICES OR ABANDONMENT OF EXISTING SERVICES. WHEN THE FINAL AS–BUILT IS APPROVED THE DEPOSIT WILL BE RETURNED TO THE APPLICANT. SEE DC WATER AS–BUILT REQUIREMENTS FOR ADDITIONAL INFORMATION.

19) CONFLICTS: THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF EXISTING DC WATER INFRASTRUCTURE PRIOR TO INSTALLATION OF PROPOSED UTILITIES. A MINIMUM OF ONE FOOT VERTICAL AND FIVE FEET HORIZONTAL CLEARANCE SHALL BE MAINTAINED FROM ANY UTILITIES AND PUBLIC WATER AND SEWER MAINS.

20) FIRE HYDRANT USE: THE USE OF A FIRE HYDRANT AS A WATER SOURCE IS PROHIBITED UNLESS A PERMIT HAS BEEN OBTAINED FROM DC WATER FOR USE OF A SPECIFIC HYDRANT(S). DAILY OR EXTENDED USE PERMITS CAN BE OBTAINED FROM THE DC WATER PERMIT OPERATIONS DEPARTMENT 202–646–8600.

21) FIRE HYDRANT STATUS: THE CONTRACTOR SHALL NOTIFY FEMS AT 202–277–1889, PRIOR TO TAKING ANY FIRE HYDRANT OUT OF SERVICE OR RENDERING ANY HYDRANT INACCESSIBLE FOR ANY REASON. FEMS IS ALSO TO BE PROVIDED WITH THE LOCATION OF ANY NEW INSTALLATION OF PRIVATE FIRE HYDRANTS.

22) DC WATER SAFETY OFFICE: THE DC WATER SAFETY OFFICE CAN BE CONTACTED AT 202–787–4350.

23) SEWER BACKFLOW PREVENTION: THE PLUMBING SYSTEM MUST BE IN COMPLIANCE WITH SECTION 715 OF THE 2006 INTERNATIONAL PLUMBING CODE WHICH STATES A BACKWATER IS VALVE IS REQUIRED FOR ALL PLUMBING FIXTURES BELOW THE ELEVATION OF THE MANHOLE COVER OF THE NEXT UPSTREAM MANHOLE IN THE PUBLIC SEWER.

UNDERGROUND UTILITY WORK NOTES

A. WHEN CONDUCTING UNDERGROUND UTILITY WORK DO NOT OPEN MORE THAN FIVE HUNDRED LINEAR FEET (500 FT) OF TRENCH AT ANY ONE TIME.

B. FILTER WATER PUMPED OUT OF TRENCH EXCAVATIONS PRIOR TO DISCHARGE TO THE STORM SEWER SYSTEM.

C. PLACE EXCAVATED MATERIAL FOR UTILITY WORK ON THE UPHILL SIDE OF A TRENCH.

D. INSTALL INTERIM OR PERMANENT STABILIZATION IMMEDIATELY AFTER A UTILITY TRENCH IS REFILLED.

E. USE MULCH AND MATTING ON EXCAVATED MATERIAL TO MINIMIZE THEIR EROSION WHEN NATURAL OR ARTIFICIAL GRASS FILTER STRIPS ARE INSTALLED TO RECEIVE STORMWATER RUNOFF FROM EXCAVATED MATERIALS.

LAND DISTURBANCE NOTE

A RESPONSIBLE PERSON MUST BE PRESENT OR AVAILABLE WHILE TO SITE IS IN A LAND–DISTURBING PHASE. THE RESPONSIBLE PERSON IS CHARGED WITH BEING ABLE TO:

A. INSPECT THE SITE AND ITS ESC MEASURES AT LEAST ONCE BIWEEKLY AND AFTER A RAINFALL EVENT TO IDENTIFY AND REMEDY EACH POTENTIAL OR ACTUAL EROSION PROBLEM.

B. RESPOND TO EACH POTENTIAL OR ACTUAL EROSION PROBLEM IDENTIFIED BY CONSTRUCTION PERSONNEL.

C. SPEAK ON SITE WITH DOEE TO REMEDY EACH POTENTIAL OR ACTUAL EROSION PROBLEM.

THIS RESPONSIBLE PERSON SHALL BE:

A. LICENSED IN THE DISTRICT OF COLUMBIA AS A CIVIL OR GEOTECHNICAL ENGINEER, A LAND SURVEYOR, OR ARCHITECT.

OR

B. CERTIFIED THROUGH A TRAINING PROGRAM THAT DOEE APPROVES, INCLUDING A COURSE ON EROSION CONTROL PROVIDED BY ANOTHER JURISDICTION OR PROFESSIONAL ASSOCIATION.

DURING CONSTRUCTION, THE RESPONSIBLE PERSON SHALL KEEP PROOF OF PROFESSIONAL LICENSING OR SUCCESS COMPLETION OF A DOEE–APPROVED TRAINING PROGRAM [21 DCMR 547].

DOEE SOIL EROSION AND SEDIMENT CONTROL PLAN GENERAL NOTES

1. FOLLOWING INITIAL LAND DISTURBANCE OR RE–DISTURBANCE, PERMANENT OR INTERIM STABILIZATION MUST BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS FOR THE SURFACES OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND SLOPES GREATER THAN THREE (3) HORIZONTAL TO ONE (1) VERTICAL (3:1); AND FOURTEEN (14) DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. THESE REQUIREMENTS DO NOT APPLY TO AREAS SHOWN ON THE PLAN THAT ARE USED FOR MATERIAL STORAGE OTHER THAN STOCKPILING, OR FOR THOSE AREAS ON THE PLAN WHERE ACTUAL CONSTRUCTION ACTIVITIES ARE BEING PERFORMED. MAINTENANCE SHALL BE PERFORMED AS NECESSARY SO THAT STABILIZED AREAS CONTINUOUSLY MEET THE APPROPRIATE REQUIREMENTS OF THE DISTRICT OF COLUMBIA STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL (ESC). [21 DCMR § 542.9 (O)]

2. ESC MEASURES SHALL BE IN PLACE BEFORE AND DURING LAND DISTURBANCE. [21 DCMR § 543.6]

3. CONTACT DDOE INSPECTION (202) 535–2977 TO SCHEDULE A PRECONSTRUCTION MEETING AT LEAST THREE (3) BUSINESS DAYS BEFORE THE COMMENCEMENT OF A LAND–DISTURBING ACTIVITY. [21 DCMR § 503.7 (A)]

4. A COPY OF THE APPROVED PLAN SET WILL BE MAINTAINED AT THE CONSTRUCTION SITE FROM THE DATE THAT CONSTRUCTION ACTIVITIES BEGIN TO THE DATE OF FINAL STABILIZATION AND WILL BE AVAILABLE FOR DDOE INSPECTORS. [21 DCMR § 542.15]

5. ESC MEASURES SHALL BE IN PLACE TO STABILIZE ANY EXPOSED AREA AS SOON AS PRACTICABLE AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED BUT NO LATER THAN FOURTEEN (14) DAYS FOLLOWING CESSATION, EXCEPT THAT TEMPORARY OR PERMANENT STABILIZATION SHALL BE IN PLACE AT THE END OF EACH DAY OF UNDERGROUND UTILITY WORK THAT IS NOT CONTAINED WITHIN A LARGER DEVELOPMENT SITE. [21 DCMR § 543.7]

6. STOCKPILED MATERIAL BEING ACTIVELY USED DURING A PHASE OF CONSTRUCTION SHALL BE PROTECTED AGAINST EROSION BY ESTABLISHING AND MAINTAINING PERIMETER CONTROLS AROUND THE STOCKPILE. [21 DCMR § 543.16 (A)]

7. STOCKPILED MATERIAL NOT BEING ACTIVELY USED OR ADDED TO SHALL BE STABILIZED WITH MULCH, TEMPORARY VEGETATION, HYDRO–SEED OR PLASTIC WITHIN FIFTEEN (15) CALENDAR DAYS AFTER ITS LAST USE OR ADDITION. [21 DCMR § 543.16 (B)]

8. FILL MATERIAL MUST BE FREE OF CONTAMINATION LEVELS OF ANY POLLUTANT THAT IS, OR MAY BE CONSIDERED TO REPRESENT, A POSSIBLE HEALTH HAZARD TO THE PUBLIC OR MAY BE DETRIMENTAL TO SURFACE OR GROUND WATER QUALITY, OR WHICH MAY CAUSE DAMAGE TO PROPERTY OR THE DRAINAGE SYSTEM. ALL FILL MATERIAL MUST BE FREE OF HAZARDOUS MATERIALS AND COMPLY WITH ALL APPLICABLE DISTRICT AND FEDERAL REGULATIONS.

9. PROTECT BEST MANAGEMENT PRACTICES FROM SEDIMENTATION AND OTHER DAMAGE DURING CONSTRUCTION FOR PROPER POST CONSTRUCTION OPERATION. [21 DCMR § 543.5]

10. REQUEST A DDOE INSPECTOR'S APPROVAL AFTER THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. [21 DCMR § 542.12 (A)]

11. REQUEST A DDOE INSPECTOR'S APPROVAL AFTER FINAL STABILIZATION OF THE SITE AND BEFORE THE REMOVAL OF EROSION AND SEDIMENT CONTROLS. [21 DCMR § 542.12 (B)]

12. FINAL STABILIZATION MEANS THAT ALL LAND–DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND EITHER OF THE FOLLOWING TWO CRITERIA HAVE BEEN MET: (1) A UNIFORM (FOR EXAMPLE, EVENLY DISTRIBUTED, WITHOUT LARGE BARE AREAS) PERENNIAL VEGETATIVE COVER WITH A DENSITY OF SEVENTY PERCENT (70%) OF THE NATIVE BACKGROUND VEGETATIVE COVER FOR THE AREA HAS BEEN ESTABLISHED ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES, OR (2) EQUIVALENT PERMANENT STABILIZATION MEASURES HAVE BEEN EMPLOYED (SUCH AS THE USE OF RIPRAP, GABIONS, OR GEOTEXTILES). [21 DCMR § 542.12 (B.1, B.2)]

13. FOLLOW THE REQUIREMENTS OF THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY APPROVED STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND MAINTAIN A LEGIBLE COPY OF THIS SWPPP ON SITE. [21 DCMR § 543.10 (B)]

14. POST A SIGN THAT NOTIFIES THE PUBLIC TO CONTACT DDOE IN THE EVENT OF EROSION OR OTHER POLLUTION. THE SIGN WILL BE PLACED AT EACH ENTRANCE TO THE SITE OR AS DIRECTED BY THE DDOE INSPECTOR. EACH SIGN WILL BE NO LESS THAN 18 X 24 INCHES IN SIZE AND MADE OF MATERIALS THAT WILL WITHSTAND WEATHER FOR THE DURATION OF THE PROJECT. LETTERING WILL BE AT LEAST 1 INCH IN HEIGHT AND EASILY READABLE BY THE PUBLIC FROM A DISTANCE OF TWELVE FEET (12 FT). THE SIGN MUST DIRECT THE PUBLIC, IN SUBSTANTIALLY THE FOLLOWING FORM: "TO REPORT EROSION, RUNOFF, OR STORMWATER POLLUTION" AND WILL PROVIDE THE CONSTRUCTION SITE ADDRESS, DDOE'S TELEPHONE NUMBER (202–535–2977), DDOE'S E–MAIL ADDRESS (melinda.church@DC.GOV), AND THE 311 MOBILE APP HEADING ("CONSTRUCTION–EROSION RUNOFF"). [21 DCMR § 543.22]

IF A SITE DISTURBS 5,000 SQUARE FEET OF LAND OR GREATER, THE ESC PLAN MUST CONTAIN THE FOLLOWING STATEMENT:

15. A RESPONSIBLE PERSON MUST BE PRESENT OR AVAILABLE WHILE THE SITE IS IN A LAND–DISTURBING PHASE. THE RESPONSIBLE PERSON IS CHARGED WITH BEING AVAILABLE TO (A) INSPECT THE SITE AND ITS ESC MEASURES AT LEAST ONCE BIWEEKLY AND AFTER A RAINFALL EVENT TO IDENTIFY AND REMEDY EACH POTENTIAL OR ACTUAL EROSION PROBLEM, (B) RESPOND TO EACH POTENTIAL OR ACTUAL EROSION PROBLEM IDENTIFIED BY CONSTRUCTION PERSONNEL, AND (C) SPEAK ON SITE WITH DDOE TO REMEDY EACH POTENTIAL OR ACTUAL EROSION PROBLEM. A RESPONSIBLE PERSON SHALL BE (A) LICENSED IN THE DISTRICT OF COLUMBIA AS A CIVIL OR GEOTECHNICAL ENGINEER, A LAND SURVEYOR, OR ARCHITECT; OR (B) CERTIFIED THROUGH A TRAINING PROGRAM THAT DDOE APPROVES, INCLUDING A COURSE ON EROSION CONTROL PROVIDED BY ANOTHER JURISDICTION OR PROFESSIONAL ASSOCIATION. DURING CONSTRUCTION, THE RESPONSIBLE PERSON SHALL KEEP ON SITE PROOF OF PROFESSIONAL LICENSING OR OF SUCCESSFUL COMPLETION OF A DDOE–APPROVED TRAINING PROGRAM. [21 DCMR § 547]

SUPPLEMENTAL TREE PROTECTION NOTES

(SOURCE: DOEE ESC MANUAL, 2017, SECTION 9.3.5)

1. GROUPS OF TREES AND INDIVIDUAL TREES SELECTED FOR RETENTION MUST BE ACCURATELY LOCATED ON THE PLAN AND DESIGNATED AS "TREE(S) TO BE SAVED." INDIVIDUAL SPECIMENS THAT ARE NOT PART OF A TREE GROUP MUST ALSO HAVE THEIR SPECIES AND DIAMETER NOTED ON THE PLAN.

2. PRIOR TO CONSTRUCTION AND BEFORE THE PRECONSTRUCTION MEETING, MARK INDIVIDUAL TREES AND STANDS OF TREES TO BE RETAINED WITHIN THE LIMITS OF CLEARING AT A HEIGHT VISIBLE TO EQUIPMENT OPERATORS.

3. DURING ANY PRECONSTRUCTION MEETING, REVIEW TREE PRESERVATION AND PROTECTION MEASURES WITH THE CONTRACTOR AS THEY APPLY TO THAT SPECIFIC PROJECT.

4. DEFINE THE CRITICAL ROOT ZONE.

5. CONSTRUCT THE TREE PROTECTION ZONE.

6. TREE BRANCHES THAT INTERFERE WITH THE CONSTRUCTION MAY BE TIED BACK OR PRUNED ONLY TO THE POINT NECESSARY TO COMPLETE THE WORK. TYING BACK OR TRIMMING OF ALL BRANCHES MUST BE IN ACCORDANCE WITH ACCEPTED ARBORICULTURAL PRACTICES (ANSI A300, PART 8) AND BE PERFORMED UNDER SUPERVISION OF AN ARBORIST.

7. MECHANICAL BORING IS REQUIRED TO TUNNEL UNDER THE CRZ. THE BORING MUST BE AT A MINIMUM DEPTH OF 30 INCHES. EXCAVATIONS MUST PROCEED WITH CARE BY USE OF HAND TOOLS.

8. DO NOT CUT ROOTS LARGER THAN 2 INCHES IN DIAMETER WITHOUT DDOT/URBAN FORESTRY'S PERMISSION.

9. WRAP EXPOSED ROOTS 2 INCHES AND LARGER IN DIAMETER IN BURLAP OR OTHER APPROVED MATERIAL AND KEEP MOIST AT ALL TIMES.

10. HEAVY EQUIPMENT, VEHICULAR TRAFFIC, OR STOCKPILES OF ANY CONSTRUCTION MATERIALS (INCLUDING TOPSOIL) ARE NOT PERMITTED WITHIN THE CRZ OF ANY TREE TO BE RETAINED UNLESS THE SPECIFICATIONS SHOWN IN DETAIL 903.2 ARE FOLLOWED PER ARBORIST'S DIRECTION. SILT FENCING MUST NOT BE TRENCHED.

11. TREES TO BE REMOVED MUST BE REMOVED IN A CONTROLLED MANNER AND NOT FELLED, PUSHED, OR PULLED INTO TREES BEING RETAINED. DO NOT DAMAGE TREE TRUNKS AND LIMBS BY CONSTRUCTION EQUIPMENT. DO NOT NAIL BOARDS TO TREES DURING BUILDING OPERATIONS.

CONSTRUCTION SEQUENCE

CONTRACTOR TO SECURE ALL NECESSARY PERMITS, AND CONDUCT A PRE–CONSTRUCTION MEETING WITH THE SEDIMENT CONTROL INSPECTOR, (202) 535–2977 AND melinda.church@dc.gov, PRIOR TO THE START OF CONSTRUCTION OR ANY LAND DISTURBANCE.

1) CONTACT DOEE TO SCHEDULE PRE–CONSTRUCTION MEETING AND INFORM CAS ENGINEERING–DC, LLC OF MEETING TIME/DATE. IF NECESSARY OR REQUESTED, A REPRESENTATIVE OF CAS ENGINEERING–DC, LLC WILL BE AVAILABLE TO ATTEND THE DOEE PRE–CONSTRUCTION MEETING.

2) INSTALL SEDIMENT CONTROL MEASURES AS SHOWN ON CIV100–SERIES AND CIV300–SERIES SHEETS, INCLUDING BUT NOT LIMITED TO, SUPER SILT FENCING AND SILT FENCING. PREVIOUSLY INSTALLED SEDIMENT CONTROLS MAY BE REUSED IF IN ACCEPTABLE CONDITION.

3) REMOVE EXISTING VEGETATION AND FEATURES AS NECESSARY.

4) BEGIN ROUGH GRADING OPERATIONS TO BRING LOT TO GRADE.

5) PROCEED WITH EXCAVATION FOR AND CONSTRUCTION OF BUILDING(S).

6) BEGIN CONSTRUCTION/INSTALLATION OF UNDERGROUND UTILITIES.

7) CONTINUE CONSTRUCTION OF BUILDING(S), INCLUDING ALL INTERIOR PLUMBING AND APPURTENANCES.

8) WHEN INDOOR PLUMBING IS IN PLACE, BEGIN AND COMPLETE CONSTRUCTION AND INSTALLATION OF WATER AND SEWER SERVICE CONNECTION(S) TO THE BUILDING(S). IN ADDITION, ALL GAS AND ELECTRIC CONNECTIONS ARE TO BE MADE AT THIS TIME.

9) STABILIZE ALL AREAS WHERE CONSTRUCTION IS COMPLETED. ANY AREAS NOT ACTIVELY BEING WORKED ON FOR 14 DAYS SHALL BE STABILIZED USING MULCH, SEED AND STRAW, OR SOD/HYDROSEEDING.

10) THE CONTRACTOR SHALL CALL THE INSPECTION/ENFORCEMENT BRANCH, WATERSHED PROTECTION DIVISION, DISTRICT DEPARTMENT OF THE ENVIRONMENT AT (202) 535–2977 FOR A STORMWATER INSPECTION BEFORE INSTALLATION OF SWM FACILITY. CONTRACTOR SHALL ALSO CALL CAS ENGINEERING–DC, LLC AT (202) 393–7200 TO COORDINATE INSPECTION ACTIVITIES DURING BMP INSTALLATION AS REQUIRED BY DOEE.

11) INSTALL MEASURES OR GRADE TO ENSURE DRAINAGE FROM UNSTABILIZED AREAS IS DIRECTED AWAY FROM BMP AREAS PRIOR TO INSTALLATION.

12) INSTALL INFILTRATION TRENCH, INLETS AND STORM DRAIN PIPE. TEMPORARY WATER DIVERSION BERM OR SILT FENCE TO REMAIN IN PLACE AROUND BMPs UNTIL SITE IS FULLY STABILIZED. NO RUNOFF IS PERMITTED TO BE DIRECTED TOWARDS BMP PRACTICES UNTIL SITE STABILIZATION IS COMPLETE AND APPROVAL IS GIVEN BY THE SEDIMENT CONTROL INSPECTOR.

13) STORM DRAIN CONNECTION INTO INFILTRATION TRENCH AND EXTERIOR DRAINAGE FEATURES ARE TO BE BLOCKED UNTIL ALL CONTRIBUTING DRAINAGE AREAS ARE STABILIZED AND UNBLOCKING IS APPROVED BY THE SEDIMENT CONTROL INSPECTOR.

14) COMPLETE CONSTRUCTION OF BUILDING(S) AND ALL SITE APPURTENANCES, STABILIZE ALL DISTURBED AREAS PER DC SEDIMENT CONTROL REQUIREMENTS.

15) INSTALL PERMEABLE PAVEMENT IN CONJUNCTION WITH FINAL SITE LANDSCAPING.

16) REMOVE SEDIMENT CONTROL DEVICES AFTER ENTIRE SITE IS STABILIZED AND PERMISSION IS RECEIVED FROM THE SEDIMENT CONTROL INSPECTOR. SOME SEDIMENT CONTROL MEASURES MAY BE RETAINED TO USE FOR FUTURE CONSTRUCTION OF A NEW STRUCTURE AS APPLICABLE. COORDINATE WITH DC INSPECTOR.

CONSTRUCTION SEQUENCE TIMING REQUIREMENTS:

A. SEDIMENT TRAPS OR BASINS AND OTHER EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED NO LATER THAN THE FIRST PHASE OF LAND GRADING.

B. SEDIMENT TRAPS OR BASINS AND OTHER EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED AS SOON AS NEW SITE–RELATED RUNOFF IS DETECTED AND EMPLOYED AT ALL TIMES TO PROTECT INLETS OR STORM SEWERS BELOW SILT PRODUCING AREAS.

C. IMMEDIATELY AFTER DEBRIS BASINS, DIVERSSIONS, WATERWAYS, AND RELATED STRUCTURES ARE BUILT SEED AND MULCH, OR INSTALL SOD & STABILIZATION BLANKET,

D. NO LATER THAN THE FIRST DAY OF CONSTRUCTION INSTALL SITE ACCESS MEASURES TO MINIMIZE OFF–SITE VEHICLE TRACKING OF SEDIMENTS. EACH CONSTRUCTION ENTRANCE MUST BE STABILIZED AND INCLUDE EACH ADDITIONAL MEASURE REQUIRED TO KEEP SEDIMENT FROM BEING CARRIED, ONTO PUBLIC STREETS BY CONSTRUCTION VEHICLES, AND WASHED INTO A STORM DRAIN OR WATERWAYS.

E. REMOVE OFF–SITE ACCUMULATIONS OF SEDIMENT DAILY DURING CONSTRUCTION AND IMMEDIATELY AT THE REQUEST OF A DOEE INSPECTOR.

F. PERFORM ROUTINE MAINTENANCE TO PREVENT ANY NEW DESTABILIZED AREAS.

SEE SHEET CIV001
FOR SUPPLEMENTAL
COVER SHEET NOTES

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Experience you can build on.

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LOT 0889, SQUARE 1254
GEORGETOWN

1524 33RD STREET, NW

N.W. WASHINGTON,
DISTRICT OF COLUMBIA

ENGINEER ATTESTATION:

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

I FURTHER CERTIFY THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER IN THE DISTRICT OF COLUMBIA, LICENSE NUMBER PE906954, EXPIRATION DATE 08/31/2024. THIS ATTESTATION APPLIES ONLY TO CIVIL ENGINEERING AND RELATED COMPONENTS TO THE EXTENT THEY ARE WITHIN OUR SCOPE OF SERVICES FOR THIS PROJECT, AND BEAR MY SEAL AND SIGNATURE.

DAVID C. LANDSMAN
PE906954
CIVIL

02/09/2023

REVISION	DATE
BASE SHEET ISSUED	06.06.2022
PERMIT SET	11.11.2022
REVISED PER DC WATER COMMENTS	12.01.2022
REVISED PER DOEE COMMENTS	12.16.2022
TO DOEE FOR APPROVAL	01.18.2023
OGB PERMIT SET	02.09.2023

CAS PROJECT	22–0282–DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	1"=20'

NORTH

DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

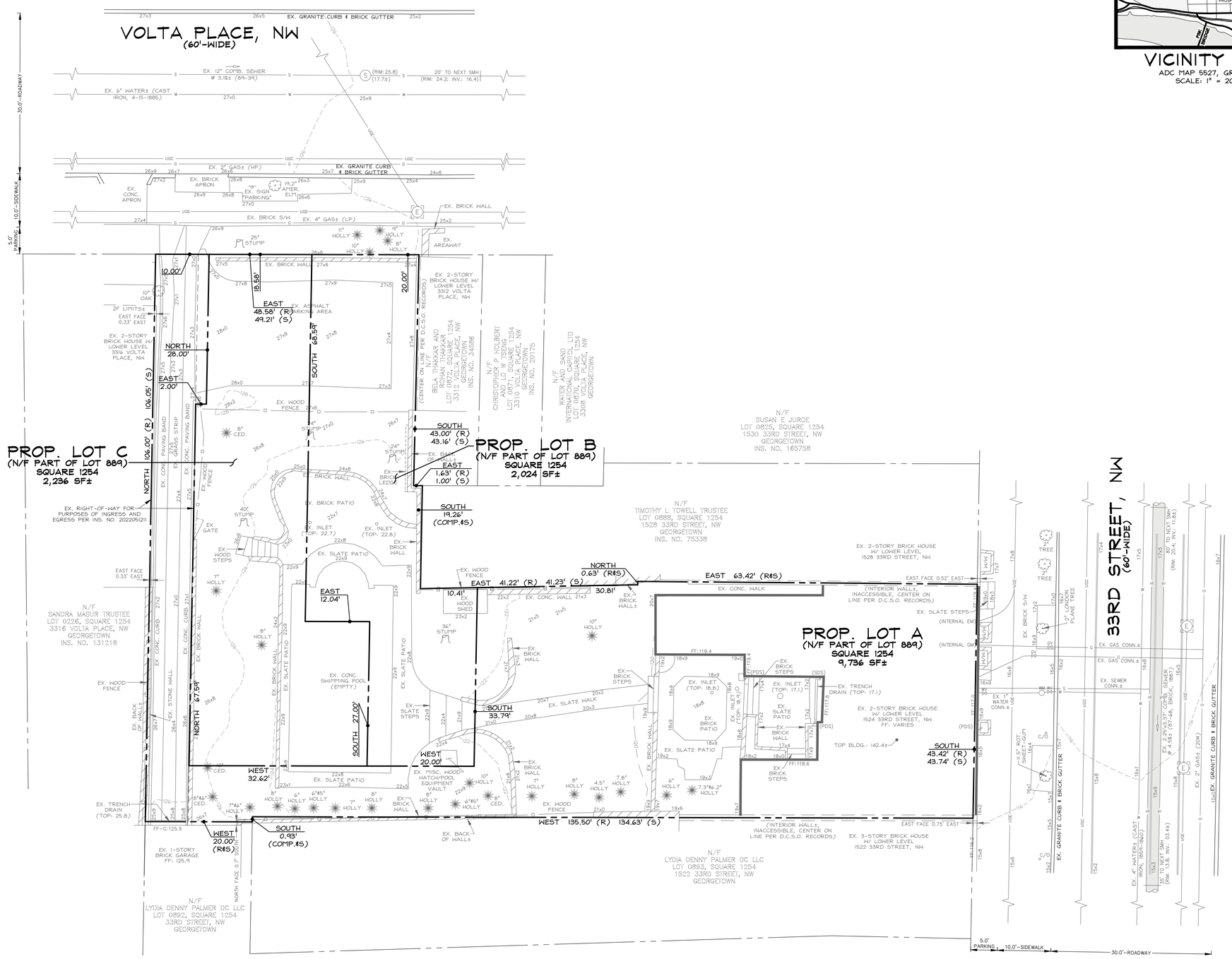
SHEET TITLE

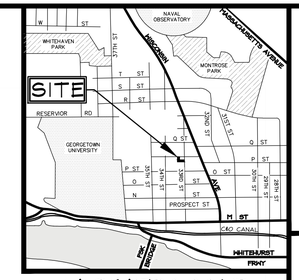
CIVIL COVER SHEET NOTES

CIV002

GENERAL NOTES

SEE GENERAL NOTES ON SHEET CIV001.





VICINITY MAP
ADC MAP 5527, GRID K-5
SCALE: 1" = 2000'

LEGEND

EXISTING FEATURES

- PROPERTY LINE
- EX. SANITARY MANHOLE AND INVERT
- EX. WATER LINE WITH VALVE
- EX. GAS LINE WITH VALVE
- EX. UNDERGROUND ELECTRIC LINE
- EX. UNDERGROUND CONDUIT LINE
- EX. TWO- AND TEN-FOOT CONTOURS
- EX. SPOT ELEVATION
- EX. WOOD FENCE
- EX. SIGN
- EX. PIPED DOWNSPOUT
- EX. SPILLED DOWNSPOUT
- EX. TREE
- EX. WALL

UTILITY INFORMATION

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(202) 393-7200 Phone
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OWNER/CLIENT
COBA PROPERTIES
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WASHINGTON, DC 20009
(202) 596-7459 (CELL)
abdo@cobadc.com
ATTN: ABDO ROFFE

ARCHITECT
OVERMYER ARCHITECTS
3213 P STREET, NW
WASHINGTON, DC 20007
(202) 333-5596 (PHONE)

LOT 0889, SQUARE 1254
GEORGETOWN

1524 33RD STREET, NW

N.W. WASHINGTON,
DISTRICT OF COLUMBIA

ENGINEER ATTESTATION:

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

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DISTRICT OF COLUMBIA · DAVID C. LANDSMAN · PE906954 · CIVIL · PROFESSIONAL ENGINEER

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SCALE: 1 INCH = 10 FEET

NORTH

DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

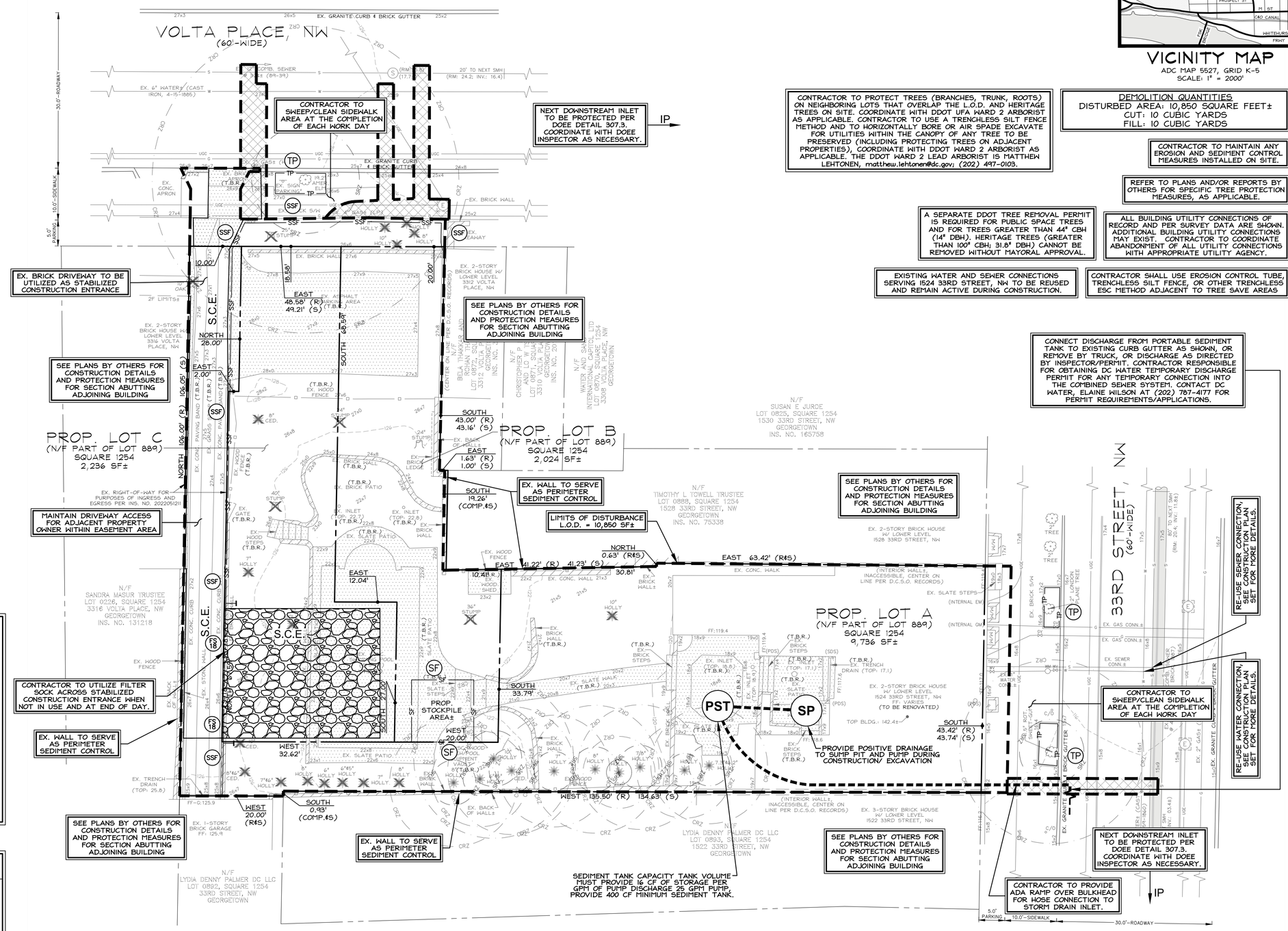
SHEET TITLE

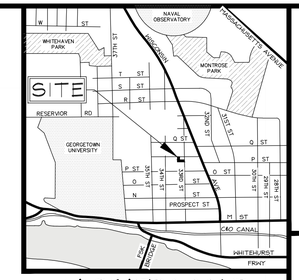
EXISTING CONDITIONS PLAN

CIV100

GENERAL NOTES

SEE DEMOLITION SEDIMENT CONTROL RELATED NOTES ON SHEETS CIV001 AND CIV002.





VICINITY MAP

ADC MAP 5527, GRID K-5
SCALE: 1" = 2000'

CONTRACTOR TO PROTECT TREES (BRANCHES, TRUNK, ROOTS) ON NEIGHBORING LOTS THAT OVERLAP THE L.O.D. AND HERITAGE TREES ON SITE. COORDINATE WITH DDOT UFA WARD 2 ARBORIST AS APPLICABLE. CONTRACTOR TO USE A TRENCHLESS SILT FENCE METHOD AND TO HORIZONTALLY BORE OR AIR SPADE EXCAVATE FOR UTILITIES WITHIN THE CANOPY OF ANY TREE TO BE PRESERVED (INCLUDING PROTECTING TREES ON ADJACENT PROPERTIES), COORDINATE WITH DDOT WARD 2 ARBORIST AS APPLICABLE. THE DDOT WARD 2 LEAD ARBORIST IS MATTHEW LEHTONEN, matthew.lehtonen@dc.gov; (202) 497-0103.

DEMOLITION QUANTITIES
DISTURBED AREA: 10,850 SQUARE FEET±
CUT: 10 CUBIC YARDS
FILL: 10 CUBIC YARDS

CONTRACTOR TO MAINTAIN ANY EROSION AND SEDIMENT CONTROL MEASURES INSTALLED ON SITE.

REFER TO PLANS AND/OR REPORTS BY OTHERS FOR SPECIFIC TREE PROTECTION MEASURES, AS APPLICABLE.

A SEPARATE DDOT TREE REMOVAL PERMIT IS REQUIRED FOR PUBLIC SPACE TREES AND FOR TREES GREATER THAN 44" CBH (14" DBH). HERITAGE TREES (GREATER THAN 100" CBH; 31.8" DBH) CANNOT BE REMOVED WITHOUT MAYORAL APPROVAL.

ALL BUILDING UTILITY CONNECTIONS OF RECORD AND PER SURVEY DATA ARE SHOWN. ADDITIONAL BUILDING UTILITY CONNECTIONS MAY EXIST. CONTRACTOR TO COORDINATE ABANDONMENT OF ALL UTILITY CONNECTIONS WITH APPROPRIATE UTILITY AGENCY.

EXISTING WATER AND SEWER CONNECTIONS SERVING 1524 33RD STREET, NW TO BE REUSED AND REMAIN ACTIVE DURING CONSTRUCTION.

CONTRACTOR SHALL USE EROSION CONTROL TUBE, TRENCHLESS SILT FENCE, OR OTHER TRENCHLESS ESC METHOD ADJACENT TO TREE SAVE AREAS

CONNECT DISCHARGE FROM PORTABLE SEDIMENT TANK TO EXISTING CURB GUTTER AS SHOWN, OR REMOVE BY TRUCK, OR DISCHARGE AS DIRECTED BY INSPECTOR/PERMIT. CONTRACTOR RESPONSIBLE FOR OBTAINING DC WATER TEMPORARY DISCHARGE PERMIT FOR ANY TEMPORARY CONNECTION INTO THE COMBINED SEWER SYSTEM. CONTACT DC WATER, ELAINE WILSON AT (202) 787-4177 FOR PERMIT REQUIREMENTS/APPLICATIONS.

LEGEND

EXISTING FEATURES

- CRZ — TREE CRITICAL ROOT ZONE (CRZ)
- SRZ — TREE STRUCTURAL ROOT ZONE (SRZ)

SEDIMENT CONTROL DEVICES

- FS-18 — FILTERSOCK EROSION CONTROL TUBE (OR SIMILAR EROSION CONTROL TUBE, STRAW BALES, ETC.) (FS 18)
- SF — SILT FENCE (SF)
- SSF — SUPER SILT FENCE (SSF)
- TP — TREE PROTECTION FENCE (TP)
- IP — INLET PROTECTION
- (T.B.R.) — FEATURE TO BE RAZED
- S.C.E. — STABILIZED CONSTRUCTION ENTRANCE
- LIMITS OF DISTURBANCE

UTILITY INFORMATION

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DISTRICT OF COLUMBIA · DAVID C. LANDSMAN · PE906954 · CIVIL · PROFESSIONAL ENGINEER

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APPROVAL	DCL
SCALE	1"=10'

SCALE: 1 INCH = 10 FEET

NORTH

DATUM: VERTICAL NGVD 1929; WATER HORIZONTAL DC SURVEYOR'S OFFICE

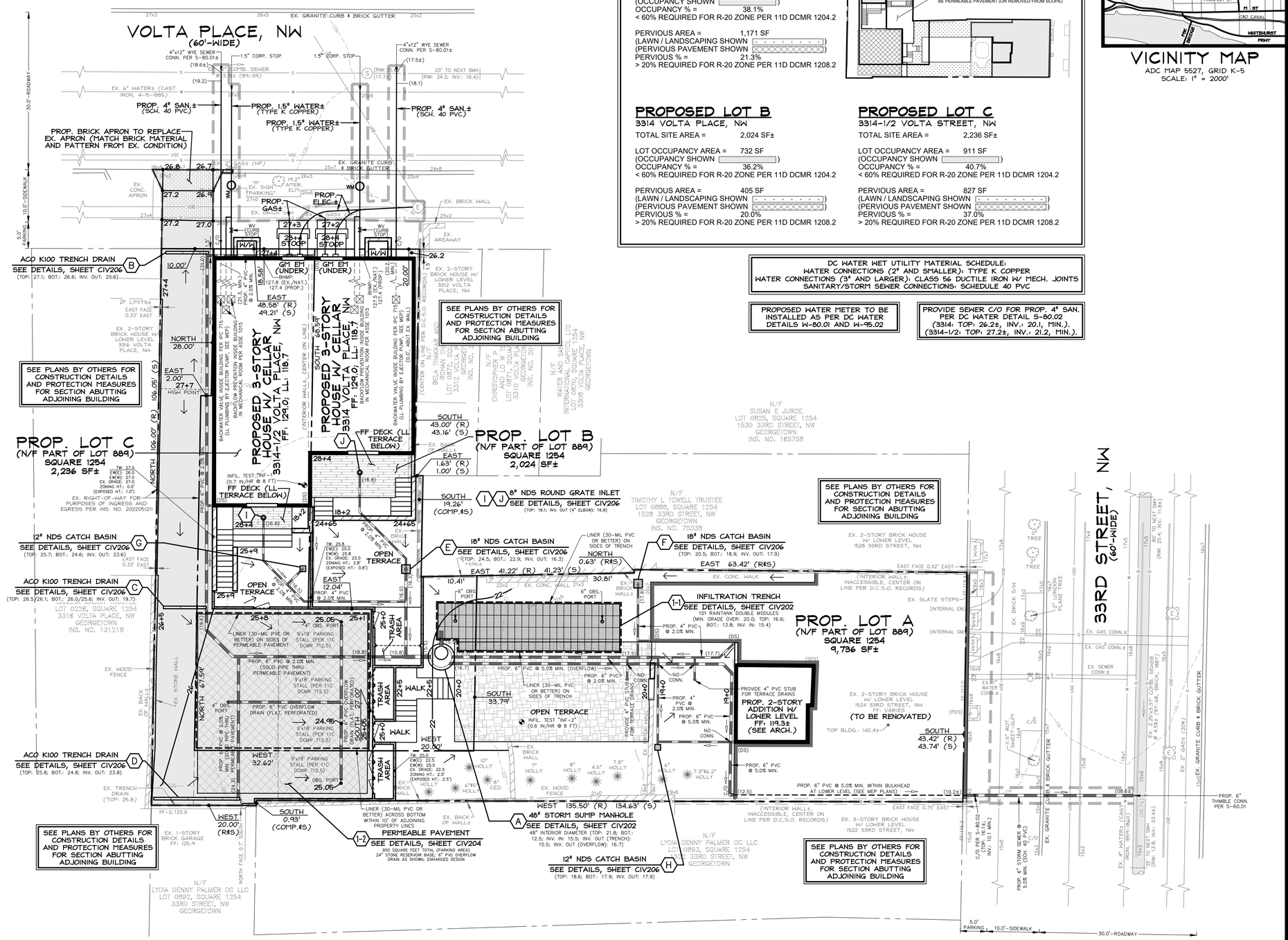
SHEET TITLE

DEMOLITION SEDIMENT CONTROL PLAN

CIV101

GENERAL NOTES

SEE BUILDING PERMIT SITE, DC WATER, GRADING, AND STORMWATER MANAGEMENT RELATED NOTES ON SHEETS CIV001 AND CIV002.



CONTRACTOR TO COORDINATE ABANDONMENT OF ALL EXISTING UTILITIES AS NECESSARY.

GAS CONNECTIONS AND METERS TO BE INSTALLED BY WASHINGTON GAS, SUBJECT TO FIELD MODIFICATION.

TOP, INVERT, PROFILE, AND SPOT ELEVATIONS HAVE BEEN SHORTENED TO DROP THE LEADING HUNDRED DENOTATION FOR SIMPLICITY.

A SEPARATE DDOT TREE REMOVAL PERMIT IS REQUIRED FOR PUBLIC SPACE TREES AND FOR TREES GREATER THAN 44" CBH (14" DBH).

PUBLIC SPACE RESTORATION TO BE DONE AS NECESSARY PER DDOT PERMIT OR APPLICABLE DETAILS.

FOR MORE INFORMATION, SEE ADDITIONAL PROFILES, NOTES, COMPUTATIONS, AND DETAILS ON CIV200-SERIES SHEETS.

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LEGEND

PROPOSED FEATURES

- PROP. DOM./FIRE
- PROP. SAN.
- PROP. GAS
- PROP. ELEC.
- PROP. CONTOUR WITH ELEVATION
- PROP. SPOT ELEVATION
- PROP. RETAINING WALL
- PROP. DOWNSPOUT
- PROP. 4" PVC
- PROP. 6" PVC
- PROP. 8" PVC
- PROP. SURFACE DRAINAGE FLOWPATH
- LIMITS OF DISTURBANCE
- PROP. DRIVEWAY
- PROP. PERMEABLE PAVEMENT (ENHANCED DESIGN)
- PROP. PATIO/TERRACE
- PROP. WATER CONNECTION
- PROP. SEWER CONNECTION
- PROP. GAS CONNECTION
- PROP. ELECTRIC CONNECTION

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PERVIOUS AREA AND LOT OCCUPANCY CALCULATIONS FOR COMPLIANCE WITH 11 DCMR (____ ZONE)

SCALE: 1"=40'

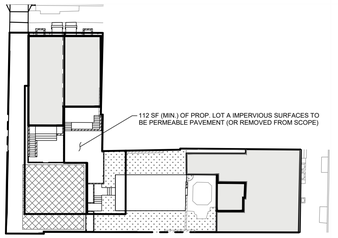
PROPOSED LOT A

1524 33RD STREET, NW

TOTAL SITE AREA = 5,494 SF±

LOT OCCUPANCY AREA = 2,095 SF
(OCCUPANCY SHOWN)
OCCUPANCY % = 38.1%
< 60% REQUIRED FOR R-20 ZONE PER 11D DCMR 1204.2

PERVIOUS AREA = 1,171 SF
(LAWN / LANDSCAPING SHOWN)
(PERVIOUS PAVEMENT SHOWN)
PERVIOUS % = 21.3%
> 20% REQUIRED FOR R-20 ZONE PER 11D DCMR 1208.2



PROPOSED LOT B

3314 VOLTA PLACE, NW

TOTAL SITE AREA = 2,024 SF±

LOT OCCUPANCY AREA = 732 SF
(OCCUPANCY SHOWN)
OCCUPANCY % = 36.2%
< 60% REQUIRED FOR R-20 ZONE PER 11D DCMR 1204.2

PERVIOUS AREA = 405 SF
(LAWN / LANDSCAPING SHOWN)
(PERVIOUS PAVEMENT SHOWN)
PERVIOUS % = 20.0%
> 20% REQUIRED FOR R-20 ZONE PER 11D DCMR 1208.2

PROPOSED LOT C

3314-1/2 VOLTA STREET, NW

TOTAL SITE AREA = 2,236 SF±

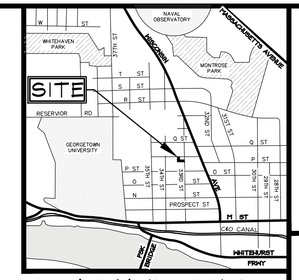
LOT OCCUPANCY AREA = 911 SF
(OCCUPANCY SHOWN)
OCCUPANCY % = 40.7%
< 60% REQUIRED FOR R-20 ZONE PER 11D DCMR 1204.2

PERVIOUS AREA = 827 SF
(LAWN / LANDSCAPING SHOWN)
(PERVIOUS PAVEMENT SHOWN)
PERVIOUS % = 37.0%
> 20% REQUIRED FOR R-20 ZONE PER 11D DCMR 1208.2

DC WATER WET UTILITY MATERIAL SCHEDULE:
WATER CONNECTIONS (2" AND SMALLER): TYPE K COPPER
WATER CONNECTIONS (3" AND LARGER): CLASS 56 DUCTILE IRON W/ MECH. JOINTS
SANITARY/STORM SEWER CONNECTIONS: SCHEDULE 40 PVC

PROPOSED WATER METER TO BE INSTALLED AS PER DC WATER DETAILS W-80.01 AND W-95.02

PROVIDE SEWER C/O FOR PROP. 4" SAN. PER DC WATER DETAIL S-80.02 (3314: TOP: 26.2±, INV.: 20.1, MIN.). (3314-1/2: TOP: 27.2±, INV.: 21.2, MIN.).



VICINITY MAP
ADC MAP 5527, GRID K-5
SCALE: 1" = 2000'

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PROFESSIONAL ENGINEER
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HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE

BUILDING PERMIT SITE, DC WATER, GRADING, AND STORMWATER MANAGEMENT PLAN

CIV200

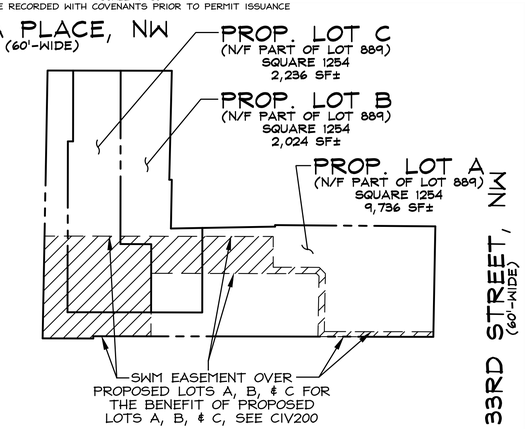
STORMWATER MANAGEMENT STRUCTURE SCHEDULE

NUMBER(S)	TYPE / SPECIFICATION	TOP ELEV.	INV. IN	INV. OUT	BOTTOM
H PRIVATE	INFILTRATION TRENCH (101 RAINTANK DOUBLE MODULE UNITS) SEE DETAIL, SHEET CIV202	16.6	15.4	N/A	13.8
I-2 PRIVATE	PERMEABLE PAVEMENT, PERMEABLE PAVERS – ENHANCED DESIGN 950 SQUARE FEET, PARKING AREA, SEE DETAILS, SHEET CIV204	VARIES	N/A	N/A	VARIES
A PRIVATE	CSSI GROUP, INC. 48"-INT. DIAMETER STORM SEWER SUMP WITH LIGHT-DUTY, NON-TRAFFIC BEARING LID FOR YARD AREA SEE DETAIL, SHEET CIV202	21.8	15.5	15.5 (TRENCH) 16.7 (OVERFLOW)	12.5
B PRIVATE	ACO K100 TRENCH DRAIN WITH HEAVY-DUTY, TRAFFIC BEARING GRATE FOR DRIVEWAY AREA SEE DETAIL, SHEET CIV206	27.1	N/A	25.6	26.6
C PRIVATE	ACO K100 TRENCH DRAIN WITH HEAVY-DUTY, TRAFFIC BEARING GRATE FOR DRIVEWAY AREA SEE DETAIL, SHEET CIV206	26.5/26.1	N/A	19.7	26.0/25.6
D PRIVATE	ACO K100 TRENCH DRAIN WITH HEAVY-DUTY, TRAFFIC BEARING GRATE FOR DRIVEWAY AREA SEE DETAIL, SHEET CIV206	25.8	N/A	23.8	24.8
E PRIVATE	NDS 18"x18" CATCH BASIN WITH LIGHT-DUTY GRATE FOR YARD AREA SEE DETAIL, SHEET CIV206	24.5	N/A	16.3	22.9
F PRIVATE	NDS 18"x18" CATCH BASIN WITH LIGHT-DUTY GRATE FOR YARD AREA SEE DETAIL, SHEET CIV206	20.5	N/A	17.9	18.9
G PRIVATE	NDS 12"x12" CATCH BASIN WITH LIGHT-DUTY GRATE FOR YARD AREA SEE DETAIL, SHEET CIV206	25.7	N/A	23.6	24.6
H PRIVATE	NDS 12"x12" CATCH BASIN WITH LIGHT-DUTY GRATE FOR YARD AREA SEE DETAIL, SHEET CIV206	18.6	N/A	17.9	17.9
I PRIVATE	NDS 8" ROUND GRATE WITH LIGHT-DUTY GRATE FOR AREAWAY SEE DETAIL, SHEET CIV206	18.1	N/A	N/A	16.8
J PRIVATE	NDS 8" ROUND GRATE WITH LIGHT-DUTY GRATE FOR AREAWAY SEE DETAIL, SHEET CIV206	18.1	N/A	N/A	16.8

STORMWATER MANAGEMENT EASEMENT SKETCH

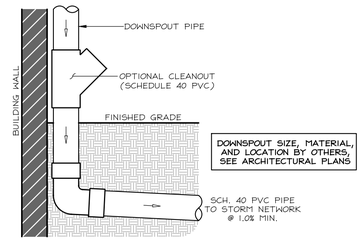
SCALE: 1"=30'

TO BE RECORDED WITH COVENANTS PRIOR TO PERMIT ISSUANCE

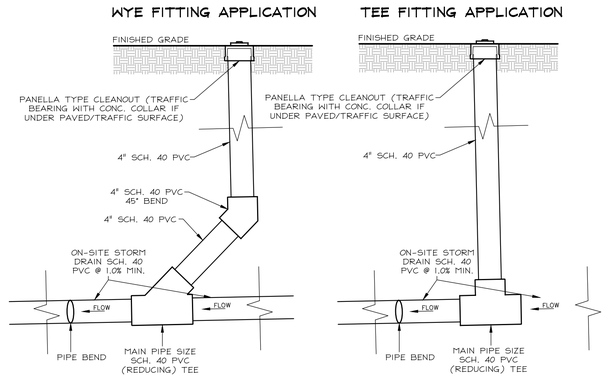


DOWNSPOUT DETAIL

NOT TO SCALE



ON-SITE CLEANOUT DETAILS

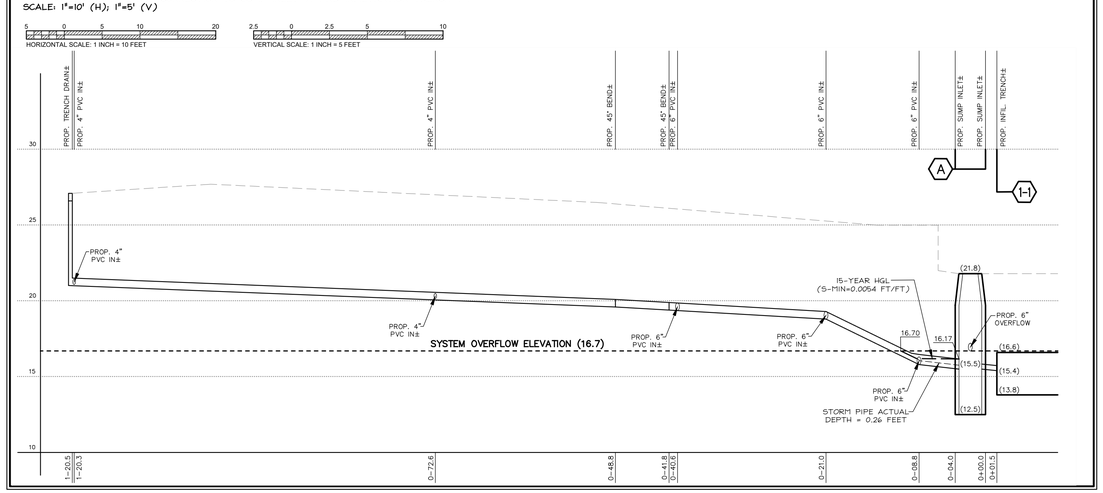


NOTE: CLEANOUTS TO BE UPGRADIENT OF BENDS FOR MAINTENANCE PURPOSES AS SHOWN ON SITE PLAN OR AS REQUIRED BY APPLICABLE PLUMBING CODES. CONTRACTOR OPTION TO USE WYE OR TEE FITTING AS APPROPRIATE AND IN CONJUNCTION WITH SITE CONSTRAINTS IN AREA AROUND BEND LOCATION.

PRIVATE STORM DRAIN PROFILE

MAIN COLLECTOR PIPE RUN CONNECTION TO SUMP INLET 'A' AND INFILTRATION TRENCH 'I-1'

SCALE: 1"=10' (H); 1"=5' (V)



PIPE FLOW COMPUTATIONS AND STORM SEWER COMPUTATIONS (HGL)

PROFILE, SEE LEFT

POST-DEVELOPMENT FLOWS FROM PRIVATE AREA

INFILTRATION TRENCH DRAINAGE AREA = 9,736 SQ. FT.± = 0.22 AC.; tc=0.167 HOURS; CN = 71

qp15 = 0.66 CFS (15-YR POST, CALCULATED USING TR-55)

FLOW COMPUTATIONS (FROM FLOWMASTER PROGRAM):

PARAMETER	STORM (6")	STORM (8")
PIPE DIAMETER =	0.50 FEET	0.67 FEET
SLOPE =	0.0200 FT/FT	0.0200 FT/FT
MANNING'S n =	0.011 (PVC)	0.011 (PVC)
DISCHARGE =	0.66 CFS	0.66 CFS
DEPTH =	0.31 FEET	0.26 FEET
VELOCITY =	5.16 FPS	5.16 FPS
FLOW AREA =	0.13 SF	0.13 SF
CRITICAL SLOPE =	0.0097 FT/FT	0.0054 FT/FT
CRITICAL DEPTH =	0.41 FEET	0.38 FEET
PERCENT FULL =	61.24%	38.98%
FROUDE NUMBER =	1.79	2.06
FULL CAPACITY =	0.94 CFS	2.02 CFS
QMAX @ .94D =	1.01 CFS	2.18 CFS

STORM SEWER HGL NARRATIVE/ CALCULATIONS

PIPE FLOW WITHIN CONNECTION AT SUMP MANHOLE 'A'. HGL STARTS AT TOP OF 8" STORM DRAIN PIPE.

FROM FLOWMASTER, SEE CALCULATIONS ABOVE:

WITHIN 8" STORM DRAIN PIPE:
S-MIN = 0.0054 FEET/FEET
ACTUAL DEPTH = 0.26 FEET
ACTUAL SLOPE = 0.0200 FEET/FEET (ACTUAL > S-MIN)

WITHIN 6" STORM DRAIN PIPE:
S-MIN = 0.0097 FEET/FEET
ACTUAL DEPTH = 0.31 FEET
ACTUAL SLOPE = 0.0200 FEET/FEET (ACTUAL > S-MIN)

HGL RUNS AT MINIMUM (CRITICAL) SLOPE UNTIL REACHING PIPE ACTUAL DEPTH, THEN RUNS WITH PIPE ACTUAL DEPTH UNTIL SURPASSING OVERFLOW ELEVATION, SEE PROFILE, LEFT.

STATEMENT BY PERSON RESPONSIBLE FOR MAINTENANCE

The undersigned agrees to maintain compliance with the performance requirements and other provisions of Chapter 5 of Title 21 of the District of Columbia Municipal Regulations (DCMR). This includes maintaining and operating stormwater best management practices (BMPs), stormwater infrastructure, and land covers as specified in the Stormwater Management Plan approved by the District Department of Energy and Environment (DOEE).

Responsibility for maintenance and operation may be transferred to another entity upon written notice to the Natural Resources Administration of DOEE from the undersigned and the entity assuming responsibility. This notice must certify that the transfer of responsibility for maintenance and operation is in compliance with 21 DCMR Chapter 5.

Electronic signature of the person responsible for maintenance (it may be the applicant):

Signed using the Surface and Groundwater System on 01-18-2023 09:46 AM

Coba Properties

Name and Title:

Coba Properties, Developer

Address:

Coba Properties

1321 Rhode Island Ave Nw

Washington, DC 20005

Date: 01-18-2023 09:46 AM Phone No: (202) 596-7459

Email: permits@cobadc.com

STATEMENT BY THE PROFESSIONAL ENGINEER IN THE DISTRICT OF COLUMBIA

THIS IS TO CERTIFY THAT THE ENGINEERING FEATURES OF ALL STORMWATER BEST MANAGEMENT PRACTICES (BMPS), STORMWATER INFRASTRUCTURE, AND LAND COVERS (COLLECTIVELY THE "FACILITY") HAVE BEEN DESIGNED/EXAMINED BY ME AND FOUND TO BE IN CONFORMITY WITH MODERN ENGINEERING PRINCIPLES APPLICABLE TO THE TREATMENT AND DISPOSAL OF STORMWATER POLLUTANTS. I FURTHER CERTIFY THAT THE FACILITY HAS BEEN DESIGNED IN ACCORDANCE WITH THE SPECIFICATION REQUIRED UNDER CHAPTER 5 OF TITLE 21 OF THE DISTRICT OF COLUMBIA MUNICIPAL REGULATIONS. IT IS ALSO STATED THAT THE UNDERSIGNED HAS FURNISHED THE APPLICANT WITH A SET OF INSTRUCTIONS FOR THE MAINTENANCE AND OPERATION OF THE SITE'S FACILITY.

SIGNATURE OF THE PROFESSIONAL ENGINEER

DISTRICT OF COLUMBIA — DAVID C. LANDSMAN — PE906954 — CIVIL — PROFESSIONAL ENGINEER

DAVID C. LANDSMAN, PE — NAME

PE906954 — D.C. REG. NO.

CAS ENGINEERING-DC, LLC

4836 MACARTHUR BOULEVARD, NW, 2ND FLOOR

WASHINGTON, DC 20007

ADDRESS

01/18/2023 — DATE

(202) 393-7200 PHONE
(301) 607-8045 FAX

PHONE NUMBER

AS BUILT CERTIFICATION BY PROFESSIONAL ENGINEER

WITHIN 21 (TWENTY-ONE) DAYS AFTER COMPLETION OF CONSTRUCTION OF THE STORMWATER DISCHARGE FACILITY, PLEASE SEND THIS PAGE TO THE WATERSHED PROTECTION DIVISION OF THE DISTRICT DEPARTMENT OF THE ENVIRONMENT.

1. STORMWATER DISCHARGE FACILITY INFORMATION:

SOURCE NAME: _____

SOURCE LOCATION: _____

CITY: _____

DCRA PERMIT NO.: _____

DATE ISSUED: _____

2. AS BUILT CERTIFICATION:

I HEREBY CERTIFY THAT ALL STORMWATER BEST MANAGEMENT PRACTICES (BMPS), STORMWATER INFRASTRUCTURE, AND LAND COVERS HAVE BEEN BUILT SUBSTANTIALLY IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THAT ANY DEVIATIONS NOTED BELOW WILL NOT PREVENT THE SYSTEM FROM FUNCTIONING IN COMPLIANCE WITH THE REQUIREMENTS CHAPTER 5 OF TITLE 21 OF THE DISTRICT OF COLUMBIA MUNICIPAL REGULATIONS WHEN PROPERLY MAINTAINED AND OPERATED. THESE DETERMINATIONS HAVE BEEN BASED UPON ON-SITE OBSERVATION OF CONSTRUCTION, SCHEDULED AND CONDUCTED BY ME OR BY A PROJECT REPRESENTATIVE UNDER MY DIRECT SUPERVISION. I HAVE ENCLOSED ONE SET OF AS-BUILT ENGINEERING DRAWINGS.

SIGNATURE OF ENGINEER — NAME — D.C. REG. NO.

COMPANY NAME

COMPANY ADDRESS

DATE — PHONE NUMBER

SUBSTANTIAL DEVIATIONS FROM THE APPROVED PLANS AND SPECIFICATIONS (ATTACH ADDITIONAL SHEETS IF REQUIRED).

CAS ENGINEERING-DC, LLC
Experience you can build on.

CAS ENGINEERING-DC, LLC
4836 MacArthur Boulevard, NW
2nd Floor
Washington, DC 20007
(202) 393-7200 Phone
www.cas-dc.com
info@cas-dc.com

CIVIL • SURVEYING • LAND PLANNING

OWNER/CLIENT
COBA PROPERTIES
1716 14TH STREET, NW, SUITE 300
WASHINGTON, DC 20009
(202) 596-7459 (CELL)
abdo@cobadc.com
ATTN: ABDO ROFFE

ARCHITECT
OVERMYER ARCHITECTS
3213 P STREET, NW
WASHINGTON, DC 20007
(202) 333-5596 (PHONE)

LOT 0889, SQUARE 1254
GEORGETOWN

1524 33RD STREET, NW

N.W. WASHINGTON, DISTRICT OF COLUMBIA

ENGINEER ATTESTATION:

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

I FURTHER CERTIFY THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER IN THE DISTRICT OF COLUMBIA, LICENSE NUMBER PE906954, EXPIRATION DATE 08/31/2024. THIS ATTESTATION APPLIES ONLY TO CIVIL ENGINEERING AND RELATED COMPONENTS TO THE EXTENT THEY ARE WITHIN OUR SCOPE OF SERVICES FOR THIS PROJECT, AND BEAR MY SEAL AND SIGNATURE.

DISTRICT OF COLUMBIA — DAVID C. LANDSMAN — PE906954 — CIVIL — PROFESSIONAL ENGINEER

02/09/2023

REVISION	DATE
BASE SHEET ISSUED	06.06.2022
PERMIT SET	11.11.2022
REVISED PER DC WATER COMMENTS	12.01.2022
REVISED PER DOEE COMMENTS	12.16.2022
TO DOEE FOR APPROVAL	01.18.2023
OGB PERMIT SET	02.09.2023

CAS PROJECT	22-0282-DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	AS SHOWN

SCALE: 1 INCH = 10 FEET

NORTH

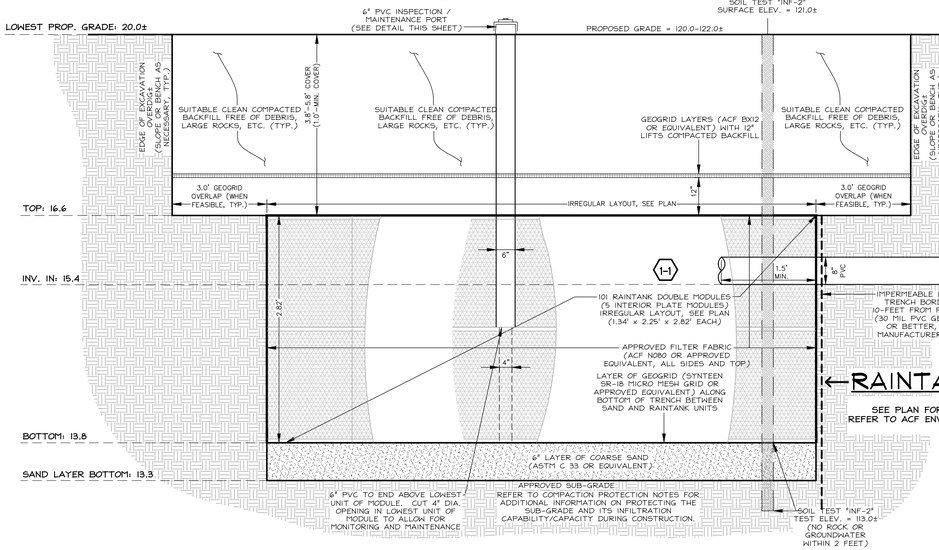
DATUM: VERTICAL DC WATER HORIZONTAL DC SURVEYOR'S OFFICE

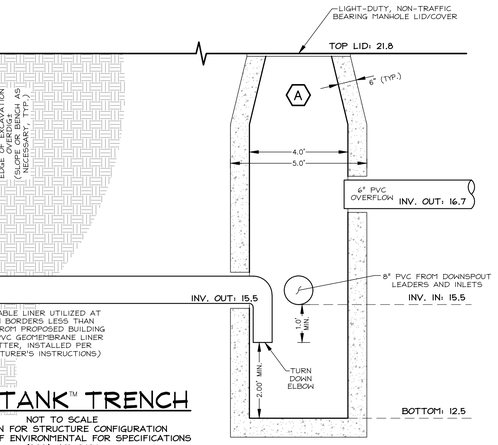
SHEET TITLE

STORMWATER MANAGEMENT DETAILS

CIV201

INFILTRATION TRENCH





←RAINTANK™ TRENCH

NOT TO SCALE
SEE PLAN FOR STRUCTURE CONFIGURATION
REFER TO ACF ENVIRONMENTAL FOR SPECIFICATIONS
(800) 448-3636

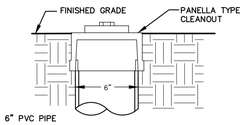
STORM SEWER SUMP

(48" INT. DIA. MANHOLE)

NOT TO SCALE
SEE PLAN FOR STRUCTURE CONFIGURATION
REFER TO CSSI GROUP, INC. DETAILS
ATTN: BEN MILLER, (301) 448-7008 PHONE
ben@cssigroup.net

6" PVC INSPECTION/ MAINTENANCE PORT DETAIL

NOT TO SCALE
REFER TO MANUFACTURER DETAILS AND SPECIFICATIONS FOR INSTALLATION

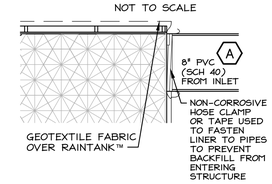


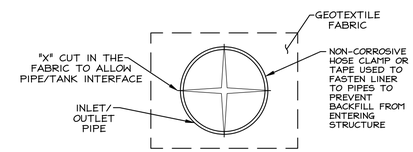
PORT TO BE PERFORATED IF IT EXTENDS ALL THE WAY TO THE TRENCH BOTTOM AND SIT ON STABLE PLATE, SEE DETAIL.

INSTALL FOR TRAFFIC BEARING APPLICATION IF INSTALLED IN DRIVEWAY OR TRAFFIC AREA.

INLET/OUTLET DETAIL

NOT TO SCALE





FABRIC / PIPE DETAIL

END VIEW OF PIPE/FABRIC CONNECTION. CUT AN "X" IN THE FABRIC SLIGHTLY LARGER THAN PIPE, PULL THE FABRIC AROUND THE PIPE TO CREATE THE "BOOT" AND THEN SECURE WITH A HOSE-CLAMP.

INFILTRATION TRENCH SIZING COMPUTATIONS

SIZED PER THE DOEE STORMWATER MANAGEMENT GUIDEBOOK, JANUARY, 2020.

Infiltration Trench Sizing		
Infiltration Trench 1-1		
Maximum Reservoir Depth		
i(infiltration rate)	0.6	in/hr
conversion	1.2	ft/day
Drawdown (td)	3	days
nr(porosity)	0.95	(0.40 gravel, 0.95 RTank)
d(max)	3.79	ft
Drawdown Calculation		
d(design)	2.82	ft
Weighted nr(porosity)	0.95	
i(infiltration rate)	1.2	ft/day
Drawdown	2.2	days
Drawdown	53.6	hours
< 72 hours?	YES	
Raintank/Gravel Calcs		
Overall Area	303.0	sf
Raintank Units	101	
Raintank Area	303.0	sf
Gravel Area	0.0	sf
Weighted nr(porosity)	0.95	
Storage Volume Calculation for Reservoir		
SA(design)	303.0	sf
nr(porosity)	0.95	(0.40 gravel, 0.95 RTank)
d(design)	2.82	ft
i(infiltration rate)	1.2	ft/day
tf(fill time)	0.083	days (given)
Sv(design)	841.9	cf

INFILTRATION TRENCH EQUATIONS

PER THE DOEE STORMWATER MANAGEMENT GUIDEBOOK (SECTION 3.8), JANUARY, 2020.

MAXIMUM DEPTH EQUATION

$$d_{max} = \frac{(K_{sat} \times t_d)}{\eta_r}$$

where:

d_{max} = maximum depth of the infiltration practice (ft)
K_{sat} = field-verified saturated hydraulic conductivity for the native soils (ft/day)
t_d = maximum drawdown time (day) (normally 3 days)
η_r = available porosity of the stone reservoir (assume 0.4)

STORAGE VOLUME EQUATION

$$Sv = SA \times [(\eta_r \times d) + (K_{sat} \times t_f)]$$

SA = surface area (ft^2)
DesignStorm = SWRv or other design storm volume (ft^3) (e.g., portion of the SWRv)
η_r = available porosity of the stone reservoir (assume 0.4)
d = infiltration depth (ft) (maximum depends on the the results of Equation 3.11 or 3.12)
K_{sat} = field-verified saturated hydraulic conductivity for the native soils (ft/day)
tf = time to fill the infiltration facility (days) (typically 2 hours, or 0.083 days)

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DISTRICT OF COLUMBIA
DAVID C. LANDSMAN
PE906954
PROFESSIONAL CIVIL ENGINEER

02/09/2023

BASE SHEET ISSUED	06.06.2022
PERMIT SET	11.11.2022
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REVISION	DATE

CAS PROJECT	22-0282-DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	AS SHOWN

5 0 5 10 20
SCALE: 1 INCH = 10 FEET

NORTH

DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE
STORMWATER MANAGEMENT DETAILS

CIV202

Technical

R-Tank Specifications

Dimensions

Module (Units)	Width (mm)	Width (inches)	Length (mm)	Length (inches)	Height (mm)	Height (inches)
Mini	400	15.75	715	28.15	240	9.45
Single (1)	400	15.75	715	28.15	440	17.32
Single + Mini (1.5)	400	15.75	715	28.15	660	25.98
Double (2)	400	15.75	715	28.15	860	33.86
Double + Mini (2.5)	400	15.75	715	28.15	1080	42.52
Triple (3)	400	15.75	715	28.15	1280	50.39
Triple + Mini (3.5)	400	15.75	715	28.15	1500	59.06
Quad (4)	400	15.75	715	28.15	1700	66.93
Quad + Mini (4.5)	400	15.75	715	28.15	1920	75.59
Pent (5)	400	15.75	715	28.15	2120	83.46

Details

Module (Units)	Tank Volume (cf)	Storage Volume (cf)	# of Large Plates	# of Small Plates	# of Mini Sm/Lg Plates	Weight (lbs)
Mini	2.42	2.30	2	0	4 / 2	10.19
Single (1)	4.44	4.22	4	4	0 / 0	15.73
Single + Mini (1.5)	6.67	6.33	5	4	4 / 2	23.61
Double (2)	8.69	8.25	7	8	0 / 0	29.15
Double + Mini (2.5)	10.91	10.36	8	8	4 / 2	37.02
Triple (3)	12.93	12.28	10	12	0 / 0	42.56
Triple + Mini (3.5)	15.15	14.39	11	12	4 / 2	50.43
Quad (4)	17.17	16.31	13	16	0 / 0	55.97
Quad + Mini (4.5)	19.39	18.42	14	16	4 / 2	63.85
Pent (5)	21.41	20.34	16	20	0 / 0	69.38

Specifications

Item	Description			Value	Unit
Void Area	Area available for water storage vs. that made up of plastic			95	%
Surface Area Void	Open area where water may percolate into or out of the unit			95	%
Rib Thickness	Thickness of load-bearing members			0.18 (4.5)	inches (mm)
Unit Weight	Weight of plastic per cubic foot of tank			3.24	lbs / cf
Service Temperature	Operating temperatures where unit can be expected to perform adequately			-14 to 167	Degrees Fahrenheit
Unconfined Crush Strength*	Using a 5" x 5" load plate placed centrally over the unit will determine the pressure at which the top plate with bend to the point of failure			32.48	psi
Unconfined Crush Strength*	Using a full-size load plate that completely covers the top of the unit determines the pressure required to crush the entire unit			30.0	psi
Recycled Content	Percentage of product made from Recycled Polypropylene			100.0	%
180 Day Creep Testing	Used to determine the long-term performance of the system				
		Load Applied	Initial & Sustained	11.16	psi
		Creep Sustained	After 180 Days	0.20	inches
		Creep Sustained	After 180 Days	1.13	%
		Projected Creep	40 Years	1.72	%

*All crush tests performed on units with two internal plates.

Product Pictures

Mini	Single	Double	Triple	Quad	Pent	Other
						Taller Modules May Be Available - Call for Details

Order Line 1-800-448-3636
www.acfenvironmental.com

2/2012

RAINTANK TECHNICAL SPECIFICATIONS

PART 1 – GENERAL

1.01 GENERAL PROVISIONS

A. NOT APPLICABLE

1.02 DESCRIPTION OF WORK

A. PROVIDE EXCAVATION AND BASE PREPARATION AS SHOWN ON THESE DRAWINGS.
B. FURNISH AND INSTALL ATLANTIS MATRIX D–RAINTANK MODULAR SYSTEM PRODUCTS INCLUDING RAINTANK MODULES, GEOTEXTILES, GEOGRIDS, INLET AND OUTLET PIPE WITH CONNECTIONS AS PER DETAILS
C. BACKFILL AND BACKFILL MATERIAL AS NECESSARY TO PROVIDE FOR PROJECT DESIGN LOADS AND AS SPECIFIED ON THE DETAILS.
D. PROVIDE SAFETY MEASURES TO PREVENT EXCAVATION SIDEWALL COLLAPSE.

1.03 QUALITY ASSURANCE

A. INSTALLATION SHALL BE PERFORMED ONLY BY SKILLED WORK PEOPLE WITH SATISFACTORY RECORD OF PERFORMANCE ON INFILTRATION TRENCH CONSTRUCTION OF COMPARABLE SIZE AND QUALITY.

1.04 SUBMITTALS

A. SUBMIT INVOICE OR DELIVERY TICKET FOR ATLANTIS MATRIX D–RAINTANK MODULE PRODUCT.
B. SUBMIT MATERIAL CERTIFICATES FOR GEOTEXTILE, GEOGRID AND ANY IMPORTED BACKFILL MATERIALS.
C. SUBMIT CONSTRUCTION NOTES, PHOTOS, AND AS–BUILT DRAWINGS.
D. ALL SUBMITTALS SHALL BE SENT TO CAS ENGINEERING, 4836 MacArthur Boulevard, NW, 2nd Floor, Washington, DC 20007.

1.05 DELIVERY, STORAGE, AND HANDLING

A. PROTECT ATLANTIS MATRIX D–RAINTANK MODULES FROM DAMAGE DURING DELIVERY. STORE ATLANTIS MATRIX D–RAINTANK MODULES UNDER TARP TO PROTECT FROM SUNLIGHT WHEN TIME FROM DELIVERY TO INSTALLATION EXCEEDS ONE WEEK. STORAGE SHOULD OCCUR ON SMOOTH SURFACES, FREE FROM DIRT, MUD AND DEBRIS.
B. HANDLING IS TO BE PERFORMED WITH EQUIPMENT APPROPRIATE TO THE SIZE (HEIGHT) OF CELLS AND SITE CONDITIONS. EQUIPMENT MAY INCLUDE, BUT NOT LIMITED TO, HAND, FORKLIFTS, AND EXTENSION LIFTS.

1.06 PROJECT CONDITIONS

A. REVIEW INSTALLATION PROCEDURES AND COORDINATE RAINTANK INSTALLATION WITH OTHER WORK AFFECTED, SUCH AS GRADING, EXCAVATION, UTILITIES, CONSTRUCTION ACCESS AND EROSION CONTROL TO PREVENT ALL NON–INSTALLATION RELATED CONSTRUCTION TRAFFIC OVER THE COMPLETED MATRIX D–RAINTANK MODULE INSTALLATION, ESPECIALLY WITH LOADS GREATER THAN DESIGN LOADS.

B. COLD WEATHER:
   1. DO NOT USE FROZEN MATERIALS OR MATERIALS MIZED OR COATED WITH ICE OR FROST.
   2. DO NOT BUILD ON FROZEN GROUND OR WET, SATURATED, OR MUDDY SUBGRADE.
   3. CARE MUST BE TAKEN WHEN HANDLING ATLANTIS MATRIX D–RAINTANK MODULES WHEN AIR TEMPERATURE IS AT 40 DEGREES OR BELOW AS PLASTIC BECOMES BRITTLE.
C. PROTECT PARTIALLY COMPLETED RAINTANK INSTALLATION AGAINST DAMAGE FROM OTHER CONSTRUCTION TRAFFIC WHEN WORK IS IN PROGRESS AND FOLLOWING COMPLETION OF BACKFILL BY ESTABLISHING A PERIMETER WITH HIGHLY VISIBLE CONSTRUCTION TAPE, FENCING, OR OTHER MEANS UNTIL CONSTRUCTION IS COMPLETE.
D. PROTECT ADJACENT WORK FROM DAMAGE DURING RAINTANK INSTALLATION.

PART 2 – PRODUCTS

2.01 AVAILABILITY

A. ATLANTIS MATRIX D–RAINTANK MODULE: ACF ENVIRONMENTAL, 2831 CARDWELL ROAD, RICHMOND, VA 23234; 800–448–3636; FAX 804–743–7779; E–MAIL SALES@ACFENVIRONMENTAL.COM; WEBSITE WWW.ACFENVIRONMENTAL.COM
B. OTHER SYSTEM COMPONENTS MAY BE AVAILABLE FROM ACF ENVIRONMENTAL.

2.02 MATERIALS

A. ATLANTIS MATRIX D–RAINTANK MODULE: INJECTION MOLDED PLASTIC UNITS 408MM X 685 MM X 20MM (16.06" X 26.97" X 0.78") AND 408MM X 430MM X 20MM (16.06" X 16.92" X 0.78"). PLATES CAN BE PRE–ASSEMBLED AND SHIPPED TO THE SITE OR ASSEMBLED ON SITE TO MAKE THE MODULES. THEY CAN ALSO BE ASSEMBLED INTO MULTIPLE STACKED MODULES IN VERTICAL CELL STRUCTURES OF VARIABLE HEIGHT (17.2", 34.65", 51.57", 68.5", OR 85.43" AS REQUIRED), VOLUME=5% SOLID. NOTE THAT WHEN PLACING CELLS INTO THE EXCAVATED AREA, THE TANK SHOULD BE INSTALLED AS PER DETAIL FOR MAXIMUM STRENGTH.
B. GEOTEXTILE: USE ACF N080 OR EQUIVALENT NONWOVEN GEOTEXTILE WITH A WEIGHT OF AT LEAST 8 OZ PER SQUARE YARD, APPROPRIATE FOR THE SOIL TYPE AND DEPTH CONDITIONS, PLACED ON THE FLOOR OF THE EXCAVATION, THE SIDES OF THE MODULE, AND TOP OF THE MODULE.
C. BACKFILL: GRANULAR OR OTHER FREE–DRAINING MATERIALS COMPATIBLE TO 95%, FREE FROM LUMPS AND DEBRIS OR ANY OTHER SHARP MATERIALS. ON–SITE SOILS MAY BE USED IF THEY MEET THIS CRITERIA. MUST BE COMPACTED IN LIFTS THAT DO NOT EXCEED 12".
D. GEOGRID: USE ACF BX12 OR EQUIVALENT TO REINFORCE BACKFILL ABOVE RAINTANK. GEOGRID SHOULD EXTEND 3 FEET BEYOND THE EXCAVATION FOOTPRINT.
E. UTILITY MARKER: USE METALLIC TAPE TO MARK THE AREA FOR FUTURE UTILITY DETECTION.

PART 3 – EXECUTION

3.01 INSPECTION

A. EXAMINE PREPARED EXCAVATION FOR SMOOTHNESS AND LEVEL. DO NOT START INSTALLATION OF ATLANTIS MATRIX D–RAINTANK UNTIL UNSATISFACTORY CONDITIONS ARE CORRECTED. CHECK FOR PRESENCE OF HIGH WATER TABLE, WHICH MUST BE KEPT AT LEVELS BELOW THE BOTTOM OF THE RAINTANK STRUCTURE AT ALL TIMES.

B. INSTALLATION CONSTITUTES ACCEPTANCE OF EXISTING CONDITIONS AND RESPONSIBILITY FOR SATISFACTORY PERFORMANCE. IF EXISTING CONDITIONS ARE FOUND UNSATISFACTORY, CONTACT CAS ENGINEERING FOR RESOLUTION.

C. CONTRACTOR SHALL PROVIDE NOTICE TO THE SEDIMENT CONTROL INSPECTOR IN ACCORDANCE WITH PERMIT REQUIREMENTS.

D. CONTRACTOR SHALL PROVIDE CAS ENGINEERING, 202–393–7200, 48 HOURS NOTICE PRIOR TO INSTALLATION OF ATLANTIS MATRIX D–RAINTANK MODULAR SYSTEM FOR CONSTRUCTION OBSERVATION.
E. CONTRACTOR SHALL CONTACT CHUCK PORTER, ACF ENVIRONMENTAL, 443–864–8331, 48 HOURS PRIOR TO INSTALLATION TO SCHEDULE SITE AND INSTALLATION INSPECTION.

3.02 PREPARATION

A. EXCAVATE TO SPECIFIED ELEVATION ENSURING A LEVEL WORKING SURFACE. DO NOT DISTURB SOIL BELOW THE SPECIFIED DEPTH. BACKFILL WITH NO. 57 STONE IF BACKFILLING IS NECESSARY TO MEET SPECIFIED GRADE.
B. ENSURE EXCAVATION MEETS LOCAL AND FEDERAL LAWS AND REGULATIONS.
C. IT IS HELPFUL TO IDENTIFY THE OUTLINE OF THE STRUCTURE ON THE FLOOR OF THE EXCAVATION, USING SPRAY PAINT OR CHALK LINE, TO ENSURE SQUARENESS DURING MODULE PLACEMENT.

3.03 INSTALLATION OF ATLANTIS MATRIX D–RAINTANK MODULE:

A. LAY GEOTEXTILE ON THE BASE OF THE EXCAVATION AND SIDEWALLS WITH EXTRA MATERIAL ON SIDE TO WRAP THE TANK MODULES FROM THE TOP.
B. INSTALL RAINTANK MODULES BY PLACING UNITS SIDE–BY–SIDE AS SHOWN ON THE PLANS.
C. CUT RAINTANK MODULES FOR THE INSTALLATION OF THE INSPECTION PORTS AND MAINTENANCE PORTS. WHENEVER POSSIBLE, CUT BETWEEN THE INTERIOR BAFFLES OF THE TANK.
D. WRAP THE TANK MODULES IN GEOTEXTILE FABRIC FROM THE SIDES AND THE TOP TO PREVENT SOIL ENTRY INTO THE RAINTANK MODULES. OVERLAP GEOTEXTILE 12" OR AS RECOMMENDED BY MANUFACTURER, WHICHEVER IS GREATER.
E. IDENTIFY LOCATIONS OF INLET, OUTLET, INSPECTION PORTS, MAINTENANCE PORTS, AND ANY OTHER PENETRATIONS OF THE GEOTEXTILE. SECURE PIPE INTO BOOTS WITH STAINLESS STEEL PIPE CLAMPS. SUPPORT PIPE IN TRENCHES DURING BACKFILL OPERATIONS TO PREVENT DAMAGE TO GEOTEXTILE OR PIPE. PROVIDE CAPS FOR INSPECTION AND MAINTENANCE PORTS AS NECESSARY TO PREVENT DEBRIS TO ENTER RAINTANK.
F. START BACKFILLING WITH BACKFILL, COMPACTING IN 12" MAXIMUM LIFTS. PLACE BACKFILL CAREFULLY TO AVOID SHOVING OR DAMAGING TANKS. COMPACT BACKFILL ON STRUCTURE SIDES WITH CARE TO AVOID DAMAGE TO GEOTEXTILE. WITH MODULES GREATER THAN 4 FEET DEEP, PLACE PILES OF BACKFILL ON TOP OF THE ENCLOSED SYSTEM'S OUTER EDGE TO PROVIDE VERTICAL LOAD ON PERIMETER MODULES. THIS WILL ENSURE COMPRESSION OF THE TOP OF THE SYSTEM AND AID IN RESISTANCE TO SIDE PRESSURES FROM BACKFILL OPERATIONS. PLACE A LAYER OF GEOGRID DIRECTLY OVER THE TOP OF THE RAINTANK UNITS, EXTENDING 3' BEYOND THE EXCAVATION WALLS. WHEN BACKFILL REACHES 12" ABOVE THE RAINTANK UNITS, PLACE A LAYER OF GEOGRID, EXTENDING 3' BEYOND THE EXCAVATION WALLS. WHEN BACKFILL REACHES 48" ABOVE THE RAINTANK UNITS, PLACE A LAYER OF GEOGRID, EXTENDING 3' BEYOND THE EXCAVATION WALLS.
G. BACKFILL ABOVE SYSTEM SHOULD BE COMPACTED IN 6" LIFTS USING VIBRATING PLATES OR WALK–BEHIND ROLLERS (DO NOT USE DRIVABLE ROLLING COMPACTORS). COMPACTION TO BE A MINIMUM OF 95%, WITH A MINIMUM DEPTH OF 12" AND A MAXIMUM DEPTH OF 36" OR AS SPECIFIED ON ENGINEERING DRAWINGS. TAKE CARE TO PLACE BACKFILL ON TOP OF STRUCTURE TO AVOID DAMAGE TO STRUCTURE AND GEOTEXTILE USING LOW PRESSURE TIRE OR TRACK VEHICLES.
H. ENSURE THAT ALL UNRELATED CONSTRUCTION TRAFFIC BE KEPT AWAY FROM THE LIMITS OF EXCAVATION UNTIL THE PROJECT IS COMPLETE AND FINAL SURFACE MATERIALS ARE IN PLACE.
I. PLACE SURFACING MATERIALS, SUCH AS GROUNDCOVERS (NO SHRUBS OR TREES), OVER THE STRUCTURE WITH CARE TO AVOID DISPLACEMENT OF COVER FILL AND DAMAGE TO SURROUNDING AREAS.

3.04 CLEANING

A. PERFORM CLEANING DURING THE INSTALLATION OF WORK AND UPON COMPLETION OF THE WORK. REMOVE FROM SITE ALL EXCESS MATERIALS, DEBRIS, AND EQUIPMENT. REPAIR ANY DAMAGE TO ADJACENT MATERIALS AND SURFACES RESULTING FROM INSTALLATION OF THIS WORK.

INFILTRATION TRENCH MAINTENANCE

(SOURCE: DOEE STORMWATER MANAGEMENT GUIDEBOOK, SECTION 3.8, JANUARY, 2020)

Table 3-30 Typical Maintenance Activities for Infiltration Practices

Schedule	Maintenance Activity
Quarterly	▪ Ensure that the CDA, inlets, and facility surface are clear of debris. ▪ Ensure that the CDA is stabilized. Perform spot-reseeding if where needed. ▪ Remove sediment and oil/grease from inlets, pretreatment devices, flow diversion structures, and overflow structures. ▪ Repair undercut and eroded areas at inflow and outflow structures.
Semi-annual inspection	▪ Check observation wells 3 days after a storm event in excess of 0.5 inch in depth. Standing water observed in the well after 3 days is a clear indication of clogging. ▪ Inspect pretreatment devices and diversion structures for sediment build-up and structural damage.
Annually	▪ Clean out accumulated sediment from the pretreatment cell.
As needed	▪ Replace pea gravel/topsoil and top surface geotextile fabric (when clogged). ▪ Mow vegetated filter strips as necessary and remove the clippings.

COMPACTION PROTECTION NOTES

(SOURCE: DOEE STORMWATER MANAGEMENT GUIDEBOOK, SECTION 3.8, JANUARY, 2020)

1. ALL AREAS PROPOSED FOR INFILTRATION PRACTICES SHOULD BE FULLY PROTECTED FROM SEDIMENT INTRUSION BY SILT FENCE OR CONSTRUCTION FENCING, PARTICULARLY IF THEY ARE INTENDED TO INFILTRATE RUNOFF.

2. AVOID EXCESSIVE COMPACTION BY PREVENTING CONSTRUCTION EQUIPMENT AND VEHICLES FROM TRAVELING OVER THE PROPOSED LOCATION OF THE INFILTRATION PRACTICE. TO ACCOMPLISH THIS, AREAS INTENDED TO INFILTRATE RUNOFF MUST REMAIN OUTSIDE THE LIMITS OF DISTURBANCE DURING CONSTRUCTION.

3. WHEN THIS IS UNAVOIDABLE, THERE ARE SEVERAL POSSIBLE REMEDIES FOR THE IMPACTED AREA.

   A. IF EXCAVATION AT THE IMPACTED AREA CAN BE RESTRICTED, THEN REMEDIATION CAN BE ACHIEVED WITH DEEP TILLING PRACTICES. THIS IS ONLY POSSIBLE IF IN SITU SOILS ARE NOT DISTURBED BELOW 2 FEET ABOVE THE FINAL DESIGN ELEVATION OF THE BOTTOM OF THE INFILTRATION PRACTICE. IN THIS CASE, WHEN HEAVY EQUIPMENT ACTIVITY HAS CEASED, THE AREA IS EXCAVATED TO GRADE, AND THE IMPACTED AREA MUST BE TILLED A MINIMUM OF 12 INCHES BELOW THE BOTTOM OF THE INFILTRATION PRACTICE.

   B. ALTERNATIVELY, IF IT IS INFEASIBLE TO KEEP THE PROPOSED INFILTRATION PRACTICE OUTSIDE OF THE LIMITS OF DISTURBANCE, AND EXCAVATION OF THE AREA CANNOT BE RESTRICTED, THEN INFILTRATION TESTS WILL BE REQUIRED PRIOR TO INSTALLATION OF THE INFILTRATION PRACTICE TO ENSURE THAT THE DESIGN INFILTRATION RATE IS STILL PRESENT. IF TESTS REVEAL THE LOSS OF DESIGN INFILTRATION RATES, THEN DEEP TILLING PRACTICES MAY BE USED IN AN EFFORT TO RESTORE THOSE RATES. IN THIS CASE FURTHER TESTING MUST BE DONE TO ESTABLISH DESIGN RATES EXIST BEFORE THE INFILTRATION PRACTICE CAN BE INSTALLED.

   C. FINALLY, IF IT IS INFEASIBLE TO KEEP THE PROPOSED INFILTRATION AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE, EXCAVATION OF THE AREA CANNOT BE RESTRICTED, AND INFILTRATION TESTS REVEAL DESIGN RATES CANNOT BE RESTORED, THEN A RESUBMISSION OF THE SWMP WILL BE REQUIRED.

4. ANY AREA OF THE SITE INTENDED ULTIMATELY TO BE AN INFILTRATION PRACTICE SHOULD NOT BE USED AS THE SITE OF A TEMPORARY SEDIMENT TRAP OR BASIN. IF LOCATING A SEDIMENT TRAP OR BASIN ON AN AREA INTENDED FOR INFILTRATION IS UNAVOIDABLE, THE REMEDIES ARE SIMILAR TO THOSE DISCUSSED FOR HEAVY EQUIPMENT COMPACTION. IF POSSIBLE, RESTRICT THE INVERT OF THE SEDIMENT TRAP OR BASIN TO AT LEAST 2 FEET ABOVE THE FINAL DESIGN ELEVATION OF THE BOTTOM OF THE PROPOSED INFILTRATION PRACTICE. THEN REMEDIATION CAN BE ACHIEVED WITH PROPER REMOVAL OF TRAPPED SEDIMENTS AND DEEP TILLING PRACTICES. AN ALTERNATE APPROACH TO DEEP TILLING IS TO USE AN IMPERMEABLE LINEAR TO PROTECT THE IN SITU SOILS FROM SEDIMENTATION WHILE THE SEDIMENT TRAP OR BASIN IS IN USE. IN EACH CASE, ALL SEDIMENT DEPOSITS MUST BE CAREFULLY REMOVED PRIOR TO INSTALLING THE INFILTRATION PRACTICE.

5. KEEP THE INFILTRATION PRACTICE OFF–LINE UNTIL CONSTRUCTION IS COMPLETE. PREVENT SEDIMENT FROM ENTERING THE INFILTRATION SITE BY USING SUPER SILT FENCE, DIVERSION BERMS, OR OTHER MEANS. IN THE SOIL EROSION AND SEDIMENT CONTROL PLAN, INDICATE THE EARLIEST TIME AT WHICH STORMWATER RUNOFF MAY BE DIRECTED TO A CONVENTIONAL INFILTRATION BASIN. THE SOIL EROSION AND SEDIMENT CONTROL PLAN MUST ALSO INDICATE THE SPECIFIC METHODS TO BE USED TO TEMPORARILY KEEP RUNOFF FROM THE INFILTRATION SITE.

6. UPLAND CDAs NEED TO BE COMPLETELY STABILIZED WITH A WELL–ESTABLISHED LAYER OF VEGETATION PRIOR TO COMMENCING EXCAVATION FOR AN INFILTRATION PRACTICE.

INFILTRATION TRENCH CONSTRUCTION SEQUENCE

(SOURCE: DOEE STORMWATER MANAGEMENT GUIDEBOOK, SECTION 3.8, JANUARY, 2020)

INFILTRATION PRACTICES ARE PARTICULARLY VULNERABLE TO FAILURE DURING THE CONSTRUCTION PHASE FOR TWO REASONS. FIRST, IF THE CONSTRUCTION SEQUENCE IS NOT FOLLOWED CORRECTLY, CONSTRUCTION SEDIMENT CAN CLOG THE PRACTICE. SECOND, LOADING FROM HEAVY CONSTRUCTION EQUIPMENT CAN RESULT IN COMPACTION OF THE SOIL, WHICH CAN THEN REDUCE THE SOIL'S INFILTRATION RATE. FOR THIS REASON, A CAREFUL CONSTRUCTION SEQUENCE NEEDS TO BE FOLLOWED.

DURING SITE CONSTRUCTION, THE FOLLOWING PROTECTIVE MEASURES ARE ABSOLUTELY CRITICAL:

- ALL AREAS PROPOSED FOR INFILTRATION PRACTICES SHOULD BE FULLY PROTECTED FROM SEDIMENT INTRUSION BY SILT FENCE OR CONSTRUCTION FENCING, PARTICULARLY IF THEY ARE INTENDED TO INFILTRATE RUNOFF.
- AVOID EXCESSIVE COMPACTION BY PREVENTING CONSTRUCTION EQUIPMENT AND VEHICLES FROM TRAVELING OVER THE PROPOSED LOCATION OF THE INFILTRATION PRACTICE. TO ACCOMPLISH THIS, AREAS INTENDED TO INFILTRATE RUNOFF MUST REMAIN OUTSIDE THE LIMITS OF DISTURBANCE DURING CONSTRUCTION.
- WHEN THIS IS UNAVOIDABLE, THERE ARE SEVERAL POSSIBLE REMEDIES FOR THE IMPACTED AREA.
- IF EXCAVATION AT THE IMPACTED AREA CAN BE RESTRICTED, THEN REMEDIATION CAN BE ACHIEVED WITH DEEP TILLING PRACTICES. THIS IS ONLY POSSIBLE IF IN SITU SOILS ARE NOT DISTURBED BELOW 2 FEET ABOVE THE FINAL DESIGN ELEVATION OF THE BOTTOM OF THE INFILTRATION PRACTICE. IN THIS CASE, WHEN HEAVY EQUIPMENT ACTIVITY HAS CEASED, THE AREA IS EXCAVATED TO GRADE, AND THE IMPACTED AREA MUST BE TILLED A MINIMUM OF 12 INCHES BELOW THE BOTTOM OF THE INFILTRATION PRACTICE.
- ALTERNATIVELY, IF IT IS INFEASIBLE TO KEEP THE PROPOSED INFILTRATION PRACTICE OUTSIDE OF THE LIMITS OF DISTURBANCE, AND EXCAVATION OF THE AREA CANNOT BE RESTRICTED, THEN INFILTRATION TESTS WILL BE REQUIRED PRIOR TO INSTALLATION OF THE INFILTRATION PRACTICE TO ENSURE THAT THE DESIGN INFILTRATION RATE IS STILL PRESENT. IF TESTS REVEAL THE LOSS OF DESIGN INFILTRATION RATES, THEN DEEP TILLING PRACTICES MAY BE USED IN AN EFFORT TO RESTORE THOSE RATES. IN THIS CASE FURTHER TESTING MUST BE DONE TO ESTABLISH DESIGN RATES EXIST BEFORE THE INFILTRATION PRACTICE CAN BE INSTALLED.
- FINALLY, IF IT IS INFEASIBLE TO KEEP THE PROPOSED PERMEABLE PAVEMENT AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE, EXCAVATION OF THE AREA CANNOT BE RESTRICTED, AND INFILTRATION TESTS REVEAL DESIGN RATES CANNOT BE RESTORED, THEN A RESUBMISSION OF THE SWMP WILL BE REQUIRED.
- ANY AREA OF THE SITE INTENDED ULTIMATELY TO BE AN INFILTRATION PRACTICE SHOULD NOT BE USED AS THE SITE OF A TEMPORARY SEDIMENT TRAP OR BASIN. IF LOCATING A SEDIMENT TRAP OR BASIN ON AN AREA INTENDED FOR INFILTRATION IS UNAVOIDABLE, THE REMEDIES ARE SIMILAR TO THOSE DISCUSSED FOR HEAVY EQUIPMENT COMPACTION. IF POSSIBLE, RESTRICT THE INVERT OF THE SEDIMENT TRAP OR BASIN TO AT LEAST 2 FEET ABOVE THE FINAL DESIGN ELEVATION OF THE BOTTOM OF THE PROPOSED INFILTRATION PRACTICE. THEN REMEDIATION CAN BE ACHIEVED WITH PROPER REMOVAL OF TRAPPED SEDIMENTS AND DEEP TILLING PRACTICES. AN ALTERNATE APPROACH TO DEEP TILLING IS TO USE AN IMPERMEABLE LINEAR TO PROTECT THE IN SITU SOILS FROM SEDIMENTATION WHILE THE SEDIMENT TRAP OR BASIN IS IN USE. IN EACH CASE, ALL SEDIMENT DEPOSITS MUST BE CAREFULLY REMOVED PRIOR TO INSTALLING THE INFILTRATION PRACTICE.
- KEEP THE INFILTRATION PRACTICE OFF–LINE UNTIL CONSTRUCTION IS COMPLETE. PREVENT SEDIMENT FROM ENTERING THE INFILTRATION SITE BY USING SUPER SILT FENCE, DIVERSION BERMS, OR OTHER MEANS. IN THE SOIL EROSION AND SEDIMENT CONTROL PLAN, INDICATE THE EARLIEST TIME AT WHICH STORMWATER RUNOFF MAY BE DIRECTED TO A CONVENTIONAL INFILTRATION BASIN. THE SOIL EROSION AND SEDIMENT CONTROL PLAN MUST ALSO INDICATE THE SPECIFIC METHODS TO BE USED TO TEMPORARILY KEEP RUNOFF FROM THE INFILTRATION SITE.
- UPLAND CDAS NEED TO BE COMPLETELY STABILIZED WITH A WELL–ESTABLISHED LAYER OF VEGETATION PRIOR TO COMMENCING EXCAVATION FOR AN INFILTRATION PRACTICE.

INFILTRATION INSTALLATION. THE ACTUAL INSTALLATION OF AN INFILTRATION PRACTICE IS DONE USING THE FOLLOWING STEPS:

1. AVOID IMPACT OF HEAVY INSTALLATION EQUIPMENT. EXCAVATE THE INFILTRATION PRACTICE TO THE DESIGN DIMENSIONS FROM THE SIDE USING A BACKHOE OR EXCAVATOR. THE FLOOR OF THE PIT SHOULD BE COMPLETELY LEVEL, BUT EQUIPMENT SHOULD BE KEPT OFF THE FLOOR AREA TO PREVENT SOIL COMPACTION.

2. HANG GEOTEXTILE WALLS. INSTALL GEOTEXTILE FABRIC ON THE TRENCH SIDES. LARGE TREE ROOTS SHOULD BE TRIMMED FLUSH WITH THE SIDES OF INFILTRATION TRENCHES TO PREVENT PUNCTURING OR TEARING OF THE GEOTEXTILE FABRIC DURING SUBSEQUENT INSTALLATION PROCEDURES. WHEN LAYING OUT THE GEOTEXTILE, THE WIDTH SHOULD INCLUDE SUFFICIENT MATERIAL TO COMPENSATE FOR PERIMETER IRREGULARITIES IN THE TRENCH AND FOR A 6–INCH MINIMUM OVERLAP AT THE TOP OF THE TRENCH. THE GEOTEXTILE FABRIC ITSELF SHOULD BE TUCKED UNDER THE SAND LAYER ON THE BOTTOM OF THE INFILTRATION TRENCH. STONES OR OTHER ANCHORING OBJECTS SHOULD BE PLACED ON THE FABRIC AT THE TRENCH SIDES, TO KEEP THE TRENCH OPEN DURING WINDY PERIODS. VOIDS MAY OCCUR BETWEEN THE FABRIC AND THE EXCAVATED SIDES OF A TRENCH. NATURAL SOILS SHOULD BE PLACED IN ALL VOIDS, TO ENSURE THE FABRIC CONFORMS SMOOTHLY TO THE SIDES OF EXCAVATION.

3. PROMOTE INFILTRATION RATE. SCARIFY THE BOTTOM OF THE INFILTRATION PRACTICE, AND SPREAD 6 INCHES OF SAND ON THE BOTTOM AS A FILTER LAYER.

4. OBSERVATION WELLS. ANCHOR THE OBSERVATION WELL(S) AND ADD STONE TO THE PRACTICE IN 1–FOOT LIFTS.

5. STABILIZE SURROUNDING AREA. USE SOD, WHERE APPLICABLE, TO ESTABLISH A DENSE TURF COVER FOR AT LEAST 10 FEET AROUND THE SIDES OF THE INFILTRATION PRACTICE, TO REDUCE EROSION AND SLOUGHING.

CONSTRUCTION SUPERVISION. SUPERVISION DURING CONSTRUCTION IS RECOMMENDED TO ENSURE THAT THE INFILTRATION PRACTICE IS BUILT IN ACCORDANCE WITH THE APPROVED DESIGN AND THIS SPECIFICATION. QUALIFIED INDIVIDUALS SHOULD USE DETAILED INSPECTION CHECKLISTS TO INCLUDE SIGN–OFFS AT CRITICAL STAGES OF CONSTRUCTION, TO ENSURE THAT THE CONTRACTOR'S INTERPRETATION OF THE PLAN IS CONSISTENT WITH THE DESIGNER'S INTENTIONS.

DOEE'S CONSTRUCTION PHASE INSPECTION CHECKLIST FOR INFILTRATION PRACTICES CAN BE FOUND IN APPENDIX L – CONSTRUCTION INSPECTION CHECKLISTS

CAS ENGINEERING-DC, LLC
Experience you can build on.

CAS ENGINEERING-DC, LLC
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Washington, DC 20007
(202) 393-7200 Phone
www.cas-dc.com
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CIVIL • SURVEYING • LAND PLANNING

OWNER/CLIENT
COBA PROPERTIES
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WASHINGTON, DC 20009
(202) 596-7459 (CELL)
abdo@cobadc.com
ATTN: ABDO ROFFE

ARCHITECT
OVERMYER ARCHITECTS
3213 P STREET, NW
WASHINGTON, DC 20007
(202) 333-5596 (PHONE)

LOT 0889, SQUARE 1254
GEORGETOWN

1524 33RD
STREET, NW

N.W. WASHINGTON,
DISTRICT OF COLUMBIA

ENGINEER ATTESTATION:

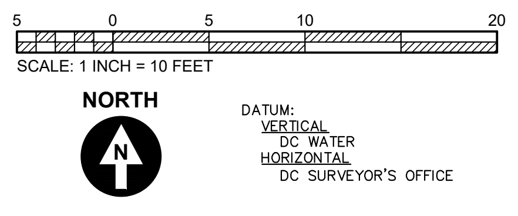
I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

I FURTHER CERTIFY THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER IN THE DISTRICT OF COLUMBIA, LICENSE NUMBER PE906954, EXPIRATION DATE 08/31/2024. THIS ATTESTATION APPLIES ONLY TO CIVIL ENGINEERING AND RELATED COMPONENTS TO THE EXTENT THEY ARE WITHIN OUR SCOPE OF SERVICES FOR THIS PROJECT, AND BEAR MY SEAL AND SIGNATURE.

DAVID C. LANDSMAN
PE906954
02/09/2023

REVISION	DATE
BASE SHEET ISSUED	06.06.2022
PERMIT SET	11.11.2022
REVISED PER DC WATER COMMENTS	12.01.2022
REVISED PER DOEE COMMENTS	12.16.2022
TO DOEE FOR APPROVAL	01.18.2023
OGB PERMIT SET	02.09.2023

CAS PROJECT	22–0282–DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	AS SHOWN



DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE
STORMWATER MANAGEMENT DETAILS

CIV203

Synteen

www.synteen.com

SR18

The Green Secondary Reinforcement and Soil Retention Biaxial Geogrid for Stabilized Earth Retaining Wall and Geogrid Reinforced Slopes.

Synteen SR18 is utilized in a variety of soil reinforcement applications such as:
- ❖ Secondary reinforcement layer in reinforced soil embankments.
- ❖ Face wrap behind welded wire or wire basket faced retaining walls.
- ❖ Reinforcement in non-critical segmental block (SRW) and natural stone (rockery) retaining walls.
- ❖ Reinforcement under pavers, unpaved trails and paths. SR18 provides increased stabilization, reduces rutting, and decreases the costs associated with maintenance.
- ❖ SR18 provides exceptional strength, creep resistance and soil/aggregate retention properties.

SR18 is composed of high molecular weight, high tenacity multifilament polyester yarns that are woven into a stable network placed under tension. The high strength polyester yarns are coated with a GREEN PVC material . SR Geogrids are inert to biological degradation and are resistant to naturally encountered chemicals, alkalis and acids.

TENSILE PROPERTIES	TEST METHOD	MD MARV VALUES (LBS/FT)	CD MARV VALUES (LBS/FT)
Ultimate Strength	ASTM D 6637	1700	1400
Creep Limited Strength	ASTM D 5262	1076	886
T_{al} = Long Term Design Strength Machine Direction and Cross Machine	NCMA 97	889	732
Aperture Size (ins.)	Measured		0.080 x 0.080

RF Creep - 1.58 RF Durability - 1.10 RF Installation Damage (Soil Type 3) - 1.10

SYNTEEN Technical Fabrics, Inc Warranty Synteen Technical Fabrics warrants our products to be free from defects in material and workmanship when delivered to our customers and that our products meet our published specifications. If a product is found to be defective, and our customer gives notice to Synteen Technical Fabrics before installing the product, Synteen Technical Fabrics will replace the product without charge to our customer or refund the purchase price at Synteen Technical Fabrics election. Replacing the product or obtaining a refund are the buyer's sole remedy for a breach and Synteen Technical Fabrics will not be liable for any consequential damage attributed to a defective product. This warranty is given in lieu of all other warranties, express or implied, including the implied warranty of merchantability or fitness for a particular purpose. There are no warranties, which extend beyond the description provided herein.

PROUDLY MADE IN THE USA by Synteen
Lancaster, South Carolina

GEOSYNTHETICS

ACF BX12
TECHNICAL DATA SHEET
GEOGRID

ACF BX12 geogrid is composed of polypropylene resin which is extruded into a stable geogrid structure. ACF BX12 geogrid is inert to biological degradation and resistant to naturally encountered chemicals, alkais, and acids.

ACF BX12 geogrid increases roadbed and foundation bearing capacity, while prolonging the service life of each by the confinement of the base course. ACF BX12 prevents lateral spreading of the base or sub-base aggregate and allows for shear interaction to develop between the aggregate and the geogrid.

ACF BX12 geogrid reduces the applied vertical pressure of heavy loads at depth of aggregate by spreading the load over a wider area.

SPECIFICATIONS:

The ACF BX12 Geogrid will utilize the following characteristics:

PROPERTY	TEST METHOD	TYPICAL ROLL VALUE MD	TYPICAL ROLL VALUE CMD
Ultimate Tensile Strength[1]	ASTM D6637	1310 lbs/ft	1970 lbs/ft
Tensile Strength at 2%[1]	ASTM D6637	410 lbs/ft	620 lbs/ft
Tensile Strength at 5%[1]	ASTM D6637	810 lbs/ft	1340 lbs/ft
UV Resistance	ASTM D4355	100%	
Junction Efficiency[2]		93%	
Flexural Stiffness[3]		750,000 mg-cm	
Resistance to UV Degradation[5]	ASTM D4355	100%	
Rib Thickness		0.05 in	
Aperture Size		1.0 in	1.3 in
Roll Size (width x length)		13.1 X 164 ft	
Roll Weight		250 lbs	
Roll Area		239 yd^2	

[1] True resistance to elongation when initially subjected to a load determined in accordance with ASTM D 6637 without deforming test materials under load before measuring such resistance or employing "secant" or "offset" tangent methods of measurement so as to overstate tensile properties.
[2] Load transfer capability calculated as a % of ultimate tensile strength.
[3] Resistance to bending force determined in accordance with ASTM D 5732. The overall Flexural Stiffness is calculated as the square root of the product of MD and CMD Flexural Stiffness values.
[4] Resistance to in-plane rotational movement measured by applying a 20kg-cm (2 m-N) moment to the central junction of a 9 inch x 9 inch specimen in accordance with U.S. Army Corps of Engineers Methodology for measurement of Torsional Rigidity.
[5] Tested according to ASTM D 4355.

For more information about our products, contact Inside Sales at 800.448.3636 or email at info@acfenv.com

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GEOSYNTHETICS

N080
TECHNICAL DATA SHEET
NONWOVEN GEOTEXTILE

N080 is a polypropylene, needle punched nonwoven geotextile for use in drainage and separation applications. It has been stabilized to resist degradation due to ultraviolet exposure and is resistant to commonly encountered mildew, insects and soil chemicals, and is non-biodegradable.

SPECIFICATIONS:

The N080 polypropylene nonwoven fabric will utilize the following characteristics:

PROPERTY	TEST METHOD	MIN. AVG. ROLL VALUE
Grab Tensile Strength[1]	ASTM D4632	205 lbs
Grab Tensile Elongation	ASTM D4632	50%
CBR Puncture	ASTM D6241	525 lbs
Trapezoid Tear Strength	ASTM D4533	80 lbs
UV Resistance @ 500 hrs	ASTMD4355	70%
Apparent Opening Size (AOS)	ASTM D4751	80 US Sieve
Permittivity (sec^{-1})	ASTM D4491	1.4 (sec^{-1})
Flow Rate	ASTM D4491	90 gpm/ft^2

Values quoted above are the result of multiple tests conducted at an independent testing facility. N080 meets or exceeds values listed.
[1] Values apply to both machine and cross-machine directions

PACKAGING:

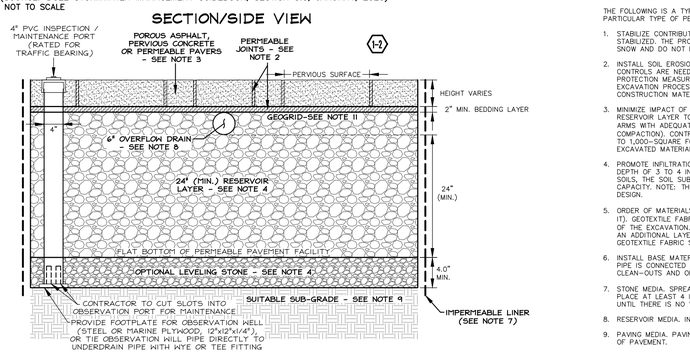
Roll Width	12.5 ft.	15 ft.
Roll Length	360 ft.	300 ft.
Roll Area	500 yd^2	500 yd^2

For more information about our products, contact Inside Sales at 800.448.3636 or email at info@acfenv.com

PERMEABLE PAVEMENT DETAILS

(SOURCE: DOEE STORMWATER MANAGEMENT GUIDEBOOK, SECTION 3.5, JANUARY, 2020)
NOT TO SCALE

SECTION/SIDE VIEW



PERMEABLE PAVEMENT NOTES

1) PRE-TREATMENT TO BE PROVIDED WHERE LANDSCAPE AREAS CONVEY INTO PERMEABLE PAVEMENT FACILITIES IN THE FORM OF A 6" GRAVEL FILTER STRIP WHERE SHOWN ON PLANS.

2) PERMEABLE JOINTS AND BEDDING LAYER TO BE AASHTO NO. 8 STONE, DOUBLE WASHED AND CLEAN/FREE OF ALL FINES, OR AS DIRECTED BY MANUFACTURER OF SURFACE COURSE.

3) MAXIMUM SURFACE SLOPE TO BE 5% OR LESS. SURFACE TREATMENT TO BE PERMEABLE PAVEMENT AND MEET THE FOLLOWING REQUIREMENTS:

Table 3.13 Permeable Pavement Specifications for a Variety of Typical Surface Materials

Material	Specification	Notes
Permeable Pavers (PP)	Void content, thickness, and compressive strength vary based on type and manufacturer Open void fill media: aggregate, topsoil and grass, coarse sand, etc.	Reservoir layer required to support the structural load.
~~Pervious Concrete (PC)~~	~~Void content: 15% to 25%~~ ~~Thickness: typically 4 to 8 inches~~ ~~Compressive strength: 2,500 to 4,000 psi~~ ~~Open void fill media: None~~	~~May not require a reservoir layer to support the structural load, but a layer may be included to increase the storage or detention.~~
~~Porous Asphalt (PA)~~	~~Void content: 15% to 20%~~ ~~Thickness: typically 3 to 7 inches (depending on structural load)~~ ~~Open void fill media: None.~~	~~Reservoir layer required to support the structural load.~~

PERMEABLE PAVER TO BE BELGRADE AQUALINE PAVER OR APPROVED EQUIVALENT.

4) RESERVOIR LAYER TO BE CLEAN, DOUBLE-WASHED STONE AGGREGATE. STONE TO BE AASHTO NO. 2 OR NO. 3 AND CLEAN/FREE OF ALL FINES. BOTTOM OF RESERVOIR LAYER SHOULD BE FLAT, USE TERRAONG AND CHECK DAMS IF NECESSARY. DEPTH VARIES BY FACILITY. SEE STRUCTURE SCHEDULE AND APPLICABLE EXHIBIT(S). NO. 57 MAY BE UTILIZED IN FACILITIES WHERE THE DEPTH DOES NOT EXCEED 8".

5) DIMENSIONS AND GRADING OF DRIVEWAY AREA TO BE PER APPROVED SITE PLAN.

6) INSTALLATION TO BE PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS. TYPICAL INSTALLATION PROCEDURE PROVIDED FOR REFERENCE ONLY.

7) ALL AREAS WITHIN 10 FEET OF BUILDINGS/STRUCTURES/SUB-GRADE UTILITIES/ADJOINING PROPERTY LINES MUST HAVE AN IMPERMEABLE LINER, 30 MIL PVC LINER OR BETTER. REFER TO STRUCTURAL FOUNDATION DRAWINGS FOR ADDITIONAL WATERPROOFING MEASURES AS APPROPRIATE. ALSO PROVIDE IMPERMEABLE LINER AT THE INTERFACE OF PERMEABLE PAVEMENT AND TRADITIONAL PAVEMENT, AS WELL AS AT LOCATIONS WHERE PERMEABLE PAVEMENT ABUTS PROPERTY LINES SHARED WITH ADJOINING PROPERTIES. PROVIDE A 6-INCH OVERLAP OF MATERIAL AT ALL SEAMS. PROVIDE A CLASS 1 GEOTEXTILE ON ALL SIDES AND BOTTOMS WHERE IMPERMEABLE LINER IS NOT REQUIRED/UTILIZED.

8) PROVIDE 6" PERFORATED SCHEDULE 40 PVC OVERFLOW DRAIN AS SHOWN. OVERFLOW TO SIT DIRECTLY BENEATH THE PAVERS/GEOGID, HAVE SOLID ENDCAPS AND PERFORATIONS TO BEGIN 1.0' INSIDE THE PERMEABLE PAVEMENT AREA. PERFORATIONS TO BE 3/8" AT 6" ON-CENTER. PROVIDE AN OBSERVATION WELL WHERE SHOWN ON PLA, 4" VERTICAL PVC PIPE WITH FLUSH PANELLA CAP. OBSERVATION PORT TO BE CONNECTED TO THE FACILITY UNDERDRAIN VIA AN ELBOW, WYE, TEE, OR OTHER SIMILAR FITTING. OBSERVATION PORT TO BE PERFORATED, 3/8" PERFORATIONS AT 6" ON-CENTER, 4 ROWS. NO PERFORATIONS TO OCCUR WITHIN THE TOP 3" OF THE RESERVOIR LAYER.

9) SUITABLE SUBGRADE TO BE UNCOMPACTED FOR AREAS DESIGNED FOR INFILTRATION PRACTICES. FOR OTHER AREAS, COMPACT AS NECESSARY FOR PAVEMENT INSTALLATION. FOR SOFT SOILS, INSTALL GEOGRID PER GEOTECHNICAL ENGINEER RECOMMENDATIONS.

10) PERMEABLE PAVEMENT TO USE CONCRETE EDGE RESTRAINT, MIN. 6" WIDE AND 18" DEEP; MORTAR OR POLYMER ADHERED PAVERS TO TOP; ALTERNATIVELY, EXTEND EDGE RESTRAINT TO SURFACE. EDGE TYPES SUCH AS STEEL OR PLASTIC MAY BE USED BASED ON MANUFACTURER'S RECOMMENDATIONS AND DESIGN ENGINEER APPROVAL.

11) GEOGRID LAYER SHOWN TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

COMPACTION PROTECTION NOTES

(SOURCE: DOEE STORMWATER MANAGEMENT GUIDEBOOK, SECTION 3.8, JANUARY, 2020)

1. ALL AREAS PROPOSED FOR INFILTRATION PRACTICES SHOULD BE FULLY PROTECTED FROM SEDIMENT INTRUSION BY SILT FENCE OR CONSTRUCTION FENCING, PARTICULARLY IF THEY ARE INTENDED TO INFILTRATE RUNOFF.
2. AVOID EXCESSIVE COMPACTION BY PREVENTING CONSTRUCTION EQUIPMENT AND VEHICLES FROM TRAVELING OVER THE PROPOSED LOCATION OF THE INFILTRATION PRACTICE. TO ACCOMPLISH THIS, AREAS INTENDED TO INFILTRATE RUNOFF MUST REMAIN OUTSIDE THE LIMITS OF DISTURBANCE DURING CONSTRUCTION.
3. WHEN THIS IS UNAVOIDABLE, THERE ARE SEVERAL POSSIBLE REMEDIES FOR THE IMPACTED AREA.
   A. IF EXCAVATION AT THE IMPACTED AREA CAN BE RESTRICTED, THEN REMEDIATION CAN BE ACHIEVED WITH DEEP TILLING PRACTICES. THIS IS ONLY POSSIBLE IF IN SITU SOILS ARE NOT DISTURBED BELOW 2 FEET ABOVE THE FINAL DESIGN ELEVATION OF THE BOTTOM OF THE INFILTRATION PRACTICE. IN THIS CASE, WHEN HEAVY EQUIPMENT ACTIVITY HAS CEASED, THE AREA IS EXCAVATED TO GRADE, AND THE IMPACTED AREA MUST BE TILLED A MINIMUM OF 12 INCHES BELOW THE BOTTOM OF THE INFILTRATION PRACTICE.
   B. ALTERNATIVELY, IF IT IS INFEASIBLE TO KEEP THE PROPOSED INFILTRATION PRACTICE OUTSIDE OF THE LIMITS OF DISTURBANCE, AND EXCAVATION OF THE AREA CANNOT BE RESTRICTED, THEN INFILTRATION TESTS WILL BE REQUIRED PRIOR TO INSTALLATION OF THE INFILTRATION PRACTICE TO ENSURE THAT THE DESIGN INFILTRATION RATE IS STILL PRESENT. IF TESTS REVEAL THE LOSS OF DESIGN INFILTRATION RATES, THEN DEEP TILLING PRACTICES MAY BE USED IN AN EFFORT TO RESTORE THOSE RATES. IN THIS CASE FURTHER TESTING MUST BE DONE TO ESTABLISH DESIGN RATES EXIST BEFORE THE INFILTRATION PRACTICE CAN BE INSTALLED.
   C. FINALLY, IF IT IS INFEASIBLE TO KEEP THE PROPOSED INFILTRATION AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE, EXCAVATION OF THE AREA CANNOT BE RESTRICTED, AND INFILTRATION TESTS REVEAL DESIGN RATES CANNOT BE RESTORED, THEN A RESUBMISSION OF THE SWMP WILL BE REQUIRED.
4. ANY AREA OF THE SITE INTENDED ULTIMATELY TO BE AN INFILTRATION PRACTICE SHOULD NOT BE USED AS THE SITE OF A TEMPORARY SEDIMENT TRAP OR BASIN. IF LOCATING A SEDIMENT TRAP OR BASIN ON AN AREA INTENDED FOR INFILTRATION IS UNAVOIDABLE, THE REMEDIES ARE SIMILAR TO THOSE DISCUSSED FOR HEAVY EQUIPMENT COMPACTION. IF POSSIBLE, RESTRICT THE INVERT OF THE SEDIMENT TRAP OR BASIN TO AT LEAST 2 FEET ABOVE THE FINAL DESIGN ELEVATION OF THE BOTTOM OF THE PROPOSED INFILTRATION PRACTICE. THEN REMEDIATION CAN BE ACHIEVED WITH PROPER REMOVAL OF TRAPPED SEDIMENTS AND DEEP TILLING PRACTICES. AN ALTERNATE APPROACH TO DEEP TILLING IS TO USE AN IMPERMEABLE LINEAR TO PROTECT THE IN SITU SOILS FROM SEDIMENTATION WHILE THE SEDIMENT TRAP OR BASIN IS IN USE. IN EACH CASE, ALL SEDIMENT DEPOSITS MUST BE CAREFULLY REMOVED PRIOR TO INSTALLING THE INFILTRATION PRACTICE.
5. KEEP THE INFILTRATION PRACTICE OFF-LINE UNTIL CONSTRUCTION IS COMPLETE. PREVENT SEDIMENT FROM ENTERING THE INFILTRATION SITE BY USING SUPER SILT FENCE, DIVERSION BERMS, OR OTHER MEANS. IN THE SOIL EROSION AND SEDIMENT CONTROL PLAN, INDICATE THE EARLIEST TIME AT WHICH STORMWATER RUNOFF MAY BE DIRECTED TO A CONVENTIONAL INFILTRATION BASIN. THE SOIL EROSION AND SEDIMENT CONTROL PLAN MUST ALSO INDICATE THE SPECIFIC METHODS TO BE USED TO TEMPORARILY KEEP RUNOFF FROM THE INFILTRATION SITE.
6. UPLAND CDAs NEED TO BE COMPLETELY STABILIZED WITH A WELL-ESTABLISHED LAYER OF VEGETATION PRIOR TO COMMENCING EXCAVATION FOR AN INFILTRATION PRACTICE.

GENERAL PERMEABLE PAVEMENT INSTALLATION NOTES

(SOURCE: DOEE STORMWATER MANAGEMENT GUIDEBOOK, SECTION 3.5, JANUARY, 2020)

THE FOLLOWING IS A TYPICAL CONSTRUCTION SEQUENCE TO PROPERLY INSTALL PERMEABLE PAVEMENT, WHICH MAY NEED TO BE MODIFIED DEPENDING ON THE PARTICULAR TYPE OF PERMEABLE PAVEMENT THAT IS BEING INSTALLED.

1. STABILIZE CONTRIBUTING DRAINAGE AREA. CONSTRUCTION OF THE PERMEABLE PAVEMENT SHOULD ONLY BEGIN AFTER THE ENTIRE CDA HAS BEEN STABILIZED. THE PROPOSED SITE SHOULD BE CHECKED FOR EXISTING UTILITIES PRIOR TO ANY EXCAVATION. DO NOT INSTALL THE SYSTEM IN RAIN OR SNOW AND DO NOT INSTALL FROZEN BEDDING MATERIALS.
2. INSTALL SOIL EROSION AND SEDIMENT CONTROL MEASURES FOR THE PERMEABLE PAVEMENT. AS NOTED ABOVE, TEMPORARY SOIL EROSION AND SEDIMENT CONTROLS ARE NEEDED DURING INSTALLATION TO DIVERT STORMWATER AWAY FROM THE PERMEABLE PAVEMENT AREA UNTIL IT IS COMPLETED. SPECIAL PROTECTION MEASURES, SUCH AS EROSION CONTROL FABRICS, MAY BE NEEDED TO PROTECT VULNERABLE SIDE SLOPES FROM EROSION DURING THE EXCAVATION PROCESS. THE PROPOSED PERMEABLE PAVEMENT AREA MUST BE KEPT FREE FROM SEDIMENT DURING THE ENTIRE CONSTRUCTION PROCESS. CONSTRUCTION MATERIALS CONTAMINATED BY SEDIMENT MUST BE REMOVED AND REPLACED WITH CLEAN MATERIAL.
3. MINIMIZE IMPACT OF HEAVY INSTALLATION EQUIPMENT. WHERE POSSIBLE, EXCAVATORS OR BACKHOES SHOULD WORK FROM THE SIDES TO EXCAVATE THE RESERVOIR LAYER TO ITS APPROPRIATE DESIGN DEPTH AND DIMENSIONS. FOR SMALL PAVEMENT APPLICATIONS, EXCAVATING EQUIPMENT SHOULD HAVE ARMS WITH ADEQUATE EXTENSION SO THEY DO NOT HAVE TO WORK INSIDE THE FOOTPRINT OF THE PERMEABLE PAVEMENT AREA (TO AVOID COMPACTION). CONTRACTORS CAN UTILIZE A CELL CONSTRUCTION APPROACH, WHEREBY THE PROPOSED PERMEABLE PAVEMENT AREA IS SPLIT INTO 500-TO 1,000-SQUARE FOOT TEMPORARY CELLS WITH A 10- TO 15-FOOT-WIDE EARTH BRIDGE IN BETWEEN. SO CELLS CAN BE EXCAVATED FROM THE SIDE. EXCAVATED MATERIAL SHOULD BE PLACED AWAY FROM THE OPEN EXCAVATION SO AS TO NOT JEOPARDIZE THE STABILITY OF THE SIDE WALLS.
4. PROMOTE INFILTRATION RATE. THE NATIVE SOILS ALONG THE BOTTOM OF THE PERMEABLE PAVEMENT SYSTEM SHOULD BE SCARIFIED OR TILLED TO A DEPTH OF 3 TO 4 INCHES PRIOR TO THE PLACEMENT OF THE FILTER LAYER OR GEOTEXTILE FABRIC. IN LARGE-SCALE PAVING APPLICATIONS WITH WEAK SOILS, THE SOIL SUBGRADE MAY NEED TO BE COMPACTED TO 95% OF THE STANDARD PROCTOR DENSITY TO ACHIEVE THE DESIRED LOAD-BEARING CAPACITY. NOTE: THIS MAY REDUCE OR ELIMINATE THE INFILTRATION FUNCTION OF THE INSTALLATION, AND IT MUST BE ADDRESSED DURING HYDROLOGIC DESIGN.
5. ORDER OF MATERIALS. GEOTEXTILE FABRIC SHOULD BE INSTALLED ON THE SIDES OF THE RESERVOIR LAYER (AND THE BOTTOM IF THE DESIGN CALLS FOR IT). GEOTEXTILE FABRIC STRIPS SHOULD OVERLAP DOWN-SLOPE BY A MINIMUM OF 2 FEET AND BE SECURED A MINIMUM OF 4 FEET BEYOND THE EDGE OF THE EXCAVATION. WHERE THE FILTER LAYER EXTENDS BEYOND THE EDGE OF THE PAVEMENT (TO CONVEY RUNOFF TO THE RESERVOIR LAYER), INSTALL AN ADDITIONAL LAYER OF GEOTEXTILE FABRIC 1 FOOT BELOW THE SURFACE TO PREVENT SEDIMENT FROM ENTERING INTO THE RESERVOIR LAYER. EXCESS GEOTEXTILE FABRIC SHOULD NOT BE TRIMMED UNTIL THE SITE IS FULLY STABILIZED.
6. INSTALL BASE MATERIAL COMPONENTS. THE UP-GRADIENT END OF UNDERDRAINS IN THE RESERVOIR LAYER SHOULD BE CAPPED. WHERE AN UNDERDRAIN PIPE IS CONNECTED TO A STRUCTURE, THERE SHALL BE NO PERFORATIONS WITHIN 1 FOOT OF THE STRUCTURE. ENSURE THERE ARE NO PERFORATIONS IN CLEAN-OUTS AND OBSERVATION WELLS WITHIN 1 FOOT OF THE SURFACE.
7. STONE MEDIA. SPREAD 6-INCH LIFTS OF THE APPROPRIATE STONE AGGREGATE (USUALLY NO. 2 OR NO. 57 STONE) WASHED CLEAN AND FREE OF FINES. PLACE AT LEAST 4 INCHES OF ADDITIONAL AGGREGATE ABOVE THE UNDERDRAIN, AND THEN COMPACT IT USING A VIBRATORY ROLLER IN STATIC MODE UNTIL THERE IS NO VISIBLE MOVEMENT OF THE AGGREGATE. DO NOT CRUSH THE AGGREGATE WITH THE ROLLER.
8. RESERVOIR MEDIA. INSTALL THE DESIRED DEPTH OF THE BEDDING LAYER, DEPENDING ON THE TYPE OF PAVEMENT, AS INDICATED IN TABLE 3-12.
9. PAVING MEDIA. PAVING MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER OR INDUSTRY SPECIFICATIONS FOR THE PARTICULAR TYPE OF PAVEMENT.

PERMEABLE PAVEMENT MAINTENANCE

(SOURCE: DOEE STORMWATER MANAGEMENT GUIDEBOOK, SECTION 3.5, JANUARY, 2020)

Table 3.15 Typical Maintenance Tasks for Permeable Pavement Practices

Frequency	Maintenance Tasks
After installation	▪ For the first 6 months following construction, the practice and CDA should be inspected at least twice after storm events that exceed 1/2 inch of rainfall. Conduct any needed repairs or stabilization.
Once every 1–2 months during the growing season	▪ Mow grass in grid paver applications
As needed	▪ Stabilize the CDA to prevent erosion ▪ Remove any soil or sediment deposited on pavement. ▪ Replace or repair any pavement surfaces that are degenerating or spalling
2–4 times per year (depending on use)	▪ Mechanically sweep pavement with a standard street sweeper to prevent clogging
Annually	▪ Conduct a maintenance inspection ▪ Spot weed for grass applications
Once every 2–3 years	▪ Remove any accumulated sediment in pretreatment cells and inflow points
If clogged	▪ Conduct maintenance using a regenerative street sweeper or a vacuum sweeper ▪ Replace any necessary joint material

PERMEABLE PAVEMENT EQUATIONS

PER THE DOEE STORMWATER MANAGEMENT GUIDEBOOK (SECTION 3.5), JANUARY, 2020.

STORAGE VOLUME EQUATION

$$Sv = A_p[(d_p \times \eta_r) + K_{sat} \times t_f]$$

where:

Sv = storage volume (ft^3)
d_p = depth of the reservoir layer (ft)
η_r = 0.4 (effective porosity for the reservoir layer)
A_p = permeable pavement surface area (ft^2)
K_{sat} = field-verified saturated hydraulic conductivity for the subgrade soils (ft/day). If an impermeable liner is used in the design, then $K_{sat} = 0$.
t_f = time to fill the reservoir layer (days) (assume 2 hours or 0.083 days)

DRAWDOWN TIME EQUATION

$$t_d = \frac{d_p \times \eta_r}{K_{sat}}$$

where:

t_d = drawdown time (days)
d_p = depth of the reservoir layer (for designs without underdrains) or the depth of the infiltration sump (for Enhanced Designs with underdrains) (ft)
η_r = 0.4 (effective porosity for the reservoir layer)
K_{sat} = field-verified saturated hydraulic conductivity for the subgrade soils (ft/day). If an impermeable liner is used in the design, then $K_{sat} = 0$.

PERMEABLE PAVEMENT SEASONAL MAINTENANCE CONSIDERATIONS

(SOURCE: DOEE STORMWATER MANAGEMENT GUIDEBOOK, SECTION 3.5, JANUARY, 2020)

WINTER MAINTENANCE FOR PERMEABLE PAVEMENTS IS SIMILAR TO STANDARD PAVEMENTS, WITH A FEW ADDITIONAL CONSIDERATIONS:

- LARGE SNOW STORAGE PILES SHOULD BE LOCATED IN ADJACENT GRASSY AREAS SO THAT SEDIMENT AND POLLUTANTS IN SNOWMELT ARE PARTIALLY TREATED BEFORE THEY REACH THE PERMEABLE PAVEMENT.
- SAND OR CINDERS SHOULD NEVER BE APPLIED FOR WINTER TRACTION OVER PERMEABLE PAVEMENT OR AREAS OF STANDARD (IMPERVIOUS) PAVEMENT THAT DRAIN TOWARD PERMEABLE PAVEMENT, SINCE IT WILL QUICKLY CLOG THE SYSTEM.
- WHEN PLOWING PLASTIC REINFORCED GRID PAVEMENTS, SNOW PLOW BLADES SHOULD BE LIFTED 0.5 INCH TO 1 INCH ABOVE THE PAVEMENT SURFACE TO PREVENT DAMAGE TO THE PAVING BLOCKS OR TURF. POROUS ASPHALT, PERVIOUS CONCRETE, AND SOME PERMEABLE PAVERS CAN BE PLOWED SIMILARLY TO TRADITIONAL PAVEMENTS, USING SIMILAR EQUIPMENT AND SETTINGS.
- CHLORIDE PRODUCTS SHOULD BE USED JUDICIOUSLY TO DEICE ABOVE PERMEABLE PAVEMENT DESIGNED FOR INFILTRATION, SINCE THE SALT WILL BE TRANSMITTED THROUGH THE PAVEMENT. SALT CAN BE APPLIED BUT ENVIRONMENTALLY SENSITIVE DEICERS ARE RECOMMENDED. PERMEABLE PAVEMENT APPLICATIONS WILL GENERALLY REQUIRE LESS SALT APPLICATION THAN TRADITIONAL PAVEMENTS.

WHEN PERMEABLE PAVEMENTS ARE INSTALLED ON PRIVATE RESIDENTIAL LOTS, HOMEOWNERS WILL NEED TO (1) BE EDUCATED ABOUT THEIR ROUTINE MAINTENANCE NEEDS AND (2) UNDERSTAND THE LONG-TERM MAINTENANCE PLAN.

IT IS RECOMMENDED THAT A QUALIFIED PROFESSIONAL CONDUCT A SPRING MAINTENANCE INSPECTION AND CLEANUP AT EACH PERMEABLE PAVEMENT SITE, PARTICULARLY AT LARGE-SCALE APPLICATIONS. DOEE'S MAINTENANCE INSPECTION CHECKLISTS FOR PERMEABLE PAVEMENTS AND THE MAINTENANCE SERVICE COMPLETION INSPECTION FORM CAN BE FOUND IN APPENDIX L – CONSTRUCTION INSPECTION CHECKLISTS.

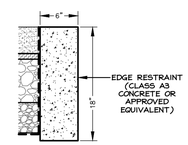
PERMEABLE INTERLOCKING CONCRETE PAVER INSTALLATION NOTES

(SOURCE: DOEE STORMWATER MANAGEMENT GUIDEBOOK, SECTION 3.5, JANUARY, 2020)

1. PLACE EDGE RESTRAINTS FOR OPEN-JOINTED PAVEMENT BLOCKS BEFORE THE BEDDING LAYER AND PAVEMENT BLOCKS ARE INSTALLED. PERMEABLE INTERLOCKING CONCRETE PAVEMENT SYSTEMS REQUIRE EDGE RESTRAINTS TO PREVENT VEHICLE LOADS FROM MOVING THE PAVER BLOCKS. EDGE RESTRAINTS MAY BE STANDARD CURBS OR GUTTER PANS, OR PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE BORDERS A MINIMUM OF 6 INCHES WIDE AND 18 INCHES DEEP, CONSTRUCTED WITH CLASS A3 CONCRETE. EDGE RESTRAINTS ALONG THE TRAFFIC SIDE OF A PERMEABLE PAVEMENT BLOCK SYSTEM ARE RECOMMENDED.
2. PLACE THE NO. 57 STONE IN A SINGLE LIFT. LEVEL THE FILTER COURSE AND COMPACT IT INTO THE RESERVOIR COURSE BENEATH WITH AT LEAST FOUR PASSES OF A 10-TON STEEL DRUM STATIC ROLLER UNTIL THERE IS NO VISIBLE MOVEMENT. THE FIRST TWO PASSES ARE IN VIBRATORY MODE, WITH THE FINAL TWO PASSES IN STATIC MODE. THE FILTER AGGREGATE SHOULD BE MOIST TO FACILITATE MOVEMENT INTO THE RESERVOIR COURSE.
3. PLACE AND SCREED THE BEDDING COURSE MATERIAL (TYPICALLY NO. 8 STONE).
4. FILL GAPS AT THE EDGE OF THE PAVED AREAS WITH CUT PAVERS OR EDGE UNITS. WHEN CUT PAVERS ARE NEEDED, CUT THE PAVERS WITH A PAVER SPLITTER OR MASONRY SAW. CUT PAVERS NO SMALLER THAN 1/3 OF THE FULL UNIT SIZE.
5. PAVERS MAY BE PLACED BY HAND OR WITH MECHANICAL INSTALLERS. FILL THE JOINTS AND OPENINGS WITH STONE. JOINT OPENINGS MUST BE FILLED WITH ASTM D448 NO. 8 STONE; ALTHOUGH, NO. 8P OR NO. 9 STONE MAY BE USED WHERE NEEDED TO FILL NARROWER JOINTS. REMOVE EXCESS STONES FROM THE PAVER SURFACE.
6. COMPACT AND SEAT THE PAVERS INTO THE BEDDING COURSE WITH A MINIMUM LOW-AMPLITUDE 5,000-POUND-FORCE, 75- TO 95-HZ PLATE COMPACTOR.
7. DO NOT COMPACT WITHIN 6 FEET OF THE UNRESTRAINED EDGES OF THE PAVERS.
8. THE SYSTEM MUST BE THOROUGHLY SWEPT BY A MECHANICAL SWEEPER OR VACUUMED IMMEDIATELY AFTER CONSTRUCTION TO REMOVE ANY SEDIMENT OR EXCESS AGGREGATE.
9. INSPECT THE AREA FOR SETTLEMENT. ANY BLOCKS THAT SETTLE MUST BE RESET AND RE-INSPECTED.
10. INSPECT THE FACILITY 18 TO 30 HOURS AFTER A SIGNIFICANT RAINFALL (0.5 INCH OR GREATER) OR ARTIFICIAL FLOODING TO DETERMINE WHETHER THE FACILITY IS DRAINING PROPERLY.

PERMEABLE PAVEMENT EDGE RESTRAINT DETAILS

NOT TO SCALE



PERMEABLE PAVEMENT SIZING COMPUTATIONS

SIZED PER THE DOEE STORMWATER MANAGEMENT GUIDEBOOK, JANUARY, 2020.

Permeable Pavement Sizing
(Private Property, Parking Area)
--Enhanced Permeable Pavement--

Reservoir Depth		
P(rainfall to store)	0.1	ft
DA(drainage area)	1104	sf
Rv1(runoff impervious)	0.95	(given)
Ap(permeable pavement area)	950	sf
i(infiltration rate)	0.7	in/hr
tf(time to fill)	0.083	days
nr(porosity for reservoir)	0.4	(given)
d(reservoir)	0.20	ft
	2.44	in
Drawdown Time		
dp(design depth)	24	in
nr(porosity for reservoir)	0.4	(given)
i(infiltration rate)	0.7	in/hr
td(draw down time)	27.43	hr
Meets required?	YES	<48 hours?
Storage Volume		
Ap(design area)	950	sf
dp(design depth)	24	in
nr(porosity for reservoir)	0.4	(given)
i(infiltration rate)	1.4	ft/day
tf(time to fill)	0.083	days
Sv(design volume)	870.4	cf
Sv(credit)	148	cf

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(202) 333-5596 (PHONE)

LOT 0889, SQUARE 1254
GEORGETOWN

1524 33RD STREET, NW

N.W. WASHINGTON, DISTRICT OF COLUMBIA

ENGINEER ATTESTATION:

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

I FURTHER CERTIFY THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER IN THE DISTRICT OF COLUMBIA, LICENSE NUMBER PE906954, EXPIRATION DATE 08/31/2024. THIS ATTESTATION APPLIES ONLY TO CIVIL ENGINEERING AND RELATED COMPONENTS TO THE EXTENT THEY ARE WITHIN OUR SCOPE OF SERVICES FOR THIS PROJECT, AND BEAR MY SEAL AND SIGNATURE.

DISTRICT OF COLUMBIA
DAVID C. LANDSMAN
PE906954
CIVIL
PROFESSIONAL ENGINEER
02/09/2023

REVISION	DATE
BASE SHEET ISSUED	06.06.2022
PERMIT SET	11.11.2022
REVISED PER DC WATER COMMENTS	12.01.2022
REVISED PER DOEE COMMENTS	12.16.2022
TO DOEE FOR APPROVAL	01.18.2023
OGB PERMIT SET	02.09.2023

CAS PROJECT	22-0282-DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	AS SHOWN

5 0 5 10 20
SCALE: 1 INCH = 10 FEET

NORTH

DATUM
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

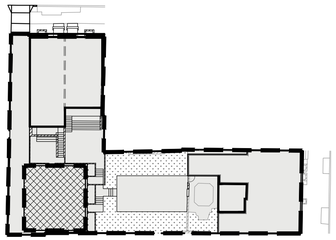
SHEET TITLE
STORMWATER MANAGEMENT DETAILS

CIV204

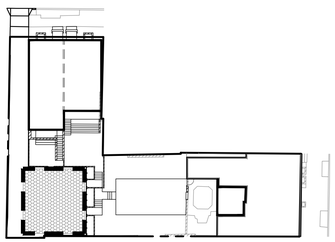
STORMWATER MANAGEMENT LAND COVER AND DRAINAGE AREA EXHIBIT

SCALE: 1"=40'

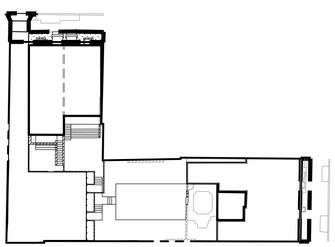
SUB-DRAINAGE AREA 1-1



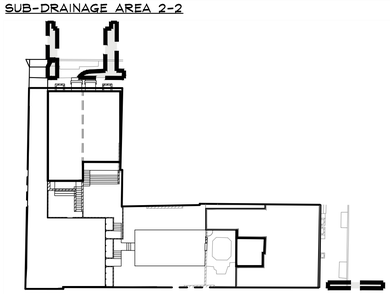
SUB-DRAINAGE AREA 1-2



SUB-DRAINAGE AREA 2-1



SUB-DRAINAGE AREA 2-2



LEGEND:

- COMPACTED COVER AREAS
- IMPERVIOUS AREAS
- BMP AREA

(NO NATURAL COVER AREAS EXIST)

SUB-DRAINAGE AREA 1-1		
To Infiltration Trench 1-1		
-- Private Property --		
	Proposed	Existing
Natural Cover	0	0 sf
Compacted Cover	1304	3918 sf
Impervious Surface	7328	4714 sf
BMP	0	0 sf
Total	8632	8632 sf

SUB-DRAINAGE AREA 2-1			
Uncontrolled Public Space Area			
-- Public Space --			
	Proposed	Existing	
Natural Cover	0	0	sf
Compacted Cover	120	216	sf
Impervious Surface	547	451	sf
BMP	0	0	sf
Total	667	667	sf

SUB-DRAINAGE AREA 1-2*		
To Permeable Pavement 1-2		
-- Private Property --		
	Proposed	Existing
Natural Cover	0	0 sf
Compacted Cover	0	601 sf
Impervious Surface	154	503 sf
BMP	950	0 sf
Total	1104	1104 sf

** Treatment Train to Infiltration Trench 1-1*

SUB-DRAINAGE AREA 2-2			
Utility Exempt Areas			
-- Public Space --			
	Proposed	Existing	
Natural Cover	0	0	sf
Compacted Cover	0	0	sf
Impervious Surface	447	447	sf
BMP	0	0	sf
Total	447	447	sf

SITE TOTAL		
Overall Site		
-- Private Property --		
	Proposed	Existing
Natural Cover	0	0 sf
Compacted Cover	1304	4519 sf
Impervious Surface	7482	5217 sf
BMP	950	0 sf
Total	9736	9736 sf

PUBLIC SPACE TOTAL			
-- Public Space --			
	Proposed	Existing	
Natural Cover	0	0	sf
Compacted Cover	120	216	sf
Impervious Surface	994	898	sf
BMP	0	0	sf
Total	1114	1114	sf

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Experience you can build on.

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WASHINGTON, DC 20007
(202) 333-5596 (PHONE)

LOT 0889, SQUARE 1254
GEORGETOWN

1524 33RD STREET, NW

N.W. WASHINGTON, DISTRICT OF COLUMBIA

ENGINEER ATTESTATION:

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

I FURTHER CERTIFY THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER IN THE DISTRICT OF COLUMBIA, LICENSE NUMBER PE906954, EXPIRATION DATE 08/31/2024. THIS ATTESTATION APPLIES ONLY TO CIVIL ENGINEERING AND RELATED COMPONENTS TO THE EXTENT THEY ARE WITHIN OUR SCOPE OF SERVICES FOR THIS PROJECT, AND BEAR MY SEAL AND SIGNATURE.

DISTRICT OF COLUMBIA
DAVID C. LANDSMAN
PE906954
PROFESSIONAL CIVIL ENGINEER

02/09/2023

REVISION	DATE
BASE SHEET ISSUED	06.06.2022
PERMIT SET	11.11.2022
REVISED PER DC WATER COMMENTS	12.01.2022
REVISED PER DOEE COMMENTS	12.16.2022
TO DOEE FOR APPROVAL	01.18.2023
OGB PERMIT SET	02.09.2023

CAS PROJECT	22-0282-DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	AS SHOWN

5 0 5 10 20
SCALE: 1 INCH = 10 FEET

NORTH

DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE

STORMWATER MANAGEMENT DETAILS

CIV205

2-YEAR, 15-YEAR, AND 100-YEAR STORM CONTROL DETENTION REQUIREMENTS

PER 2020 DOEE SWM GUIDEBOOK, APPENDIX A.

Weighted Curve Number Calculation

Pre-Development Condition		
Hydrologic Soil Group	B	
CN (meadow)	58	
Pre-Project (Existing Condition)		
Hydrologic Soil Group	B	
CN (Natural Cover)	58	
CN (Compacted Cover)	61	(TR-55)
[Good Condition, Grass Cover]		
CN (Impervious Cover)	98	
Site Area	9736	
Natural Cover	0	sf
Compacted Cover	4519	sf
Impervious Cover	5217	sf
Weighted CN	80.8	sf
Post-Project (Proposed Condition)		
Hydrologic Soil Group	B	
CN (Natural Cover)	58	
CN (Compacted Cover)	61	(TR-55)
[Good Condition, Grass Cover]		
CN (Impervious Cover)	98	
Site Area	9736	
Natural Cover	0	sf
Compacted Cover	1304	sf
Impervious + BMP Cover	8432	sf
Weighted CN	93.0	sf

2-Year Storm Control

Pre-Development Runoff		
CN (meadow)	58	
[Pre-Development Condition]		
S (Abstraction)	7.2	in
Precipitation (2-yr)	3.20	in
Q (2-yr-Pre-Devleopment)	0.341	in
[Allowable Runoff per 2-Year Storm Control]		
[Runoff w/ BMPs cannot exceed this value]		
Post-Project Runoff		
CN (Post-Project)	93.0	
[Proposed Condition]		
S (Abstraction)	0.7	in
Precipitation (2-yr)	3.20	in
Q (2-yr-Post-Project)	2.450	in
[2-Year Storm Runoff Post-Project w/o BMPs]		
Post-Project Runoff (with BMPs)		
$Q_{BMP} = Q - CV_{DA} \times (12/DA)$		
Q (2-yr-Post-Project)	2.450	in
CV (DA)	1712.3	cf
(see provided storage calc, right)		
Drainage Area	9736	sf
Q (BMP)	0.340	in
Q (2-yr-Pre-Devleopment)	0.341	in
Q (BMP) < Q (2-yr-Pre-Dev)?	YES	
(no additional detention storage required)		

15-Year Storm Control

Pre-Project Runoff		
CN (pre-project)	81	
[Existing Condition]		
S (Abstraction)	2.4	in
Precipitation (15-yr)	5.20	in
Q (15-yr-Pre-Project)	3.146	in
[Allowable Runoff per 15-Year Storm Control]		
[Runoff w/ BMPs cannot exceed this value]		
Post-Project Runoff		
CN (Post-Project)	93.0	
[Proposed Condition]		
S (Abstraction)	0.7	in
Precipitation (15-yr)	5.20	in
Q (15-yr-Post-Project)	4.399	in
[15-Year Storm Runoff Post-Project w/o BMPs]		
Post-Project Runoff (with BMPs)		
$Q_{BMP} = Q - CV_{DA} \times (12/DA)$		
Q (15-yr-Post-Project)	4.399	in
CV (DA)	1712.3	cf
(see provided storage calc, right)		
Drainage Area	9736	sf
Q (BMP)	2.289	in
Q (15-yr-Pre-Project)	3.146	in
Q (BMP) < Q (15-yr-Pre-Proj)	YES	
(no additional detention storage required)		

100-Year Storm Control

Pre-Project Runoff		
CN (pre-project)	81	
[Existing Condition]		
S (Abstraction)	2.4	in
Precipitation (100-yr)	8.37	in
Q (100-yr-Pre-Project)	6.071	in
[Allowable Runoff per 100-Year Storm Control]		
[Runoff w/ BMPs cannot exceed this value]		
Post-Project Runoff		
CN (Post-Project)	93.0	
[Proposed Condition]		
S (Abstraction)	0.7	in
Precipitation (100-yr)	8.37	in
Q (100-yr-Post-Project)	7.535	in
[100-Year Storm Runoff Post-Project w/o BMPs]		
Post-Project Runoff (with BMPs)		
$Q_{BMP} = Q - CV_{DA} \times (12/DA)$		
Q (100-yr-Post-Project)	7.535	in
CV (DA)	1712.3	cf
(see provided storage calc, right)		
Drainage Area	9736	sf
Q (BMP)	5.425	in
Q (100-yr-Pre-Project)	6.071	in
Q (BMP) < Q (100-yr-Pre-Proj)	YES	
(no additional detention storage required)		

Provided Storage

Storage Provided		
Infiltration Trench 1-1	841.9	cf
Permeable Pavement 1-2	870.4	cf
Total Storage Provided	1712.3	cf

PEAK FLOW RUNOFF AND DISCHARGE VALUES

CALCULATED USING TR-55 METHOD, AS PER 2020 DOEE SWM GUIDEBOOK, APPENDIX I.

Peak Runoff (in) Values per TR-55

Entire Site	Pre	Existing	Post
R2	0.32	1.42	0.32
R15	1.30	3.19	2.29
R100	3.36	6.06	5.35
CN	58	81	58/71/75

Peak Discharge (cfs) Values per TR-55

Entire Site	Pre	Existing	Post
Q2	0.06	0.41	0.06
Q15	0.35	0.95	0.66
Q100	0.96	1.81	1.60
CN	58	81	58/71/75

DETAIL - NDS® 8" ROUND GRATE

NDS, INC.
851 N. HARVARD AVENUE,
P.O. BOX 339
LINDSAY, CA 93247
(800) 726-1994 PHONE;
-1998 FAX
www.NDSPRO.com

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OR APPROVED EQUIVALENT DRAIN PRODUCT
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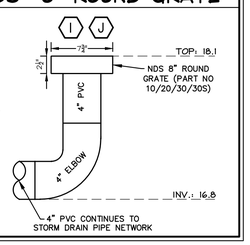

DETAIL - NDS® 12"x12" CATCH BASIN

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851 N. HARVARD AVENUE,
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LINDSAY, CA 93247
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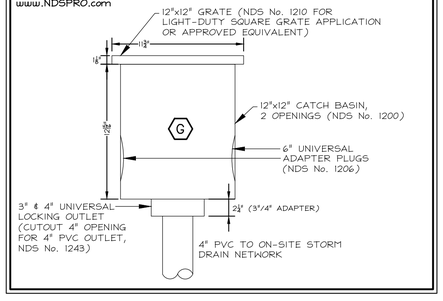

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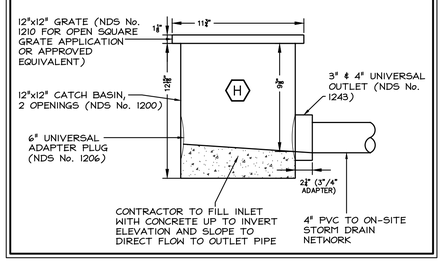

DETAIL - NDS® 18"x18" CATCH BASIN

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LINDSAY, CA 93247
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-1998 FAX
www.NDSPRO.com

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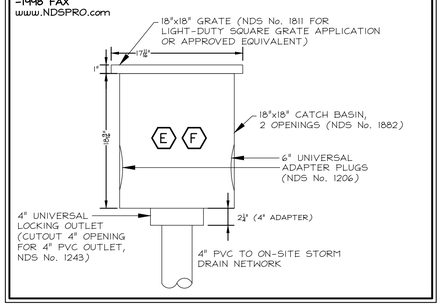

ACO POLYMER PRODUCTS POLYMER CONCRETE TRENCH K100 TRENCH DRAIN

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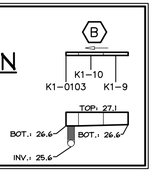
12080 RAVENNA ROAD, CHARDON, OH 44024
(440) 285-7000 PHONE; (440) 285-7005 FAX
www.acousa.com



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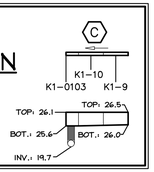

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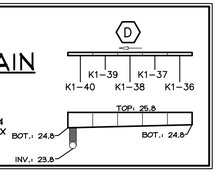
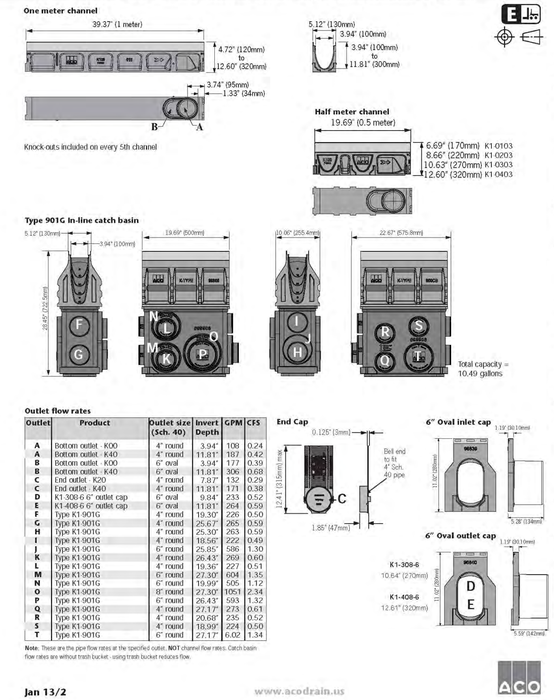


ACO DRAIN

KlassikDrain - K100 Galvanized steel edge rail channel system



Outlet flow rates

Outlet	Product	Outlet size (Sch. 40)	Invert Depth	GPM	CFS
A	Bottom outlet - K00	4" round	3.94"	108	0.24
A	Bottom outlet - K40	4" round	11.81"	187	0.42
B	Bottom outlet - K00	6" oval	3.94"	177	0.39
B	Bottom outlet - K40	6" oval	11.81"	306	0.68
C	End outlet - K20	4" round	7.87"	132	0.29
C	End outlet - K40	4" round	11.81"	171	0.38
D	K1-308-6 6" outlet cap	6" oval	9.84"	233	0.52
E	K1-408-6 6" outlet cap	6" oval	11.81"	264	0.59
F	Type K1-901G	4" round	19.30"	226	0.50
G	Type K1-901G	4" round	25.67"	265	0.59
H	Type K1-901G	4" round	25.30"	263	0.59
I	Type K1-901G	4" round	18.56"	222	0.49
J	Type K1-901G	6" round	25.95"	586	1.30
K	Type K1-901G	4" round	26.43"	269	0.60
L	Type K1-901G	4" round	19.36"	227	0.51
M	Type K1-901G	6" round	27.30"	604	1.35
N	Type K1-901G	6" round	19.99"	505	1.12
O	Type K1-901G	8" round	27.30"	1051	2.34
P	Type K1-901G	6" round	26.43"	593	1.32
Q	Type K1-901G	4" round	27.17"	273	0.61
R	Type K1-901G	4" round	20.68"	235	0.52
S	Type K1-901G	4" round	18.99"	224	0.50
T	Type K1-901G	6" round	27.17"	602	1.34

Note: These are the pipe flow rates at the specified outlet. **NOT** channel flow rates. Catch basin flow rates are without trash bucket - using trash bucket reduces flow.

Jan 13/2

www.acodrain.us

ACO Specification Information

ACO DRAIN

KlassikDrain - K100 Galvanized steel edge rail channel system

Description	Part No.	Invert Inches[2]	Invert mm[2]	Weight Lbs.
K1-00 Neutral channel - 39.37" (1m)[2]	**74041**	**3.94**	**100**	**28.1**
K1-1 Sloped channel - 39.37" (1m)	74001	4.13	105	28.1
K1-2 Sloped channel - 39.37" (1m)	74002	4.33	110	28.9
K1-3 Sloped channel - 39.37" (1m)	74003	4.53	115	29.7
K1-4 Sloped channel - 39.37" (1m)	74004	4.72	120	30.5
K1-5 Sloped channel - 39.37" (1m)[2]	74005	4.92	125	31.3
K1-6 Sloped channel - 39.37" (1m)	74006	5.12	130	32.1
K1-7 Sloped channel - 39.37" (1m)	74007	5.31	135	32.9
K1-8 Sloped channel - 39.37" (1m)	74008	5.51	140	33.7
K1-9 Sloped channel - 39.37" (1m)	74009	5.71	145	34.5
K1-10 Sloped channel - 39.37" (1m)[2]	74010	5.91	150	35.3
K1-010 Neutral channel - 39.37" (1m)[2]	**74043**	**5.91**	**150**	**35.3**
K1-0103 Neutral channel - 19.69" (0.5m)[2]	**74044**	**5.91**	**150**	**17.0**
K1-11 Sloped channel - 39.37" (1m)	74011	6.10	155	36.1
K1-12 Sloped channel - 39.37" (1m)	74012	6.30	160	36.9
K1-13 Sloped channel - 39.37" (1m)	74013	6.50	165	37.7
K1-14 Sloped channel - 39.37" (1m)	74014	6.69	170	38.5
K1-15 Sloped channel - 39.37" (1m)[2]	74015	6.89	175	39.3
K1-16 Sloped channel - 39.37" (1m)	74016	7.09	180	40.1
K1-17 Sloped channel - 39.37" (1m)	74017	7.28	185	40.9
K1-18 Sloped channel - 39.37" (1m)	74018	7.48	190	41.7
K1-19 Sloped channel - 39.37" (1m)	74019	7.68	195	42.5
K1-20 Sloped channel - 39.37" (1m)[2]	74020	7.87	200	43.4
K1-020 Neutral channel - 39.37" (1m)[2]	**74045**	**7.87**	**200**	**43.4**
K1-0203 Neutral channel - 19.69" (0.5m)[2]	**74046**	**7.87**	**200**	**20.5**
K1-21 Sloped channel - 39.37" (1m)	74021	8.07	205	44.2
K1-22 Sloped channel - 39.37" (1m)	74022	8.27	210	45.0
K1-23 Sloped channel - 39.37" (1m)	74023	8.46	215	45.8
K1-24 Sloped channel - 39.37" (1m)	74024	8.66	220	46.6
K1-25 Sloped channel - 39.37" (1m)[2]	74025	8.86	225	47.4
K1-26 Sloped channel - 39.37" (1m)	74026	9.06	230	48.2
K1-27 Sloped channel - 39.37" (1m)	74027	9.25	235	49.0
K1-28 Sloped channel - 39.37" (1m)	74028	9.45	240	49.8
K1-29 Sloped channel - 39.37" (1m)	74029	9.65	245	50.6
K1-30 Sloped channel - 39.37" (1m)[2]	74030	9.84	250	51.4
K1-030 Neutral channel - 39.37" (1m)[2]	**74047**	**9.84**	**250**	**51.4**
K1-0303 Neutral channel - 19.69" (0.5m)[2]	**74048**	**9.84**	**250**	**24.0**
K1-31 Sloped channel - 39.37" (1m)	74031	10.04	255	52.2
K1-32 Sloped channel - 39.37" (1m)	74032	10.24	260	53.0
K1-33 Sloped channel - 39.37" (1m)	74033	10.43	265	53.8
K1-34 Sloped channel - 39.37" (1m)	74034	10.63	270	54.6
K1-35 Sloped channel - 39.37" (1m)[2]	74035	10.83	275	55.4
K1-36 Sloped channel - 39.37" (1m)	74036	11.02	280	56.2
K1-37 Sloped channel - 39.37" (1m)	74037	11.22	285	57.0
K1-38 Sloped channel - 39.37" (1m)	74038	11.42	290	57.9
K1-39 Sloped channel - 39.37" (1m)	74039	11.61	295	58.7
K1-40 Sloped channel - 39.37" (1m)[2]	74040	11.81	300	59.5
K1-040 Neutral channel - 39.37" (1m)[2]	**74049**	**11.81**	**300**	**59.5**
K1-0403 Neutral channel - 19.69" (0.5m)[2]	**74050**	**11.81**	**300**	**27.5**
K1-901G In-line catch basin - 19.69" (0.5m)[2]	94608	28.81	701.9	52.6
K1-621G catch basin - 19.69" (0.5m)[2]	94611	28.84	732.5	55.8
K1-631G catch basin - 19.69" (0.5m)[2]	94631	40.64	1037.4	65.8
K1-Series 600 Optional plastic riser	99902	-	-	10.0
Foul air trap - fits both 900 & 600 series basins	90854	-	-	1.2
K1-3044 6" Inlet Cap	96839	9.84	250	5.2
K1-3046 6" Outlet Cap	96840	9.84	250	6.0
K1-4044 6" Inlet Cap	96834	11.81	300	6.0
K1-4046 6" Outlet Cap	96836	11.81	300	5.8
Universal end cap	96822	11.81	300	0.4
Debris strainer for 4" bottom knockout	93488	-	-	0.2
4" Oval to 6" round outlet adapter	95140	-	-	1.1
K1-Installation deace	01477	-	-	2.8
Grate removal tool	01319	-	-	0.3
K1-QuickLok locking bar	02899	-	-	0.1

Notes:
1. This channel offers a bottom knockout feature: 4" round/6" oval.
2. Inverts shown are for the male end; for female insert depth subtract 6mm (~0.2") from the male invert (except for neutral channels, where it will be same as male invert). To calculate the overall channel depth add 20mm (~0.8") to invert depth.
3. This catch basin kit includes a polymer concrete top, removable Quicklok locking bar, trash bucket and plastic base. Select an appropriate grate.
4. This catch basin kit includes a polymer concrete top, removable Quicklok locking bar, deep trash bucket, plastic riser and plastic base. Select an appropriate grate.

Specifications

General
The surface drainage system shall be ACO Drain K100 complete with gratings secured with 'QuickLok' locking as manufactured by ACO Polymer Products, Inc. or approved equal.

Materials
The trench system bodies shall be manufactured from polyester polymer concrete with the minimum properties as follows:

Compressive strength:	14,000 psi
Flexural strength:	4,000 psi
Water absorption	0.07%
Frost proof	YES
Salt proof	YES
Dilute acid and alkali resistant	YES

The nominal clear opening shall be 4" (100mm) with overall width of 5.12" (130mm). Pre-cast units shall be manufactured with either an invert slope of 0.5% or with neutral invert and have a wall thickness of at least 0.50" (13mm). Each unit will feature a partial radius in the trench bottom and a male to female interconnecting end profile. Units shall have horizontal cast in anchoring keys on the outside wall to ensure maximum mechanical bond to the surrounding bedding material and pavement surface. The galvanized steel edge rail will be integrally cast in by the manufacturer to ensure maximum homogeneity between polymer concrete body and edge rail. Each edge rail shall be at least 3/32" (2.5mm) thick.

Grates
Grates shall be specified. See separate ACO Spec Info grate sheets for details. After removal of grates and 'QuickLok' bar there shall be uninterrupted access to the trench to aid maintenance.

Installation
The trench drain system shall be installed in accordance with the manufacturer's installation instructions and recommendations.

ACO Polymer Products, Inc.
Northeast Sales Office
P.O. Box 245
Chardon, OH 44024
Tel: (440) 285-7000
Toll free: (800) 543-4764
Fax: (440) 285-7005

West Sales Office
P.O. Box 12067
Casa Grande, AZ 85130
Tel: (520) 421-9988
Toll Free: (888) 490-9552
Fax: (520) 421-9899

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4211 Pleasant Road
Fort Mill, SC 29708
Toll free: (800) 543-4764
Fax: (803) 802-1063

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ACO Specification Information

CAS ENGINEERING-DC, LLC
Experience you can build on.
CAS ENGINEERING-DC, LLC
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Washington, DC 20007
(202) 393-7200 Phone
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N.W. WASHINGTON, DISTRICT OF COLUMBIA

ENGINEER ATTESTATION:

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DISTRICT OF COLUMBIA
DAVID C. LANGSHAW
PE906954
PROFESSIONAL ENGINEER
CIVIL

02/09/2023

BASE SHEET ISSUED	06.06.2022
PERMIT SET	11.11.2022
REVISED PER DC WATER COMMENTS	12.01.2022
REVISED PER DOEE COMMENTS	12.16.2022
TO DOEE FOR APPROVAL	01.18.2023
OGB PERMIT SET	02.09.2023
REVISION	DATE

CAS PROJECT	22-0282-DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	AS SHOWN

0 5 8 10 20
SCALE: 1 INCH = 10 FEET

NORTH

DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE

STORMWATER MANAGEMENT DETAILS

CIV206

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment

Construction and Maintenance Branch

Infiltration Device Construction Inspection Report

Building Permit # _____ Plan # _____ Lot: _____ Square: _____

Project Address: _____

_____ Ward: _____

Contractor: _____ Email _____

Engineer: _____ Email _____

Responsible For Maintenance: _____ Email _____

Date Started: _____ Final Inspection Date: _____

Structure Type: Infiltration Trench _____Dry Well_____ Other: _____

As-Built Plan Due Date: _____

Inspection Items	Yes	No	Remarks	Date Completed
Infiltration device				
Is the infiltration device located as per approved plan?				
Are dimensions per approved plan specifications? (width, depth, length or diameter and depth)				
Is the soil consistent with soil boring results and are infiltration test holes location s indicated?				
Does the filter fabrics meet the approved plan specifications and is installed per the approved plan specifications?				
Does all sand, stone or aggregate types meet the approved plan specifications?				
Connections				
Do under drain, overflow or retention structure meet the approved plan specifications? (Circle One) Connected to MS4 or CSS?				
Are cleanouts installed per approved plan?				
Are invoices provided for all materials?				
Back Fill and Stabilization				
Does the back fill comply with the approved plan specifications?				

Contractor/Engineer _____ Inspector_____ Date _____

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment

Infiltration Facilities Maintenance Inspection Report

Name/Facility Address: File/Plan no.
Owner/Agent: Ward:
Mailing Address:
Phone/Email
Date/Weather

Maintenance Item	Yes/No/N/A	Comments
1. Inlets and Drainage Area		
Inlet Type(s)		
Inlet repair needed		
Inlet clear of debris/sediment		
Evidence of erosion in drainage area		
Drainage area clear of trash/debris		
Evidence of pretreatment bypass		
2. Structural Components and Function		
Vegetation and ground cover type		Grass/Sod/Media
Surface erosion present		
Infiltration area in good repair		
Observation wells in good repair		
Debris and sediment present		
Standing water		
Last rain event >1"		____Hours / _____Days
3. Overflow		
Overflow device		
Debris/sediment in overflow		
Overflow repair needed		

Actions to be Taken:

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment

Construction and Maintenance Branch

Permeable Pavement - CONSTRUCTION INSPECTION REPORT

Building Permit # _____ Plan and File # _____ Lot: _____ Square: _____

Project Address: _____ Ward: _____

Contractor: _____ Email _____

Engineer: _____ Email _____

Responsible For Maintenance: _____ Email _____

Date Started: _____ Final Inspection Date: _____ As-Built Plan Due Date: _____

Inspection Items	Yes	No	Remarks	Date Completed
Permeable pavement type: __ Standard __ Enhanced				
Site Preparation: Have erosion and sediment controls been properly installed according to approved plans?				
Is storm water runoff being diverted around the facility?				
Has the contributing drainage area been fully stabilized?				
Subgrade Preparation: Is subgrade suitable free of debris, standing water, properly graded?				
If enhanced design (for infiltration), is subgrade compaction avoided?				
Filter Layer or Filter Fabric (where Applicable): Does the filter layer and/or filter fabric meet the specifications and is it installed according to the plan specifications?				
Underdrain and Reservoir Layer: Does the underdrain meet specifications with correct hole pattern, elevation, slope, size, and number?				
Are caps placed on the upstream (but not the downstream) ends of the underdrains ?				
Is the upstream end of the underdrain capped?				
Does the stone reservoir meet specifications (clean, washed, free of fines) and is it installed to design depth?				
Is at least 2 inches of aggregate provided above and (*for standard design*) a maximum of 2 inches below the underdrains?				
Surface Material: Does the surface material meet the specification and has it been properly installed?				
Is the surface slope to spec (max 5%) and can runoff spread evenly across it?				
Has the surface material had adequate curing time (for Porous Asphalt and Pervious Concrete)?				
Is the surface free of fines and areas of clogging?				

Over Flow Drain (where Applicable): Is overflow invert at correct elevation?				
Observation Well: Is observation well(s) placed per plan specification?				
Setback: If facility is within 10 feet of property line/building, is adequate waterproofing protection provided?				
Final Inspection: Observation well(s)/cleanout(s) free of construction debris and sediment? Can water infiltrate properly into the practice?				

Note: Material invoices and certifications should be submitted to show conformance to specifications.

Owner/Agent_____ Inspector _____ Date_____

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment

Permeable Pavement Maintenance Inspection Report

Name/Facility Address: File/Plan no.
Owner/Agent: Ward:
Mailing Address:
Phone/Email
Date/Weather

Maintenance Item	Yes/No/N/A	Comments
1. Surface Condition		
Clear of debris/sediment/weeds		
Evidence of surface clogging		
Sweeping needed		
Surface deformation or spalling		
Structure repair needed		
2. Underdrains and Cleanouts		
Underdrain(s)		
Observation well(s)		
Evidence of surface clogging		
Standing water		
Last rain event >1"		____Hours / _____ Days
3. Overflow		
Overflow device		
Debris and sediment in overflow		
Overflow repair needed		
Actions to be Taken:		

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Experience you can build on.

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ATTN: ABDO ROFFE

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WASHINGTON, DC 20007
(202) 333-5596 (PHONE)

LOT 0889, SQUARE 1254
GEORGETOWN

1524 33RD STREET, NW

N.W. WASHINGTON,
DISTRICT OF COLUMBIA

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DC SURVEYOR'S OFFICE

SHEET TITLE
STORMWATER MANAGEMENT DETAILS

CIV207

Stormwater Management Plan Compliance Data

Site Address	1524 33rd Street NW	Plan number	7528
Stormwater Management Plan?	Yes	Green Area Ratio?	No - GAR does not apply to this property
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?	Yes		

	Total Area (sf)	Site Area	PROW
Natural	0	0	0
Compacted	1,424	1,304	120
Impervious	8,476	7,482	994
BMP	950	950	0
Total	10,850	9,736	1,114

Curve Numbers

☐ Additional Detention Provided

Pre-development	58	2-year storm adjusted CN	58
Pre-project	81	15-year storm adjusted CN	71
		100-year storm adjusted CN	75

Requirements Summary (total is the sum of PROW and Parcel)	PROW (ft^2)	Parcel (ft^2)	Total (ft^2)	Total (Gallons)
SWRv	55	834	889	6,647
WQTv	0	0	0	0
On-site retention achieved	0	990	990	7,409
On-site treatment achieved	0	0	0	0
% of SWRv met on-site	0%	119%	111.46%	111.46%
SRC eligibility				1,173
Offv				0

Compliance data last updated: 11-11-2022 03:13 PM
Plan 7528 Page 1 of 4

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
7528-1	☐	9,736	0	1,304	7,482	950		834	0	990	0	58	71	75	N/A

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
7528-1-1	Infiltration trench	8,632		1,304	7,328			0	1,032	842	100% of storage volume	842	0	
7528-1-2	Permeable pavers - Enhanced	1,104		0	154	950		0	149	870	100% of storage volume	149	0	7528-1-1

PROW Drainage Area Compliance Data

Compliance data last updated: 11-11-2022 03:13 PM
Plan 7528 Page 2 of 4

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)
7528-2	☒	1,114	0	120	994	0		55	0		

PROW BMP Compliance Data

No records were retrieved.

Compliance data last updated: 11-11-2022 03:13 PM
Plan 7528 Page 3 of 4

STATEMENT BY PERSON RESPONSIBLE FOR MAINTENANCE

The undersigned agrees to maintain compliance with the performance requirements and other provisions of Chapter 5 of Title 21 of the District of Columbia Municipal Regulations (DCMR). This includes maintaining and operating stormwater best management practices (BMPs), stormwater infrastructure, and land covers as specified in the Stormwater Management Plan approved by the District Department of Energy and Environment (DOEE).

Responsibility for maintenance and operation may be transferred to another entity upon written notice to the Natural Resources Administration of DOEE from the undersigned and the entity assuming responsibility. This notice must certify that the transfer of responsibility for maintenance and operation is in compliance with 21 DCMR Chapter 5.

Electronic signature of the person responsible for maintenance (it may be the applicant):
Signed using the Surface and Groundwater System on 01-18-2023 09:46 AM

Coba Properties

Name and Title:
Coba Properties, Developer

Address:
Coba Properties
1321 Rhode Island Ave Nw
Washington, DC 20005

Date: 01-18-2023 09:46 AM Phone No: (202) 596-7459

Email: permits@cobadc.com

Compliance data last updated: 11-11-2022 03:13 PM
Plan 7528 Page 4 of 4

REQUIRED AS-BUILT DOCUMENTATION

DURING BMP INSTALLATION, RECEIPTS AND MATERIAL TICKETS SHALL BE KEPT AND PROVIDED TO CAS ENGINEERING-DC, LLC FOR TRANSMISSION TO DOEE WITH THE SUBMISSION OF THE AS-BUILT PLANS. THESE DOCUMENTS ARE REQUIRED IN CONJUNCTION WITH AS-BUILT SUBMITTAL PRIOR TO RECEIVING FINAL APPROVAL FROM DOEE. PLEASE PROVIDE THE FOLLOWING ITEMS IN CONJUNCTION WITH APPLICABLE BMP INSTALLATION:

- INFILTRATION TRENCH
  - RAINTANK MODULES [AND/OR] RESERVOIR STONE
  - SAND
  - GEOGRID BETWEEN SAND AND RAINTANK/STONE [SYNTEEN SR-18 MICROMESH OR EQUIVALENT]
  - FILTER FABRIC ON SIDES/TOP [ACF NO80 OR EQUIVALENT]
  - GEORGRID ON TOP [ACF BX12 OR EQUIVALENT]
  - [IF NECESSARY] 30-MIL (MIN.) PVC LINER
  - SCHEDULE 40 PVC PIPING
- PERMEABLE PAVEMENT
  - STONE LAYER(S) – LEVELING STONE, RESERVOIR STONE, CHOKER STONE
  - PAVEMENT SURFACE COURSE – PAVERS OR EQUIVALENT
- DRAINAGE STRUCTURES
  - SUMP INLET / TRENCH DRAINS / CATCH BASINS / ETC.
  - ASSOCIATED PIPING

PLEASE SEND SCANS/PHOTOS OF ALL APPLICABLE ITEMS LISTED ABOVE TO david@cas-dc.com AS THEY BECOME AVAILABLE. WE WILL COORDINATE SUBMITTAL TO DOEE OF THESE RECEIPTS VIA THEIR ONLINE DATABASE.

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Experience you can build on.

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5 0 5 10 20
SCALE: 1 INCH = 10 FEET

NORTH

DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE
DOEE COMPLIANCE DATA

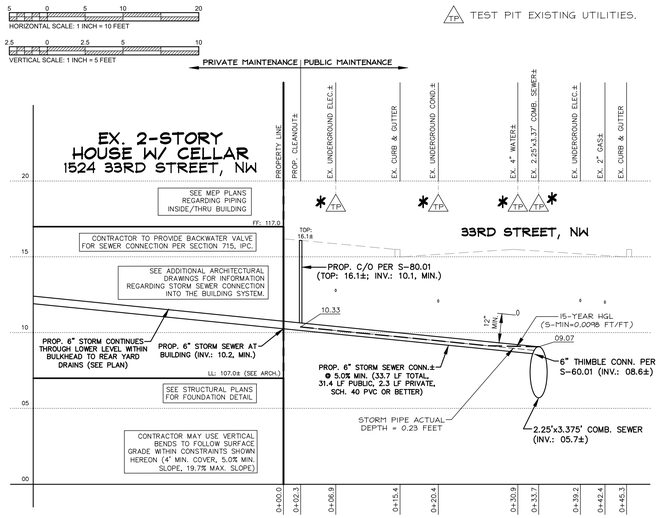
CIV208

STORM SEWER SERVICE CONNECTION PROFILE

CONNECTION IN 33RD STREET, NW
SCALE: 1"=10' (H); 1"=5' (V)

* MAINTAIN 12" MINIMUM SEPARATION FROM EXISTING / PROPOSED UTILITIES.

TP TEST PIT EXISTING UTILITIES.



PIPE FLOW COMPUTATIONS AND STORM SEWER COMPUTATIONS (HGL)

POST-DEVELOPMENT FLOWS FROM PRIVATE AREA
SITE AREA = 9,736 SQ. FT. = 0.22 AC.; tc = 0.167 HOURS; CN = 71
qo15 = 0.66 CFS (15-YR POST, ROUTED, SEE CALCS ON SHEET CIV206)

FLOW COMPUTATIONS (FROM FLOWMASTER PROGRAM):

PARAMETER	STORM (6")
PIPE DIAMETER =	0.50 FEET
SLOPE =	0.0500 FT/FT
MANNING'S n =	0.011 (PVC)
DISCHARGE =	0.66 CFS
DEPTH =	0.23 FEET
VELOCITY =	7.33 FPS
FLOW AREA =	0.09 SF
CRITICAL SLOPE =	0.0098 FT/FT
CRITICAL DEPTH =	0.41 FEET
PERCENT FULL =	46.73%
FROUDE NUMBER =	3.04
FULL CAPACITY =	1.48 CFS
QMAX @ .94D =	1.60 CFS

STORM SEWER HGL NARRATIVE/ CALCULATIONS

PIPE FLOW WITHIN LATERAL AT PROPOSED WYE CONNECTION. HGL STARTS AT CROWN OF EXISTING 2.25"x3.37" COMBINED SEWER MAIN.

FROM FLOWMASTER, SEE CALCULATIONS ABOVE:
WITHIN 6" STORM SEWER CONNECTION:
S-MIN = 0.0098 FEET/FEET
ACTUAL DEPTH = 0.23 FEET
ACTUAL SLOPE = 0.0500 FEET/FEET (ACTUAL > S-MIN)

HGL RUNS AT MINIMUM (CRITICAL) SLOPE UNTIL REACHING CLEANOUT (END OF PUBLIC MAINTENANCE), SEE PROFILE, LEFT.

SANITARY SEWER SERVICE CONNECTION PROFILE

SERVING 3314 VOLTA PLACE, NW
CONNECTION IN VOLTA PLACE, NW
SCALE: 1"=10' (H); 1"=5' (V)

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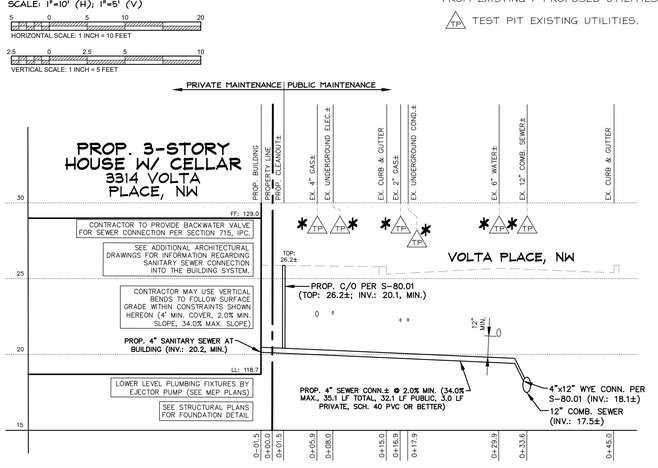
TP TEST PIT EXISTING UTILITIES.

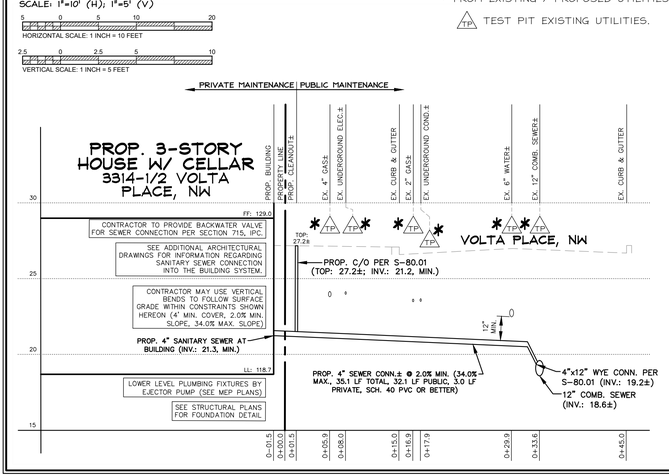


SANITARY SEWER SERVICE CONNECTION PROFILE

SERVING 3314-1/2 VOLTA PLACE, NW
CONNECTION IN VOLTA PLACE, NW
SCALE: 1"=10' (H); 1"=5' (V)

* MAINTAIN 12" MINIMUM SEPARATION FROM EXISTING / PROPOSED UTILITIES.

TP TEST PIT EXISTING UTILITIES.



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SHEET TITLE

DC WATER PROFILES

CIV209

Project Address:	3314 Volta Place, NW
Square #:	1254
Lot #:	Proposed
DC Water Tracking #:	
DCRA Tracking #:	

Water Supply Fixture Units Worksheet (MSW1)

dc water is life

Input Cells

Predominant Supply Systems: ◉ Flush Tank ○ Flushometer Valve

Fixture Type	Occupancy	Type of Supply Control	Number of Fixtures		Load Value		WSFU
Full-bath group**	Private	Flush Tank	5	x	3.60	=	18.00
	Private	Flushometer Valve		x	8.00	=	
Half-bath Group**	Private	Flush Tank	1	x	2.60	=	2.60
Bathtub (with/ without shower head)	Private	Faucet		x	1.40	=	
	Public	Faucet		x	4.00	=	
Bidet	Private	Faucet		x	2.00	=	
Combination fixture	Private	Faucet		x	3.00	=	
Dishwashing machine	Private	Automatic	1	x	1.40	=	1.40
Drinking Fountain	Office, etc.	3/8" Valve		x	0.25	=	
Kitchen sink	Private	Faucet	1	x	1.40	=	1.40
	Commercial	Faucet		x	3.00	=	
Laundry tub**	Private	Faucet		x	1.40	=	
Lavatory sink	Private	Faucet	1	x	0.70	=	0.70
	Public	Faucet		x	2.00	=	
Service sink	Public	Faucet		x	3.00	=	
Shower head	Private	Mixing Valve		x	1.40	=	
	Public	Mixing Valve		x	3.00	=	
Urinal**	Public	1" Flushometer Valve		x	10.00	=	
	Public	3/4" Flushometer Valve		x	5.00	=	
	Public	Flush Tank		x	3.00	=	
Washing machine (8 lb)	Private	Automatic	2	x	1.40	=	2.80
Washing machine (8 lb)	Public	Automatic		x	3.00	=	
Washing machine (15 lb)	Public	Automatic		x	4.00	=	
Water closet**	Private	Flush Tank		x	2.20	=	
	Private	Flushometer Valve		x	6.00	=	
	Private	Flushometer Tank		x	2.00	=	
	Public	Flushometer Valve		x	10.00	=	
	Public	Flush Tank		x	5.00	=	
	Public	Flushometer Tank		x	2.00	=	
Other				x	5.00	=	
			Total WSFU:				26.90
			Domestic Demand [1]:				22.18 GPM

[1] Domestic demand is calculated as per International Plumbing Code 2012 edition.

** See the definition on page 6

DC Water Use Only

Reviewer's Name:		Date:	The application is: Approved / Not Approved
Comment:			

Project Address:	3314 Volta Place, NW
Square #:	1254
Lot #:	Proposed
DC Water Tracking #:	0
DCRA Tracking #:	0

Meter Sizing Worksheet (MSW1)

dc water is life

Proposed Meter Type:
○ Domestic Service Only
◉ Combined Fire and Domestic Service

☑ One- or Two-Family Structure
☐ Other Structure

Input Cells

Domestic Meter Size			
a	Total Water Supply Fixture Units (WSFU)	26.9	wsfu
b	Domestic Demand	22.2	gpm
c	Total Hose Bibs and/ or Lawn Sprinkler Demand	5.0	gpm
d	Total Continuous Mechanical Demand		gpm
e	Total Intermittent Mechanical Demand		gpm
f	Total DIM (Domestic + Irrigation + Mechanical (cont.) + Mechanical (inter.)) Demand	27.2	gpm
g	Domestic Booster Pump Proposed?	○ Yes ◉ No	
~~h~~	~~Pumped Demand~~		~~gpm~~
i	Maximum DIM Demand (higher of g and h)	27.2	gpm
j	**Maximum DIM Demand in WSFU**	43.2	wsfu
k	**The Maximum Developed Length** Sheet A	142.9	ft
l	**Minimum Available Pressure** Sheet A	29.8	psi
Domestic Service Pipe[1] Size		1	in
Domestic Distribution Pipe[2] Size		1.25	in
SAF Meter Size**		1	in

DIM- Domestic Irrigation Mechanical
SAF- System Availability Fee

Fire Service			
m	Total Fire Flow Demand (Per NFPA requirements)	26.0	gpm
n	Fire Pump Proposed?	No	Yes/ No
o	Pumped Demand		gpm
p	Maximum Fire Demand	26.0	gpm
q	Maximum Fire Demand in WSFU	38.9	wsfu
Fire Service Pipe Size[3]		1	in
Fire Distribution Pipe Size[3]		1.25	in

Below Section is only Applicable to Meter for Combined Domestic and Fire Services			
r	Total Combined Demand	53.2	gpm
s	Total Combined Demand in WSFU[4]	143.1	wsfu
t	**The Maximum Developed Length (Combined Service)**	142.9	ft
u	**Minimum Available Pressure (Combined Service)**	29.8	psi
Combined Service[5] Pipe Size		1.5	in
Combined Meter Size[6]		1.5	in

[1]Service Pipe- The pipe from the water main to the water distribution system of the building served. The minimum service pipe size shall be 1" for new construction.
[2]Distribution Pipe- A pipe within the building structure from the water service pipe to the points of utilization.
[3]The fire service and distribution pipes shall be sized per construction code requirements or by hydraulic calculation in accordance with NFPA 13D, NFPA 13R, or NFPA 13, as applicable. The minimum service pipe size shall be 1" for new construction.
[4]If the designed value of the combined demand in WSFU is different from the above computed value, provide alternative computations per IPC/ IFC for the combined service line pipe size.
[5]The combined service shall be capable of supplying the simultaneous domestic demand and the sprinkler demand required to be hydraulically calculated by NFPA 13, NFPA 13D or NFPA 13R.

Note: If the developed length or water supply fixture units value falls outside the pipe sizing chart, this spreadsheet can not be used for the pipe sizing. The designer can provide either pipe sizing computations per IPC or he/she can use the modified version of the meter sizing worksheet.

**SAF meter size shall be computed based on the maximum DIM demand excluding fire demand. See AWWA water meter standards on Page 3 to determine SAF meter size based on the maximum DIM demand. The System Availability Fee (SAF) will be based on SAF meter size.

Designer's Name:	David C. Landsman, PE	Designer's Signature:		DC License #:	PE906954

Project Address:	3314 Volta Place, NW
Square #:	1254
Lot #:	Proposed
DC Water Tracking #:	0
DCRA Tracking #:	0

Sheet A (MSW1)

dc water is life

Input Cells

Maximum Developed Length			
The maximum developed length= (Actual length of pipe between the source of supply and the most remote fixture) X 1.2.		Dom./ Fire[1]	
a	Distance from water main to curb[1]	14.8	ft
b	Distance from curb to building face	16.6	ft
c	Building Length (at the longest point)	37.7	ft
d	Building Width (at the widest point)	20.0	ft
e	Building Height[2]	30.0	ft
f	Length of pipe between source of supply and the most remote fixture (a+b+c+d+e or user entered value)[3]	119.1	ft
g	The maximum developed length (value f x 1.2)	143	ft

AWWA Water Meter Standards		
Meter Size	High-Normal Flow Rate, gpm	Maximum Flow Rate, gpm
5/8" EX. ONLY (PD*)	10	20
3/4" EX. ONLY (PD*)	15	30
1" (PD*)	25	50
1-1/2" (PD*)	50	100
2" (PD*)	80	160

Source: AWWA, M22, 3rd Ed.
PD*- Positive Displacement

Minimum Available Pressure				
Minimum available pressure = minimum static pressure available from the supply source - static pressure loss due to difference in elevations between the water supply source and the highest water supply outlet - meter loss - backflow prevention device/ assembly loss- any other loss (if any).			Dom./ Fire[7]	
h	Minimum static pressure available from the supply source[8]		52.4	psi
i	Static pressure loss (building height/2.31)	-	13.0	psi
j	Additional static pressure loss (if any)	-		psi
k	Meter loss[6]	-	4.0	psi
l	Backflow prevention device/ assembly loss[5]	-	5.6	psi
m	Any other loss	-		psi
n	Pressure gain due to pump (if any)	+		psi
o	Minimum available pressure (g-h-i-j-k-l+m)	=	29.8	psi

[1]This number can be obtained from DC Water by filling out 'Request For Information Form (Meter Sizing Worksheet)'. The form is available on DC Water's website. This number will be negative if the water main is between the road curb and the property line.
[2]Distance from ground to ceiling of the highest story.
[3]This value can be overridden if the actual length of the pipe is based on the design data.
[4]This number can be obtained from DC Water by filling out 'Request For Information Form (Meter Sizing Worksheet)'. The form is available on DC Water's website.
[5]Provide this information either for domestic service pipe or fire service pipe whichever is hydrulically more remote.
[6]See pressure loss values based on AWWA standards on Pages 7, 8, and 9 of this worksheet for a reference.

DC WATER SYSTEM AVAILABILITY FEE (SAF)
EX. METER SIZE (FOR SAF CREDIT) = N/A, NO METER (SO)
PROP. DOMESTIC METER SIZE (SAF METER SIZE) = 1" ($3,944)
METER SIZE TO BE INSTALLED = 1.5"
(FOR COMBINED CONNECTION DUE TO FIRE SERVICE SIZE)
NET SAF = SAF METER SIZE - SAF CREDIT = $3,944 - $0 = $3,944

DCWASA
Backflow Prevention Form

Information Requirement For Approval of Backflow Preventers for Water Services

Project Location:

A. Street Address: 3314 Volta Place Quadrant: NW

B. Lot(s): Proposed Square: 1254

C. Number of water services: 1 Size of water service(s): 1.5" comb.

D. Closest cross street to the project: 33rd Street NW

E. Backflow Preventer Information:

	Domestic Service	Fire Service
Backflow Preventer Type	Dual Check	Dual Check
Manufacturer	Watts	Watts
Size	1.5"	1.5"
Model	LF007	LF007
ASSE #	1015	1015

Design Firm: CAS Engineering-DC, LLC

Address : 4836 MacArthur Boulevard, NW, 2nd Floor

City: Washington State: DC Zip Code: 20007

Tel: (202) 393-7200 Fax: ( ) Date Requested: 11/08/2022

Design Engineer **(print)** David C. Landsman, PE **Signature:**

Tel: ( ) Fax: ( ) Date:

Notes:

WASA Approval: (Name) **Signature:**

dc water is life

Permit Operations
Ph 202 646 8600

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY | 1100 4th STREET, SW | SUITE 310 | WASHINGTON, DC 20024

Backwater Evaluation Form [per 2006 International Plumbing Code (IPC) Section 715]

Note: User must complete all cells shown blue highlighted.

Next Upstream Manhole Rim Elevation (ft) = 125.80

	Sewer Fixture Description	[1] Flood Level Rim Elevation (ft)	[2] Backwater Valve or Pump Required?
Basement	Bathtub	0.00	n/a
	Bedpan Washer	0.00	n/a
	Bidet	0.00	n/a
	Dental Unit	0.00	n/a
	Drinking Fountain	0.00	n/a
	Kitchen Sink	0.00	n/a
	Utility Sink	0.00	n/a
	Urinal	0.00	n/a
	Toilet	119.70	Yes
	Dishwasher	0.00	n/a
	Clothes Washer	119.20	Yes
	Floor Drain	118.70	Yes
	Other - describe here	0.00	n/a
First Floor	Bathtub	0.00	n/a
	Bedpan Washer	0.00	n/a
	Bidet	0.00	n/a
	Dental Unit	0.00	n/a
	Drinking Fountain	0.00	n/a
	Kitchen Sink	131.00	No
	Utility Sink	0.00	n/a
	Urinal	0.00	n/a
	Toilet	130.00	No
	Dishwasher	129.50	No
	Clothes Washer	0.00	n/a
	Floor Drain	0.00	n/a
	Other - describe here	0.00	n/a

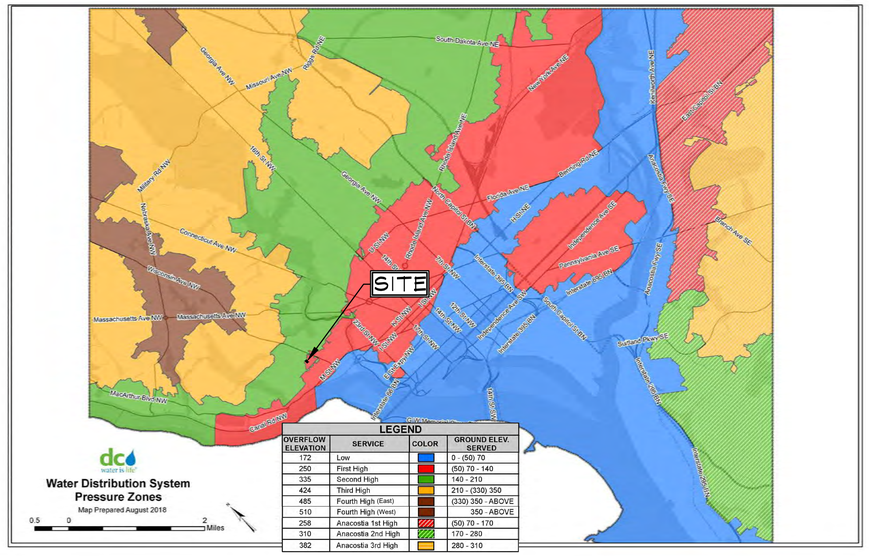
n/a: not applicable

Sewer Lateral Information

Sewer Lateral Location / Project Address	Lateral Size (in)	Lateral Slope (ft/ft)	Lateral C/O Rim Elev (ft)	Lateral C/O Invert Elev (ft)	Public Sewer Size (in)	Next Upstream MH Rim Ele(ft)
3314 Volta Place, NW	4	0.02	126.2	120.1	12	125.80

Notes:
[1] 2006 International Plumbing Code (IPC) defines Flood Level Rim as "The edge of the receptacle from which water overflows."
[2] If the elevation of the flood level rim is lower than the elevation of the next upstream manhole rim, a backwater valve for that fixture may need to be installed per IPC requirements, or the fixture may need to be pumped per IPC requirements.

Feb 2013



THEORETICAL STATIC HYDRAULIC GRADE

- PRESSURE ZONE = FIRST HIGH
- OVERFLOW ELEVATION = 250 FEET
- GROUND ELEVATIONS SERVICED = (50) 70–140 FEET
- APPROXIMATE PROJECT SITE ELEVATION = 129.0
- THEORETICAL WATER DISTRIBUTION SYSTEM PRESSURE (STATIC) = OVERFLOW ELEVATION – PROJECT SITE
  250 FEET – 129.0 FEET = 121.0 FEET
  PRESSURE = HEAD / 2.31 = 121 FEET / 2.31 =
  ELEVATION = 129.0 FEET = 52.4 PSI±

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Experience you can build on.
CAS ENGINEERING-DC, LLC
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2nd Floor
Washington, DC 20007
(202) 393-7200 Phone
www.cas-dc.com
info@cas-dc.com
CIVIL • SURVEYING • LAND PLANNING

OWNER/CLIENT
COBA PROPERTIES
1716 14TH STREET, NW, SUITE 300
WASHINGTON, DC 20009
(202) 596-7459 (CELL)
abdo@cobadc.com
ATTN: ABDO ROFFE

ARCHITECT
OVERMYER ARCHITECTS
3213 P STREET, NW
WASHINGTON, DC 20007
(202) 333-5596 (PHONE)

LOT 0889, SQUARE 1254
GEORGETOWN

1524 33RD STREET, NW

N.W. WASHINGTON,
DISTRICT OF COLUMBIA

ENGINEER ATTESTATION:

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

I FURTHER CERTIFY THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER IN THE DISTRICT OF COLUMBIA, LICENSE NUMBER PE906954, EXPIRATION DATE 06/31/2024. THIS ATTESTATION APPLIES ONLY TO CIVIL ENGINEERING AND RELATED COMPONENTS TO THE EXTENT THEY ARE WITHIN OUR SCOPE OF SERVICES FOR THIS PROJECT, AND BEAR MY SEAL AND SIGNATURE.

DISTRICT OF COLUMBIA
DAVID C. LANDSMAN
PE906954
PROFESSIONAL ENGINEER
CIVIL

02/09/2023

BASE SHEET ISSUED	06.06.2022
PERMIT SET	11.11.2022
REVISED PER DC WATER COMMENTS	12.01.2022
REVISED PER DDEE COMMENTS	12.16.2022
TO DDEE FOR APPROVAL	01.18.2023
OGB PERMIT SET	02.09.2023
REVISION	DATE

CAS PROJECT	22-0282-DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	AS SHOWN

5 0 5 10 20
SCALE: 1 INCH = 10 FEET

NORTH

DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE

DC WATER APPROVAL SHEETS (3314 VOLTA PLACE, NW)

CIV210

Project Address:	3314-1/2 Volta Place, NW
Square #:	1254
Lot #:	Proposed
DC Water Tracking #:	
DCRA Tracking #:	

Water Supply Fixture Units Worksheet (MSW1)

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Input Cells

Predominant Supply Systems: ● Flush Tank ○ Flushometer Valve

Fixture Type	Occupancy	Type of Supply Control	Number of Fixtures		Load Value		WSFU
Full-bath group**	Private	Flush Tank	5	x	3.60	=	18.00
	Private	Flushometer Valve		x	8.00	=	
Half-bath Group**	Private	Flush Tank	1	x	2.60	=	2.60
Bathtub (with/ without shower head)	Private	Faucet		x	1.40	=	
	Public	Faucet		x	4.00	=	
Bidet	Private	Faucet		x	2.00	=	
Combination fixture	Private	Faucet		x	3.00	=	
Dishwashing machine	Private	Automatic	1	x	1.40	=	1.40
Drinking Fountain	Office, etc.	3/8" Valve		x	0.25	=	
Kitchen sink	Private	Faucet	1	x	1.40	=	1.40
	Commercial	Faucet		x	3.00	=	
Laundry tub**	Private	Faucet	1	x	1.40	=	1.40
Lavatory sink	Private	Faucet	1	x	0.70	=	0.70
	Public	Faucet		x	2.00	=	
Service sink	Public	Faucet		x	3.00	=	
Shower head	Private	Mixing Valve		x	1.40	=	
	Public	Mixing Valve		x	3.00	=	
Urinal**	Public	1" Flushometer Valve		x	10.00	=	
	Public	3/4" Flushometer Valve		x	5.00	=	
	Public	Flush Tank		x	3.00	=	
Washing machine (8 lb)	Private	Automatic	2	x	1.40	=	2.80
Washing machine (8 lb)	Public	Automatic		x	3.00	=	
Washing machine (15 lb)	Public	Automatic		x	4.00	=	
Water closet**	Private	Flush Tank		x	2.20	=	
	Private	Flushometer Valve		x	6.00	=	
	Private	Flushometer Tank		x	2.00	=	
	Public	Flushometer Valve		x	10.00	=	
	Public	Flush Tank		x	5.00	=	
	Public	Flushometer Tank		x	2.00	=	
Other				x	5.00	=	
			Total WSFU:				28.30
			Domestic Demand [1]:				22.69 GPM

[1] Domestic demand is calculated as per International Plumbing Code 2012 edition.

** See the definition on page 6

DC Water Use Only

Reviewer's Name:		Date:	The application is:
			Approved
Comment:			Not Approved

Project Address:	3314-1/2 Volta Place, NW
Square #:	1254
Lot #:	Proposed
DC Water Tracking #:	0
DCRA Tracking #:	0

Meter Sizing Worksheet (MSW1)

dc water is life

Proposed Meter Type:
○ Domestic Service Only
● Combined Fire and Domestic Service

☑ One- or Two-Family Structure
☐ Other Structure

Input Cells

Domestic Meter Size			
a	Total Water Supply Fixture Units (WSFU)	28.3	wsfu
b	Domestic Demand	22.7	gpm
c	Total Hose Bibs and/ or Lawn Sprinkler Demand	5.0	gpm
d	Total Continuous Mechanical Demand		gpm
e	Total Intermittent Mechanical Demand		gpm
f	Total DIM (Domestic + Irrigation + Mechanical (cont.) + Mechanical (inter.)) Demand	27.7	gpm
g	Domestic Booster Pump Proposed?	○ Yes ● No	
~~h~~	~~Pumped Demand~~		~~gpm~~
i	Maximum DIM Demand (higher of g and h)	27.7	gpm
j	**Maximum DIM Demand in WSFU**	45.0	wsfu
k	**The Maximum Developed Length** Sheet A	153.2	ft
l	**Minimum Available Pressure** Sheet A	29.8	psi
Domestic Service Pipe[1] Size		1	in
Domestic Distribution Pipe[2] Size		1.5	in
SAF Meter Size**		1	in

DIM- Domestic Irrigation Mechanical
SAF- System Availability Fee

Fire Service			
m	Total Fire Flow Demand (Per NFPA requirements)	26.0	gpm
n	Fire Pump Proposed?	No	Yes/ No
o	Pumped Demand		gpm
p	Maximum Fire Demand	26.0	gpm
q	Maximum Fire Demand in WSFU	38.9	wsfu
Fire Service Pipe Size[3]		1.5	in
Fire Distribution Pipe Size[3]		1.25	in

Below Section is only Applicable to Meter for Combined Domestic and Fire Services			
r	Total Combined Demand	53.7	gpm
s	Total Combined Demand in WSFU[4]	145.3	wsfu
t	**The Maximum Developed Length (Combined Service)**	153.2	ft
u	**Minimum Available Pressure (Combined Service)**	29.8	psi
Combined Service[5] Pipe Size		1.5	in
Combined Meter Size[6]		1.5	in

[1]Service Pipe- The pipe from the water main to the water distribution system of the building served. The minimum service pipe size shall be 1" for new construction.
[2]Distribution Pipe- A pipe within the building structure from the water service pipe to the points of utilization.
[3]The fire service and distribution pipes shall be sized per construction code requirements or by hydraulic calculation in accordance with NFPA 13D, NFPA 13R, or NFPA 13, as applicable. The minimum service pipe size shall be 1" for new construction.
[4]If the designed value of the combined demand in WSFU is different from the above computed value, provide alternative computations per IPC/ IFC for the combined service line pipe size.
[5]The combined service shall be capable of supplying the simultaneous domestic demand and the sprinkler demand required to be hydraulically calculated by NFPA 13, NFPA 13D or NFPA 13R.

Note: If the developed length or water supply fixture units value falls outside the pipe sizing chart, this spreadsheet can not be used for the pipe sizing. The designer can provide either pipe sizing computations per IPC or he/she can use the modified version of the meter sizing worksheet.

**SAF meter size shall be computed based on the maximum DIM demand excluding fire demand. See AWWA water meter standards on Page 3 to determine SAF meter size based on the maximum DIM demand. The System Availability Fee (SAF) will be based on SAF meter size.

Designer's Name:	David C. Landsman, PE	**Designer's Signature:**		**DC License #**	PE906954

Project Address:	3314-1/2 Volta Place, NW
Square #:	1254
Lot #:	Proposed
DC Water Tracking #:	0
DCRA Tracking #:	0

Sheet A (MSW1)

dc water is life

Input Cells

Maximum Developed Length			
The maximum developed length= (Actual length of pipe between the source of supply and the most remote fixture) X 1.2.		Dom./ Fire[1]	
a	Distance from water main to curb[1]	14.8	ft
b	Distance from curb to building face	16.6	ft
c	Building Length (at the longest point)	47.7	ft
d	Building Width (at the widest point)	16.6	ft
e	Building Height[2]	30.0	ft
f	Length of pipe between source of supply and the most remote fixture (a+b+c+d+e or user entered value)[3]	127.7	ft
g	The maximum developed length (value f x 1.2)	153	ft

AWWA Water Meter Standards		
Meter Size	High-Normal Flow Rate, gpm	Maximum Flow Rate, gpm
5/8" EX. ONLY (PD*)	10	20
3/4" EX. ONLY (PD*)	15	30
1" (PD*)	25	50
1-1/2" (PD*)	50	100
2" (PD*)	80	160

Source: AWWA, M22, 3rd Ed.
PD*- Positive Displacement

Minimum Available Pressure				
Minimum available pressure = minimum static pressure available from the supply source - static pressure loss due to difference in elevations between the water supply source and the highest water supply outlet - meter loss - backflow prevention device/ assembly loss- any other loss (if any).			Dom./ Fire[1]	
h	Minimum static pressure available from the supply source[4]		52.4	psi
i	Static pressure loss (building height/2.31)	-	13.0	psi
j	Additional static pressure loss (if any)	-		psi
k	Meter loss[5]	-	4.0	psi
l	Backflow prevention device/ assembly loss[6]	-	5.6	psi
m	Any other loss	-		psi
n	Pressure gain due to pump (if any)	+		psi
o	Minimum available pressure (g-h-i-j-k-l+m)	=	29.8	psi

[1]This number can be obtained from DC Water by filling out 'Request For Information Form (Meter Sizing Worksheet)'. The form is available on DC Water's website. This number will be negative if the water main is between the road curb and the property line.
[2]Distance from ground to ceiling of the highest story.
[3]This value can be overridden if the actual length of the pipe is based on the design data.
[4]This number can be obtained from DC Water by filling out 'Request For Information Form (Meter Sizing Worksheet)'. The form is available on DC Water's website.
[5]Provide this information either for domestic service pipe or fire service pipe whichever is hydrulically more remote.
[6]See pressure loss values based on AWWA standards on Pages 7, 8, and 9 of this worksheet for a reference.

DC WATER SYSTEM AVAILABILITY FEE (SAF)
EX. METER SIZE (FOR SAF CREDIT) = N/A, NO METER (SO)
PROP. DOMESTIC METER SIZE (SAF METER SIZE) = 1" ($3,944)
METER SIZE TO BE INSTALLED = 1.5"
(FOR COMBINED CONNECTION DUE TO FIRE SERVICE SIZE)
NET SAF = SAF METER SIZE - SAF CREDIT = $3,944 - $0 = $3,944

DCWASA
Backflow Prevention Form

Information Requirement For Approval of Backflow Preventers for Water Services

Project Location:

A. Street Address: 3314-1/2 Volta Place Quadrant: NW

B. Lot(s): Proposed Square: 1254

C. Number of water services: 1 Size of water service(s): 1.5" comb.

D. Closest cross street to the project: 33rd Street NW

E. Backflow Preventer Information:

	Domestic Service	Fire Service
Backflow Preventer Type	Dual Check	Dual Check
Manufacturer	Watts	Watts
Size	1.5"	1.5"
Model	LF007	LF007
ASSE #	1015	1015

Design Firm: CAS Engineering-DC, LLC

Address : 4836 MacArthur Boulevard, NW, 2nd Floor

City: Washington State: DC Zip Code: 20007

Tel: (202) 393-7200 Fax: ( ) Date Requested: 11/08/2022

***Design Engineer* (print)** David C. Landsman, PE **Signature:**

Tel: ( ) Fax: ( ) Date:

Notes:

WASA Approval: (Name) **Signature:**

dc water is life

Permit Operations
Ph 202.646.6600

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY | 1100 4th STREET, SW | SUITE 310 | WASHINGTON, DC 20024

Backwater Evaluation Form [per 2006 International Plumbing Code (IPC) Section 715]

Note: User must complete all cells shown blue highlighted.

Next Upstream Manhole Rim Elevation (ft) = 131.50

	Sewer Fixture Description	[1] Flood Level Rim Elevation (ft)	[2] Backwater Valve or Pump Required?
Basement	Bathtub	0.00	n/a
	Bedpan Washer	0.00	n/a
	Bidet	0.00	n/a
	Dental Unit	0.00	n/a
	Drinking Fountain	0.00	n/a
	Kitchen Sink	0.00	n/a
	Utility Sink	0.00	n/a
	Urinal	0.00	n/a
	Toilet	119.70	Yes
	Dishwasher	0.00	n/a
	Clothes Washer	119.20	Yes
	Floor Drain	118.70	Yes
	Other - describe here	0.00	n/a
First Floor	Bathtub	0.00	n/a
	Bedpan Washer	0.00	n/a
	Bidet	0.00	n/a
	Dental Unit	0.00	n/a
	Drinking Fountain	0.00	n/a
	Kitchen Sink	131.00	Yes
	Utility Sink	0.00	n/a
	Urinal	0.00	n/a
	Toilet	130.00	Yes
	Dishwasher	129.50	Yes
	Clothes Washer	0.00	n/a
	Floor Drain	0.00	n/a
	Other - describe here	0.00	n/a

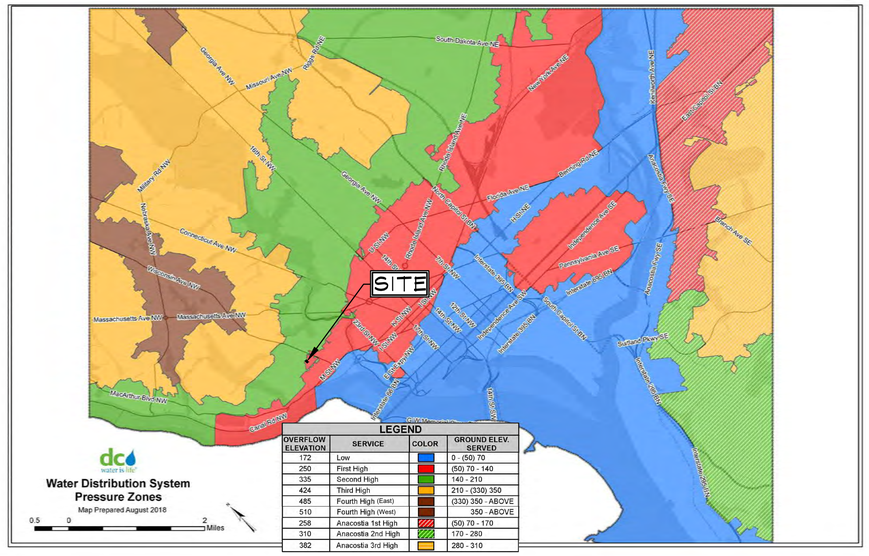
n/a: not applicable

Sewer Lateral Information

Sewer Lateral Location / Project Address	Lateral Size (in)	Lateral Slope (ft/ft)	Lateral C/O Rim Elev (ft)	Lateral C/O Invert Elev (ft)	Public Sewer Size (in)	Next Upstream MH Rim Ele(ft)
3314-1/2 Volta Place, NW	4	0.02	127.2	121.2	12	131.50

Notes:
[1] 2006 International Plumbing Code (IPC) defines Flood Level Rim as "The edge of the receptacle from which water overflows."
[2] If the elevation of the flood level rim is lower than the elevation of the next upstream manhole rim, a backwater valve for that fixture may need to be installed per IPC requirements, or the fixture may need to be pumped per IPC requirements.

Feb 2013



THEORETICAL STATIC HYDRAULIC GRADE

- PRESSURE ZONE = FIRST HIGH
- OVERFLOW ELEVATION = 250 FEET
- GROUND ELEVATIONS SERVICED = (50) 70–140 FEET
- APPROXIMATE PROJECT SITE ELEVATION = 129.0
- THEORETICAL WATER DISTRIBUTION SYSTEM PRESSURE (STATIC) = OVERFLOW ELEVATION – PROJECT SITE
  250 FEET – 129.0 FEET = 121.0 FEET
  PRESSURE = HEAD / 2.31 = 121 FEET / 2.31 =
  ELEVATION = 129.0 FEET = 52.4 PSI±

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CAS ENGINEERING-DC, LLC
4836 MacArthur Boulevard, NW
2nd Floor
Washington, DC 20007
(202) 393-7200 Phone
www.cas-dc.com
info@cas-dc.com
CIVIL • SURVEYING • LAND PLANNING

OWNER/CLIENT
COBA PROPERTIES
1716 14TH STREET, NW, SUITE 300
WASHINGTON, DC 20009
(202) 596-7459 (CELL)
abdo@cobadc.com
ATTN: ABDO ROFFE

ARCHITECT
OVERMYER ARCHITECTS
3213 P STREET, NW
WASHINGTON, DC 20007
(202) 333-5596 (PHONE)

LOT 0889, SQUARE 1254
GEORGETOWN

1524 33RD STREET, NW

N.W. WASHINGTON,
DISTRICT OF COLUMBIA

ENGINEER ATTESTATION:

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

I FURTHER CERTIFY THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER IN THE DISTRICT OF COLUMBIA, LICENSE NUMBER PE906954, EXPIRATION DATE 06/31/2024. THIS ATTESTATION APPLIES ONLY TO CIVIL ENGINEERING AND RELATED COMPONENTS TO THE EXTENT THEY ARE WITHIN OUR SCOPE OF SERVICES FOR THIS PROJECT, AND BEAR MY SEAL AND SIGNATURE.

DISTRICT OF COLUMBIA
DAVID C. LANDSMAN
PE906954
PROFESSIONAL CIVIL ENGINEER

02/09/2023

BASE SHEET ISSUED	06.06.2022
PERMIT SET	11.11.2022
REVISED PER DC WATER COMMENTS	12.01.2022
REVISED PER DDEE COMMENTS	12.16.2022
TO DDEE FOR APPROVAL	01.18.2023
OGB PERMIT SET	02.09.2023
REVISION	DATE

CAS PROJECT	22-0282-DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	AS SHOWN

5 0 5 10 20
SCALE: 1 INCH = 10 FEET

NORTH

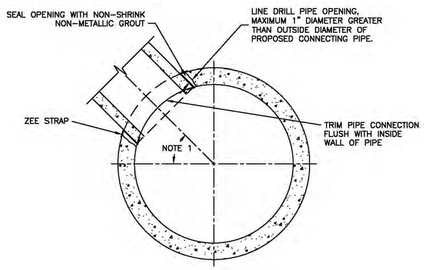
DATUM:
VERDICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE
DC WATER APPROVAL SHEETS (3314-1/2 VOLTA PLACE, NW)

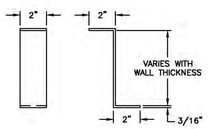
CIV211

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

S-60.01
1 OF 1



SECTIONAL CONNECTION DETAIL



ZEE STRAP DETAIL

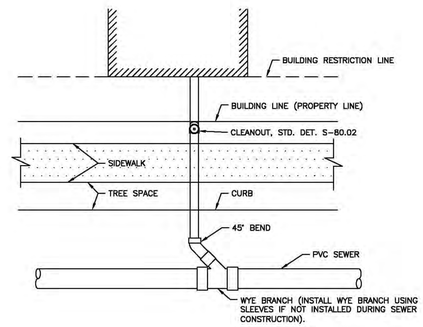
NOTE:

1. CONNECTIONS AT AN ANGLE GREATER THAN 45° FROM THE HORIZONTAL WILL ONLY BE PERMITTED WHEN SPECIFICALLY APPROVED BY WASA, AND MAY REQUIRE ADDITIONAL OR DIFFERENT PIPE RESTRAINT THAN ZEE STRAPS.

APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
LRA Digitally signed by Leonard R. Anderson Date: 2004.11.24 09:09:05 -05'00'	DATE: 6/20/03	CONNECTIONS TO SEWERS LARGER THAN 36" I.D. UTILIZING ZEE STRAPS
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: OBO/BKJV	
	CHECKED BY: W.DARROW	

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

S-80.01
1 OF 1



PLAN

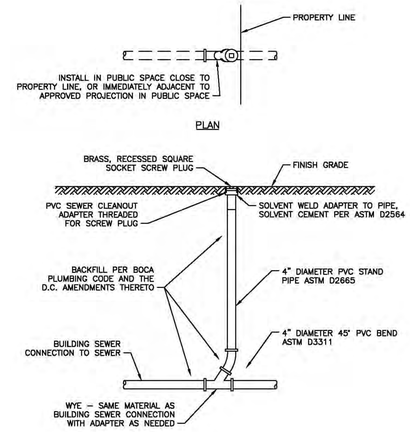
NOTES:

1. MATERIALS AND WORKMANSHIP BETWEEN THE WYE BRANCH AND THE BUILDING MUST BE IN ACCORDANCE WITH D.C. PLUMBING CODE.
2. VERTICAL BENDS FOR GRADE (NOT SHOWN) MAY BE REQUIRED ON SEWER LATERAL.

APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
LRA Digitally signed by Leonard R. Anderson Date: 2004.11.24 09:07:19 -05'00'	DATE: 6/20/03	SEWER LATERAL PLAN (CONNECTION TO PVC SEWER)
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: OBO/BKJV	
	CHECKED BY: W.DARROW	

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

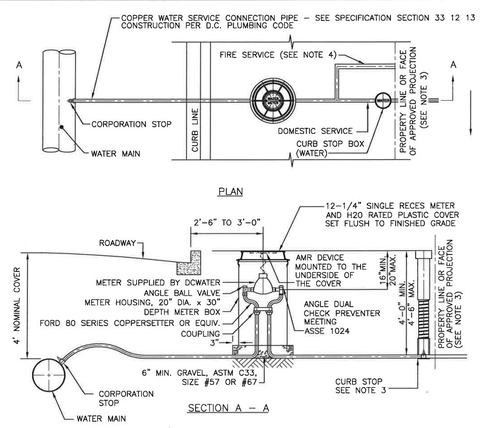
S-80.02
1 OF 1



APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
LRA Digitally signed by Leonard R. Anderson Date: 2004.11.24 09:01:49 -05'00'	DATE: 6/20/03	BUILDING SEWER COLLECTION CLEANOUT
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: OBO/BKJV	
	CHECKED BY: W.DARROW	

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

W-80.01
1 OF 1



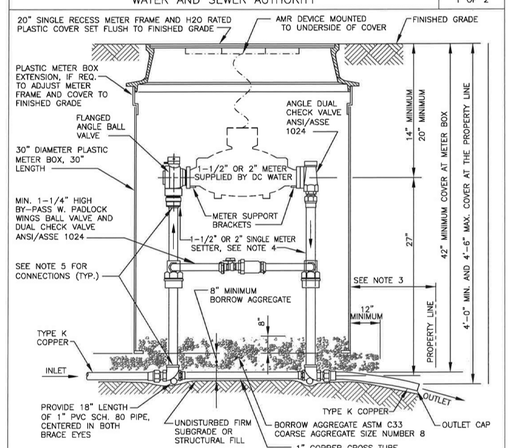
NOTES:

1. 1" DOMESTIC METER SETTER AS SHOWN.
2. 1 1/2" – 2" METER SETTER REQUIRES A METER VALVE ON EACH SIDE (NOT SHOWN ON DETAIL)
3. IF THE BUILDING OR APPROVED PROJECTION IS AT OR EXTENDS BEYOND THE PROPERTY LINE, THE CURB STOP SHALL BE PLACED 18 INCHES FROM FACE OF BUILDING OR APPROVED PROJECTION.
4. PROVIDE A SHUT-OFF VALVE WITHIN THE BUILDING BEFORE ANY CONNECTIONS.
5. SEE DETAILS W-80.10 1 & 2 FOR 1 1/2" AND 2" SERVICE CONNECTIONS AND METER SETTING.

APPROVED DATE:	REVISION NO.: 0	STANDARD DETAIL
	DATE: 7/23/15	WATER SERVICE CONNECTIONS 1" THRU 2" DIAMETER
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: SP	
	CHECKED BY:	

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

W-80.10
1 OF 2



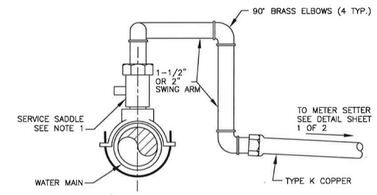
NOTES:

1. METER SETTING FOR NON-TRAFFIC AREAS ONLY, DO NOT LOCATE IN DRIVEWAYS, ALLEYS, PARKING LOTS OR OTHER AREAS SUBJECTED TO VEHICLE USE.
2. COMPACT BACKFILL AND AGGREGATE BASE AS STRUCTURAL FILL.
3. EXTEND COPPER SERVICE OUTLET BEYOND METER BOX TO THE PROPERTY LINE AS SHOWN IN DETAIL W-80.01.
4. 1-1/2" AND 2" SINGLE METER SETTER IS COMPLETE ONE-PIECE FACTORY ASSEMBLED, INCLUDING ANGLE BALL VALVE, DUAL CHECK VALVE, ELBOWS AND ALL CONNECTIONS.
5. ALL JOINTS WITHIN THE METER PIT MUST BE FLARED, BRAZED OR THREADED FITTINGS.
6. ALL BRASS FITTINGS AND VALVES IN WATERWAY SHALL MEET THE REQUIREMENTS OF NSF-372.
7. SEE DETAIL W-80.01 FOR MORE INFORMATION INCLUDING CURB STOP AT THE PROPERTY LINE.
8. SEE DETAIL W-80.10 2 OF 2 FOR SERVICE CONNECTION TO WATER MAIN.

APPROVED DATE:	REVISION NO.:	STANDARD DETAIL
	DATE: 07/21/15	1-1/2" AND 2" DIAMETER METER SETTING AND WATER SERVICE CONNECTION
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: SP	
	CHECKED BY:	

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

W-80.10
2 OF 2



SERVICE CONNECTION WITH SWING ARM

NOTES:

1. PROVIDE DIRECT TAP CORPORATION STOP OR SERVICE SADDLE PER SECTION 3312 13.
2. PROVIDE HAND TEMPERED TRENCH BACKFILL AROUND THE SWING ARM TO PREVENT EXCESSIVE STRESSES AND DAMAGE DURING BACKFILLING.

APPROVED DATE:	REVISION NO.:	STANDARD DETAIL
	DATE: 07/21/15	1-1/2" AND 2" DIAMETER METER SETTING AND WATER SERVICE CONNECTION
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: SP	
	CHECKED BY:	

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

W-95.02
1 OF 1

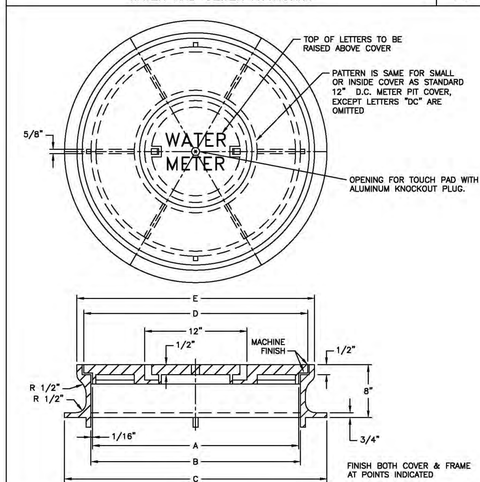


TABLE OF DIMENSIONS					
INSIDE DIA. METER PIT	A	B	C	D	E
20" (21") –	17 7/8"	18"	23"	19 7/8"	21"
24"	21 7/8"	22"	27"	23 7/8"	25"
30"	27 7/8"	28"	33"	29 7/8"	31"

NOTES:

1. GRAY IRON CASTINGS PER ASTM A-48, CLASS 30A OR 35.
2. ALL MACHINE FINISH TO BE A.S.A. SPECIFICATION, ROUGHNESS SYMBOL 250, TOLERANCE –0" +1/16".

APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
LRA Digitally signed by Leonard R. Anderson Date: 2004.11.24 09:04:07 -05'00'	DATE: 6/20/03	20", 24" & 30" DIAMETER CAST IRON WATER METER FRAME AND COVER (NON ROADWAY USE)
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: OBO/BKJV	
	CHECKED BY: W.DARROW	

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DISTRICT OF COLUMBIA
DAVID C. LANDSMAN
PE906954
CIVIL
PROFESSIONAL ENGINEER

02/09/2023

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PERMIT SET	11.11.2022
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CAS PROJECT	22-0282-DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	AS SHOWN

SCALE: 1 INCH = 10 FEET

NORTH

DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE

DC WATER DETAILS

CIV212

GENERAL NOTES

SEE DC WATER RELATED NOTES ON SHEETS CIV001 AND CIV002.

CONTRACTOR TO PROTECT TREES (BRANCHES, TRUNK, ROOTS) ON NEIGHBORING LOTS THAT OVERLAP THE L.O.D. AND HERITAGE TREES ON SITE. COORDINATE WITH DDOT UFA WARD 2 ARBORIST AS APPLICABLE. CONTRACTOR TO USE A TRENCHLESS SILT FENCE METHOD AND TO HORIZONTALLY BORE OR AIR SPADE EXCAVATE FOR UTILITIES WITHIN THE CANOPY OF ANY TREE TO BE PRESERVED (INCLUDING PROTECTING TREES ON ADJACENT PROPERTIES), COORDINATE WITH DDOT WARD 2 ARBORIST AS APPLICABLE. THE DDOT WARD 2 LEAD ARBORIST IS MATTHEW LEHTONEN, matthew.lehtonen@dc.gov; (202) 497-0103.

TOP, INVERT, PROFILE, AND SPOT ELEVATIONS HAVE BEEN SHORTENED TO DROP THE LEADING HUNDRED DENOTATION FOR SIMPLICITY.

A SEPARATE DDOT TREE REMOVAL PERMIT IS REQUIRED FOR PUBLIC SPACE TREES AND FOR TREES GREATER THAN 44" CBH (14" DBH).

CONTRACTOR TO COORDINATE ABANDONMENT OF ALL EXISTING UTILITIES AS NECESSARY.

PUBLIC SPACE RESTORATION TO BE DONE AS NECESSARY PER DDOT PERMIT OR APPLICABLE DETAILS.

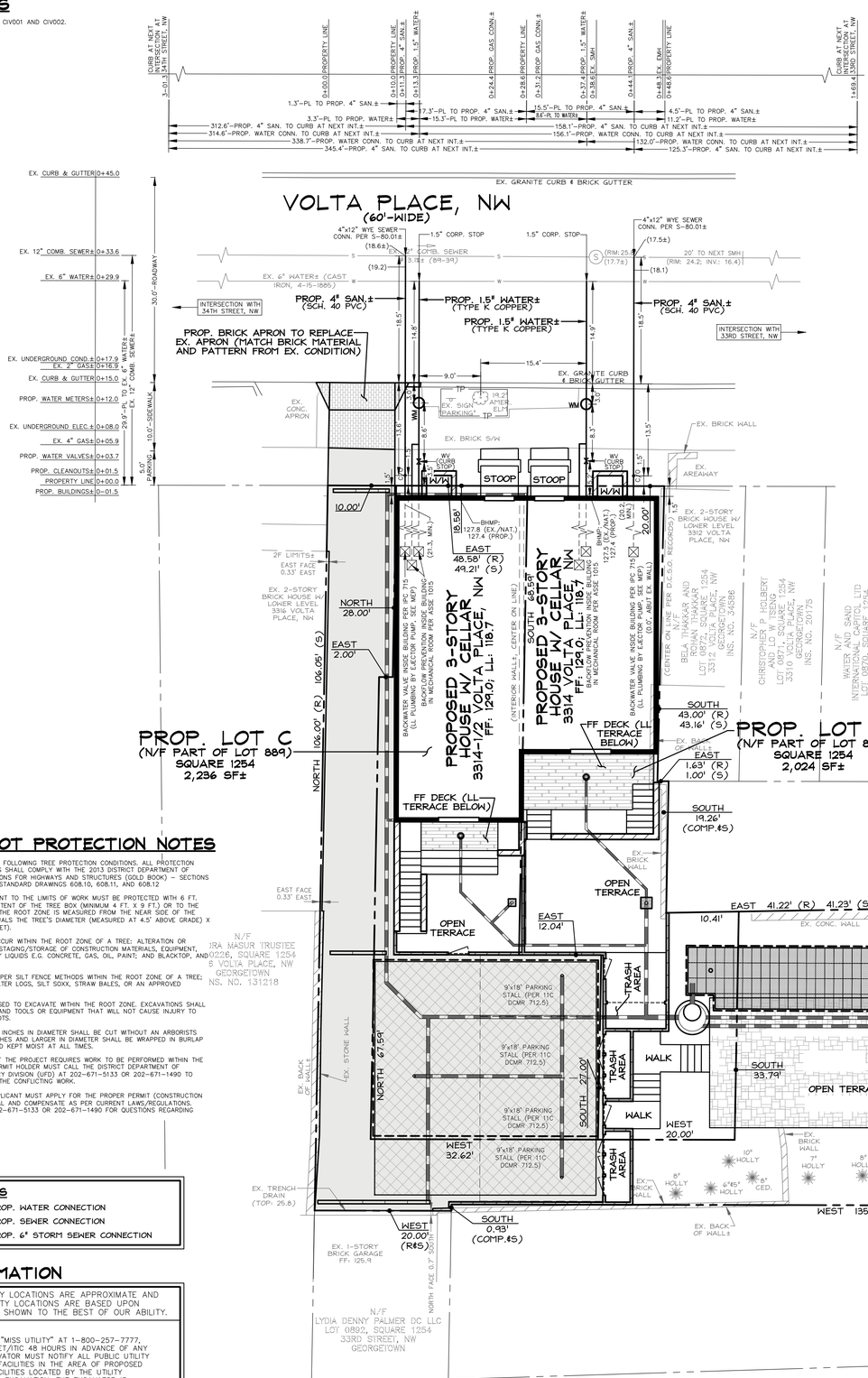
GAS CONNECTIONS AND METERS TO BE INSTALLED BY WASHINGTON GAS, SUBJECT TO FIELD MODIFICATION.

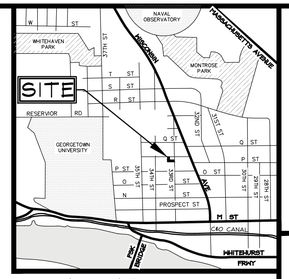
FOR MORE INFORMATION, SEE ADDITIONAL PROFILES, NOTES, COMPUTATIONS, AND DETAILS ON CIV200-SERIES SHEETS.

PROVIDE SEWER C/O FOR PROP. 4" SAN. PER DC WATER DETAIL S-80.02 (3314: TOP: 26.2±, INV.: 20.1, MIN.). (3314-1/2: TOP: 27.2±, INV.: 21.2, MIN.).

PROPOSED WATER METER TO BE INSTALLED AS PER DC WATER DETAILS W-80.01 AND W-95.02

DC WATER WET UTILITY MATERIAL SCHEDULE:
WATER CONNECTIONS (2" AND SMALLER): TYPE K COPPER
WATER CONNECTIONS (3" AND LARGER): CLASS 56 DUCTILE IRON W/ MECH. JOINTS
SANITARY/STORM SEWER CONNECTIONS: SCHEDULE 40 PVC





VICINITY MAP

ADC MAP 5527, GRID K-5
SCALE: 1" = 2000'

TREE AND ROOT PROTECTION NOTES

THE CONTRACTOR MUST ADHERE TO THE FOLLOWING TREE PROTECTION CONDITIONS. ALL PROTECTION MEASURES AND EXCAVATION OPERATIONS SHALL COMPLY WITH THE 2013 DISTRICT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND STRUCTURES (GOLD BOOK) – SECTIONS 207.03, 608.07 AND 608.08 AND DDOT STANDARD DRAWINGS 608.10, 608.11, AND 608.12

1. TREES WITHIN OR DIRECTLY ADJACENT TO THE LIMITS OF WORK MUST BE PROTECTED WITH 6 FT. TALL CHAIN LINK FENCE TO THE EXTENT OF THE TREE BOX (MINIMUM 4 FT. X 9 FT.) OR TO THE ROOT ZONE IN A PLANTING STRIP. THE ROOT ZONE IS MEASURED FROM THE NEAR SIDE OF THE TRUNK TO THE DISTANCE THAT EQUALS THE TREE'S DIAMETER (MEASURED AT 4.5' ABOVE GRADE) X 1 FT. (PREFERRED DISTANCE 1.5 FEET).
2. NONE OF THE FOLLOWING SHALL OCCUR WITHIN THE ROOT ZONE OF A TREE: ALTERATION OR DISTURBANCE TO EXISTING GRADE, STAGING/STORAGE OF CONSTRUCTION MATERIALS, EQUIPMENT, SOIL, OR DEBRIS; DISPOSAL OF ANY LIQUIDS E.G. CONCRETE, GAS, OIL, PAINT; AND BLACKTOP, AND TRENCHING.
3. INSTALL ONLY TRENCHLESS SILT/SUPER SILT FENCE METHODS WITHIN THE ROOT ZONE OF A TREE; TRENCHLESS METHODS SUCH AS FILTER LOGS, SILT SOXX, STRAW BALES, OR AN APPROVED EQUIVALENT SHALL BE USED.
4. NO HEAVY EQUIPMENT SHALL BE USED TO EXCAVATE WITHIN THE ROOT ZONE. EXCAVATIONS SHALL PROCEED WITH CARE BY USE OF HAND TOOLS OR EQUIPMENT THAT WILL NOT CAUSE INJURY TO TREE TRUNKS, BRANCHES, AND ROOTS.
5. NO ROOTS GREATER THAN TWO (2) INCHES IN DIAMETER SHALL BE CUT WITHOUT AN ARBORISTS PERMISSION. EXPOSED ROOTS 2 INCHES AND LARGER IN DIAMETER SHALL BE WRAPPED IN BURLAP OR OTHER APPROVED MATERIAL AND KEPT MOIST AT ALL TIMES.
6. IF FOR ANY REASON THE SCOPE OF THE PROJECT REQUIRES WORK TO BE PERFORMED WITHIN THE FENCED PROTECTION ZONE, THE PERMIT HOLDER MUST CALL THE DISTRICT DEPARTMENT OF TRANSPORTATION'S URBAN FORESTRY DIVISION (UFD) AT 202-671-5133 OR 202-671-1490 TO RECEIVE CLEARANCE TO CONTINUE THE CONFLICTING WORK.
7. IF A TREE REQUIRES REMOVAL, APPLICANT MUST APPLY FOR THE PROPER PERMIT (CONSTRUCTION OR SPECIAL TREE) FOR ITS REMOVAL AND COMPENSATE AS PER CURRENT LAWS/REGULATIONS. PLEASE CONTACT DDOT UFD AT 202-671-5133 OR 202-671-1490 FOR QUESTIONS REGARDING PERMITTING REQUIREMENTS.

LEGEND

PROPOSED FEATURES

—PROP. DOM./FIRE—	PROP. WATER CONNECTION
—PROP. SAN.—	PROP. SEWER CONNECTION
▬▬	PROP. 6" STORM SEWER CONNECTION

UTILITY INFORMATION

EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD VERIFIED. UTILITY LOCATIONS ARE BASED UPON AVAILABLE RECORDS AND ARE SHOWN TO THE BEST OF OUR ABILITY.

MISS UTILITY

FOR LOCATION OF UTILITIES, CALL "MISS UTILITY" AT 1-800-257-7777, OR LOG ON TO WWW.MISSUTILITY.NET/TIC 48 HOURS IN ADVANCE OF ANY WORK IN THIS VICINITY. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WTH UNDER GROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. THE EXCAVATOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL JURISDICTIONAL REQUIREMENTS.

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DISTRICT OF COLUMBIA
DAVID C. LANDSMAN
PE906954
PROFESSIONAL ENGINEER
Civil
02/09/2023

REVISION	DATE
BASE SHEET ISSUED	06.06.2022
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CAS PROJECT	22-0282-DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	1"=10'

SCALE: 1 INCH = 10 FEET

NORTH

DATUM:
VERSICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE

DC WATER / PUBLIC SPACE DIMENSIONS

CIV213

GENERAL NOTES

SEE SEDIMENT CONTROL RELATED NOTES ON SHEETS CIV001 AND CIV002.

THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY

ALL EXCAVATED AREAS OF ROADWAY AND UTILITY CUTS IN THE PUBLIC RIGHT-OF-WAY MUST BE COVERED IMMEDIATELY.

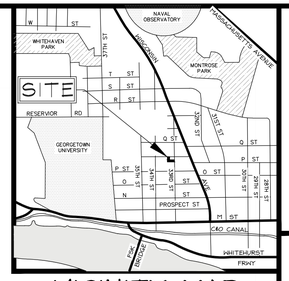
FOR MORE INFORMATION, SEE ADDITIONAL PROFILES, NOTES, COMPUTATIONS, AND DETAILS ON CIV200-SERIES SHEETS.

CONTRACTOR SHALL USE EROSION CONTROL TUBE, TRENCHLESS SILT FENCE, OR OTHER TRENCHLESS ESC METHOD ADJACENT TO TREE SAVE AREAS

CONTRACTOR TO MAINTAIN ANY EROSION AND SEDIMENT CONTROL MEASURES INSTALLED ON SITE

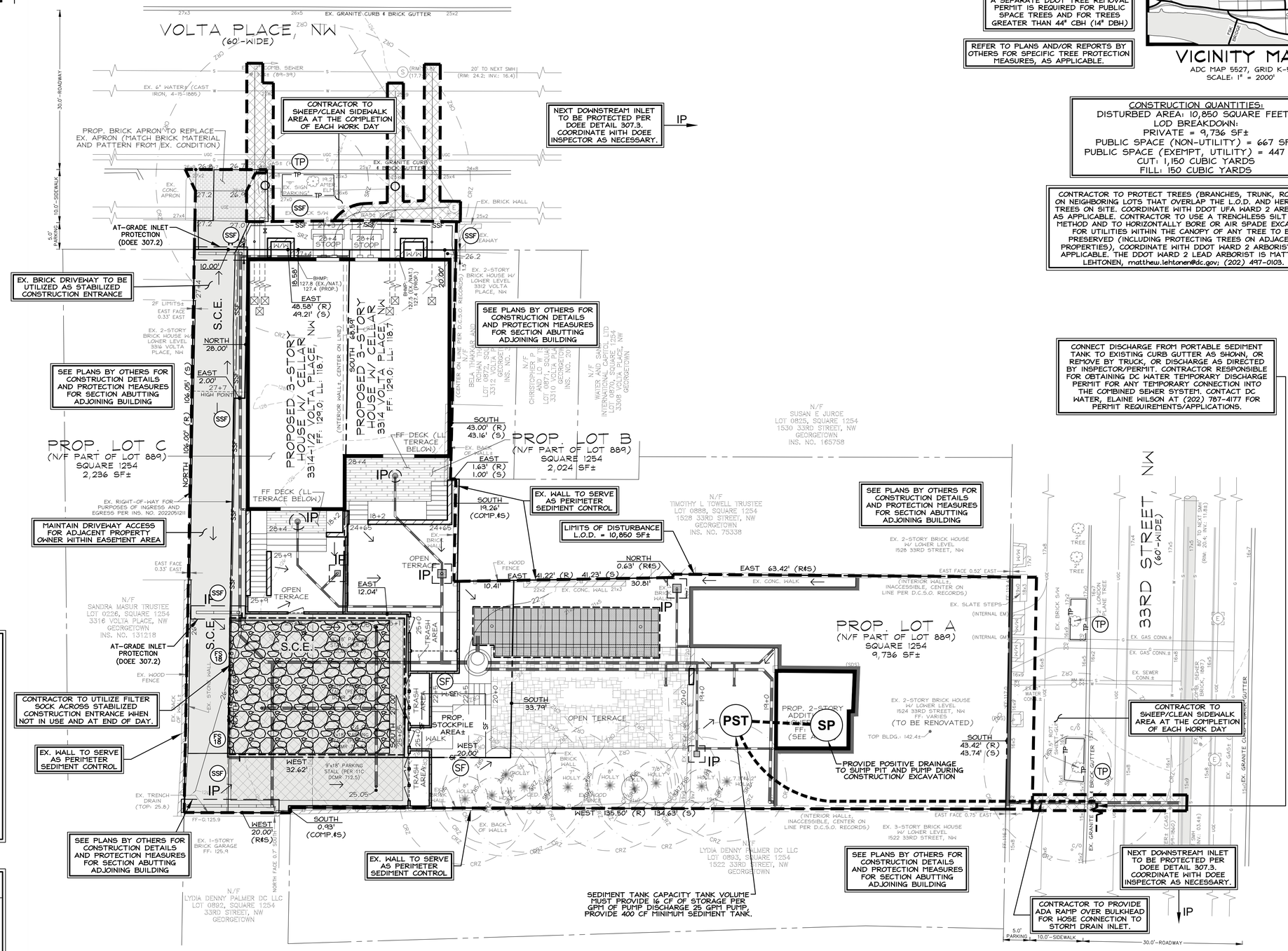
A SEPARATE DDOT TREE REMOVAL PERMIT IS REQUIRED FOR PUBLIC SPACE TREES AND FOR TREES GREATER THAN 44" CBH (14" DBH)

REFER TO PLANS AND/OR REPORTS BY OTHERS FOR SPECIFIC TREE PROTECTION MEASURES, AS APPLICABLE.



VICINITY MAP

ADC MAP 5527, GRID K-5
SCALE: 1" = 2000'



CONSTRUCTION QUANTITIES:

DISTURBED AREA: 10,850 SQUARE FEET±
LOD BREAKDOWN:
PRIVATE = 9,736 SF±
PUBLIC SPACE (NON-UTILITY) = 667 SF±
PUBLIC SPACE (EXEMPT, UTILITY) = 447 SF±
CUT: 1,150 CUBIC YARDS
FILL: 150 CUBIC YARDS

CONTRACTOR TO PROTECT TREES (BRANCHES, TRUNK, ROOTS) ON NEIGHBORING LOTS THAT OVERLAP THE L.O.D. AND HERITAGE TREES ON SITE. COORDINATE WITH DDOT UFA WARD 2 ARBORIST AS APPLICABLE. CONTRACTOR TO USE A TRENCHLESS SILT FENCE METHOD AND TO HORIZONTALLY BORE OR AIR SPADE EXCAVATE FOR UTILITIES WITHIN THE CANOPY OF ANY TREE TO BE PRESERVED (INCLUDING PROTECTING TREES ON ADJACENT PROPERTIES). COORDINATE WITH DDOT WARD 2 ARBORIST AS APPLICABLE. THE DDOT WARD 2 LEAD ARBORIST IS MATTHEW LEHTONEN, matthew.lehtonen@dc.gov; (202) 497-0103.

LEGEND

EXISTING FEATURES

- CRZ — TREE CRITICAL ROOT ZONE (CRZ)
- SRZ — TREE STRUCTURAL ROOT ZONE (SRZ)

SEDIMENT CONTROL DEVICES

- FS-18 — FILTERSOCK EROSION CONTROL TUBE (OR SIMILAR EROSION CONTROL TUBE, STRAW BALES, ETC.) (FS-18)
- SF — SILT FENCE (SF)
- SSF — SUPER SILT FENCE (SSF)
- TP — TREE PROTECTION FENCE (TP)
- IP — INLET PROTECTION
- S.C.E. — STABILIZED CONSTRUCTION ENTRANCE
- LIMITS OF DISTURBANCE
- EXEMPT UTILITY DISTURBANCE AREA

UTILITY INFORMATION

EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD VERIFIED. UTILITY LOCATIONS ARE BASED UPON AVAILABLE RECORDS AND ARE SHOWN TO THE BEST OF OUR ABILITY.

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GEORGETOWN

1524 33RD STREET, NW

N.W. WASHINGTON, DISTRICT OF COLUMBIA

ENGINEER ATTESTATION:

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS ARE PREPARED IN ACCORDANCE AND COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

I FURTHER CERTIFY THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER IN THE DISTRICT OF COLUMBIA, LICENSE NUMBER PE906954. EXPIRATION DATE 08/31/2024. THIS ATTESTATION APPLIES ONLY TO CIVIL ENGINEERING AND RELATED COMPONENTS TO THE EXTENT THEY ARE WITHIN OUR SCOPE OF SERVICES FOR THIS PROJECT, AND BEAR MY SEAL AND SIGNATURE.

DISTRICT OF COLUMBIA
DAVID C. LANGSHAW
PE906954
PROFESSIONAL ENGINEER
CIVIL

02/09/2023

REVISION	DATE
BASE SHEET ISSUED	06.06.2022
PERMIT SET	11.11.2022
REVISED PER DC WATER COMMENTS	12.01.2022
REVISED PER DOEE COMMENTS	12.16.2022
TO DOEE FOR APPROVAL	01.18.2023
OGB PERMIT SET	02.09.2023

CAS PROJECT	22-0282-DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	1"=10'

SCALE: 1 INCH = 10 FEET

NORTH

DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE

SEDIMENT CONTROL PLAN

CIV300

2.6 Topsoiling

2.6.1 Definition

Placement of topsoil over prepared subsoil prior to establishing permanent vegetation.

2.6.2 Purpose

To provide a suitable soil medium for vegetative growth.

2.6.3 Conditions Where Practice Applies

1. This practice is recommended for areas with 2:1 or flatter slopes where one or more of the following apply:
   (a) The texture, pH, or nutrient balance of the exposed subsoil/parent material is not adequate to produce vegetative growth.
   (b) The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
   (c) The original soil to be vegetated contains material toxic to plant growth.
   (d) The soil is so acidic that treatment with limestone is not feasible.
2. Areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. These areas must have the appropriate stabilization shown on the plans.

2.6.4 Design Criteria

Topsoil salvaged from the existing site may be used if it meets the standards in these specifications. Place topsoil and apply soil amendments as specified in Section 2.10 Vegetative Stabilization. Soil to be used as topsoil must meet the following specifications:

1. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by DOEE. Regardless, topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½ inches in diameter.
2. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, other poisonous plants, or others as specified in Section 2.10 Vegetative Stabilization. Topsoil must also be free from invasive plants or plant parts.
3. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4–8 tons per acre (200–400 pounds per 1,000 square feet) prior to the placement of topsoil. Distribute lime uniformly over designated areas and work into the soil in conjunction with tillage operations as described in the next step.

For sites having disturbed areas over 5 acres, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the requirements set forth in Section 2.10 Vegetative Stabilization. Alternatives to natural topsoil and alternative soil amendments, such as composted sewage sludge or other composted materials, may be used in place of fertilizer and lime, as allowed by other applicable regulations and as approved by a certified agronomist or soil scientist.

2.6.5 Construction Specifications

1. When topsoiling, maintain needed erosion and sediment control practices such as diversions, grade stabilization structures, earth dikes, silt fence, and sediment traps and basins.
2. Grades on the areas to be topsoiled, which have been previously established, must be maintained, though now with an additional 4 to 8 inches height in elevation.
3. After the areas to be topsoiled have been brought to grade, and immediately prior to dumping and spreading the topsoil, loosen the subgrade by discing or by scarifying to a depth of a least 3 inches to permit bonding of the topsoil to the subsoil. Pack the subsoil by passing a bulldozer up and down over the entire surface area of the slope to create horizontal erosion check slots to prevent topsoil from sliding down the slope.
4. Uniformly distribute topsoil in a 4-inch to 8-inch layer and lightly compact to a minimum thickness of 4 inches. Perform spreading in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Correct any irregularities in the surface resulting from topsoiling or other operations to prevent the formation of depressions or water pockets.
5. Do not place topsoil while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet, or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

2.6.6 Maintenance

After precipitation events, confirm that topsoil and subsoil are properly bonded and no sloughing has occurred.

2.7 Mulching

2.7.1 Definition

The application of a protective layer of straw or other suitable material to the soil surface.

2.7.2 Purpose

To protect the soil surface from the forces of raindrop impact and overland flow. Mulch helps to conserve moisture, reduce runoff and erosion, control weeds, prevent soil crusting, and promote the establishment of desired vegetation. Mulch is frequently used to accent landscape plantings.

2.7.3 Conditions Where Practice Applies

Mulching can be used at any time where protection of the soil surface is desired. The primary purpose of mulching is to protect newly seeded disturbed areas. However, it can also be used for stand-alone protection of the soil surface under adverse weather conditions when seed germination could be jeopardized. Mulch may also be used together with plantings of trees, shrubs, or certain ground cover that do not provide adequate soil stabilization by themselves.

Mulching must be used in conjunction with temporary seeding operation as specified in Section 2.10 Vegetative Stabilization.

2.7.4 Design Criteria

A surface mulch is the most effective, practical means of controlling runoff and erosion on disturbed land prior to vegetation establishment. Mulch reduces soil moisture loss by evaporation, prevents crusting and sealing of the soil surface, moderates soil temperatures, provides a suitable microclimate for seed germination, and may increase the infiltration rate of the soil.

Organic mulches such as straw, wood chips, and shredded bark have been found to be the most effective. Do not use materials that may be sources of competing weed and grass seeds. Be aware that decomposition of some wood products can tie up significant amounts of soil nitrogen, making it necessary to modify fertilization rates or add fertilizer with the mulch.

Various types of netting materials are available to anchor organic mulches. Chemical soil stabilizers or soil binders are less effective than other types of mulches when used alone. These products are primarily useful for tacking wood fiber mulches.

Choose materials for mulching based on soil conditions, season, type of vegetation, and size of the area. A properly applied and tacked mulch is always beneficial. It is especially important when conditions for germination are not optimum, such as midsummer and early winter, and on difficult areas such as cut slopes and slopes with southern exposures.

Mulch Materials

1. Straw must be unrotted small grain straw. Mulch materials must be relatively free of weeds and must be free of noxious weeds such as thistles, Johnsongrass, and quackgrass. Spread

mulch uniformly by hand or mechanically. Straw can be windblown and must be anchored down by an acceptable method.
2. Wood chips are particularly well suited for utility and road rights-of-way, as well as areas that will not be closely mowed or around ornamental plantings. Wood chips do not require tacking. Because they decompose slowly, they must be treated with 12 pounds of nitrogen per ton to prevent nutrient deficiency in plants. This can be an inexpensive mulch if chips are obtained from trees cleared on the site.
3. Wood fiber consists of specially prepared wood cellulose processed into a uniform fibrous physical state. It is used in hydroseeding operations and applied as part of a slurry. It creates the best seed-soil contact when applied over top of (as a separate operation) newly seeded areas. These fibers do not require tacking, although tacking agents or binders are sometimes used in conjunction with the application of fiber mulch. The following conditions apply to wood fiber:
   (a) Wood fiber is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
   (b) Wood fiber, including dye, must contain no germination or growth inhibiting factors.
   (c) Wood fiber materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer, and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover on application, having moisture absorption and percolation properties, and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
   (d) Wood fiber material must not contain elements or compounds at concentration levels that will be phytotoxic.
   (e) Wood fiber must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter of approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6% maximum, and water holding capacity of 90% minimum.

2.7.5 Construction Specifications

1. Prior to mulching, install any needed erosion and sediment control practices such as diversions, grade stabilization structures, berms, channels, and sediment traps and basins.
2. Apply seed and soil amendments at required rates to bring the soil into compliance with the requirements set forth in Section 2.10 Vegetative Stabilization.
3. Apply mulch at required rates. Depending on site conditions, hydraulically applied mulches may be applied in a one-step process where all components may be mixed together in single tank loads. Consult with the manufacturer for further details.
   (a) Straw – Apply straw mulch over all seeded areas at the rate of 2 tons per acre, or 2 bales per 1,000 square feet, to a uniform loose depth of 1 to 2 inches. Apply so that the soil surface is not exposed.
   (b) Wood chips – Apply wood chips at the rate of approximately 10-20 tons per acre or 500–900 pounds per 1,000 square feet; the depth should be 2 to 7 inches.

   (c) Wood cellulose fiber – Apply wood cellulose fiber at a dry weight rate of 2,000 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water. Wood cellulose fiber is not typically used on slopes steeper than 5%. For steeper slopes, apply at rates or in conjunction with tackifiers per manufacturer's specifications based on slope and other site characteristics. In hydroseeding operations, a green dye added to the slurry assures a uniform application.
4. Anchor mulch immediately following application to minimize loss by wind or water. Use one of the following methods depending upon the size of the area and erosion hazard:
   (a) Mulch anchoring tool – A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
   (b) Liquid mulch binders – Application of liquid mulch binders and tackifiers should be heaviest at the edges of areas and at crests of ridges and banks to resist wind. Apply binder uniformly to the rest of the area. Binders may be applied after mulch is spread, or it may be sprayed into the mulch as it is being blown onto the soil. Applying straw and binder together is the most effective method.
   (c) Synthetic binders – Synthetic binders must follow the application rates specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
   (d) Netting – Lightweight plastic, cotton, jute, wire, or paper nets may be stapled over the mulch according to the manufacturer's recommendations.
   (e) Mats – Mats promote seedling growth in the same way as organic mulches. They are very useful in establishing grass in channels and waterways. A wide variety of synthetic and organic materials are available. "Excelsior" is a wood fiber mat that should not be confused with wood fiber slurry.
5. When installing nets and mats, it is critical to obtain a firm, continuous contact between the material and the soil. Without such contact, the material is useless, and erosion will occur underneath. Any mat or blanket-type product used as a protective mulch should provide cover of at least 30% of the surface where it is applied.
   (a) Apply lime, fertilizer, and seed before laying the net or mat.
   (b) Start laying the net from the top of the slope and unroll it down the grade. Allow netting to lay loosely on the soil or mulch cover but without wrinkles—do not stretch.
   (c) To secure the net, bury the upslope end in a slot or trench no less than 6 inches deep, cover with soil, and tamp firmly. Staple the net every 12 inches across the top end and every 3 feet around the edges and bottom. Where 2 strips of net are laid side by side, overlap the adjacent edges 3 inches and staple together. Each strip of netting should also be stapled down the center, every 3 feet. Do not stretch the net when applying staples.
   (d) To join two strips, cut a trench to anchor the end of the new net. Overlap the end of the previous roll 18 inches, and staple every 12 inches just below the anchor slot.

2.7.6 Maintenance

Periodically inspect all mulches and soil coverings to check for erosion, particularly after precipitation events. Where erosion is observed in mulched areas, apply additional mulch. Inspect nets and mats after rainstorms for dislocation or failure. If washouts or breakage occur, reinstall netting or matting as necessary after repairing damage to the slope or ditch. Inspections should take place until grasses are firmly established. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface; repair as needed.

2.10 Vegetative Stabilization

2.10.1 Definition

Using vegetation as cover for barren soil to protect it from forces that cause erosion. This specification includes both temporary and permanent stabilization.

2.10.2 Purpose

Use vegetative stabilization specifications to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas and improving wildlife habitat and visual resources.

2.10.3 Conditions Where Practice Applies

Use this practice on denuded areas as specified on the ESC and SWM Plans. It may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long-term vegetative cover. Examples of applicable areas for temporary seeding are temporary soil stockpiles, cleared areas being left idle between construction phases, and earth dikes or other temporary erosion control measures. Examples of permanent seeding include lawns, dams, cut and fill slopes, and other areas at final grade.

Vegetative stabilization must be in place to stabilize the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes greater than 3:1 within 7 days. All other disturbed or graded areas on the project site must be stabilized within 14 days.

2.10.4 Design Criteria

Design criteria for both temporary and permanent vegetative stabilization includes seed specifications, seed mixtures, and soil amendments.

Seed Specifications

For both temporary and permanent soil stabilization, seed must meet the following specifications:

1. All seed must be subject to retesting by a recognized seed laboratory within the 6 months immediately preceding the date of sowing such material on the site.
   Note: Seed tags must be made available to the inspector to verify type and rate of seed used.
2. Seed quality must be consistent with the criteria outlined in Table 2.2.
3. The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Do not use inoculants beyond the date indicated on the container. Add fresh inoculant as directed on the package. Use 4 times the recommended rate when hydroseeding.

Note: It is very important to keep the inoculant as cool as possible until it is used. Temperatures above 75–80°F can weaken bacteria and make the inoculant less effective.

Table 2.2 Quality of Seed

Species	Minimum Seed Purity (%)	Minimum Seed Germination (%)
Cool-Season Grasses		
Barley	98	85
Bentgrass, Creeping	95	85
Bluegrass, Canada	90	80
Bluegrass, Kentucky	97	80
Bluegrass, Rough	96	80
Fescue, Chewings	97	85
Fescue, Creeping Red	97	85
Fescue, Hard	97	85
Fescue, Sheep	97	85
Fescue, Tall	97	85
Oats	98	85
Orchardgrass	90	80
Redtop	92	80
Rye, Cereal	98	85
Ryegrass, Annual or Perennial	97	85
Saltgrass, Alkali	85	80
Wheat	98	85
Wild Rye, Canada	85	70
Warm-Season Grasses		
Bluestem, Big	60	60
Bluestem, Little	55	60
Deertongue	95	75
Indiangrass	60	60
Millet, Foxtail or Pearl	98	80
Panicgrass, Coastal	95	70
Switchgrass	95	75
Legumes/Forbs		
Clover, Alsike	99	85
Clover, Red	99	85
Clover, White	99	90
Flatpea	98	75
Lespedeza, Common	98	80
Pea, Partridge	98	70
Trefoil, Birdsfoot	98	85

Temporary Stabilization

Use temporary seeding to provide cover on disturbed areas for up to 12 months. Longer duration of vegetative cover requires permanent seeding.

Include in the plan the following Temporary Seeding Summary (Table 2.3) that identifies temporary seeding materials rates, species, and fertilizer/lime rates. Use Table 2.4 to complete the summary table. If Table 2.3 is not put on the plans and completed, then Table 2.4 must be put on the plans.

Soil tests are not required for temporary seeding, but the plan should identify recommended fertilizer and/or lime application rates. If soil testing is completed, report the testing agency's results on the plans. If a soil test has been performed, delete the rates shown in Table 2.3 and write in the rates recommended by the testing agency.

Table 2.3 Temporary Seeding Summary

Temporary Seeding Summary					
Seed Mixture				Fertilizer Rate (10-10-10)	Lime Rate
Species	Seeding Rate (indicate units)	Seeding Dates	Seeding Depths		
Annual Ryegrass	1.0 lb/1,000 ft²	2/15 - 4/30 8/15 - 11/30	0.5"	436 lb/ac	2 tons/ac
				(10 lb/ 1,000 ft²)	(90 lb/ 1,000 ft²)

* or approved equivalent, coordinate with DOEE inspector.

Seed mixtures appropriate to the District of Columbia for temporary seeding are included in Table 2.4, along with appropriate seeding rates, depths, and planting dates.

Table 2.4 Temporary Seeding for Site Stabilization

Plant Species	Seeding Rate[1]		Seeding Depth (inches)[2]	Recommended Seeding Dates Plant Hardiness Zone 7a and 7b[3]
	lb/ac	lb/1,000 ft²		
Cool-Season Grasses				
Annual Ryegrass	40	1.0	0.5	Feb. 15 to Apr. 30; Aug. 15 to Nov. 30
Barley	96	2.2	1.0	Feb. 15 to Apr. 30; Aug. 15 to Nov. 30
Oats	72	1.7	1.0	Feb. 15 to Apr. 30; Aug. 15 to Nov. 30
Wheat	120	2.8	1.0	Feb. 15 to Apr. 30; Aug. 15 to Nov. 30
Cereal Rye	112	2.8	1.0	Feb. 15 to Apr. 30; Aug. 15 to Dec. 15
Warm-Season Grasses				
Foxtail Millet	30	0.7	0.5	May 1 to Aug. 14
Pearl Millet	20	0.5	0.5	May 1 to Aug. 14

Notes:
[1]Seeding rates for the warm-season grasses are in pounds of pure live seed (PLS). Actual planting rates must be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses.
Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl millet, foxtail millet), do not exceed more than 5% (by weight) of the overall permanent seeding mix. Generally, do not use cereal rye as a nurse crop unless planting will occur in very late fall beyond the seeding dates for other temporary seedings. Cereal rye has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above.
Oats are the recommended nurse crop for warm-season grasses.
[2]For sandy soils, plant seeds at twice the depth listed above.
[3]The planting dates listed are averages and may require adjustment to reflect local conditions.

Permanent Stabilization

For permanent seeding, the plan must include the Permanent Seeding Summary with the following information. Use Tables 2.6 and 2.7 to complete the summary table.

Table 2.5 Permanent Seeding Summary

Permanent Seeding Summary														
Seed Mixture					Fertilizer Rate (10-20-20)								Lime Rate	
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P_2O_5	K_2O							
8	Tall Fescue (Lolium arundinaceum)	2.3 lb / 1,000 ft²	2/15 - 4/30 8/15 - 11/30	1/8"	45 lb/ac	90 lb/ac	90lb/ac	2 tons/ac						
					(1.0 lb/ 1,000 ft²)	(2 lb/ 1,000 ft²)	(2 lb/ 1,000 ft²)	(90 lb/ 1,000 ft²)						

* or approved equivalent, coordinate with DOEE inspector.

Turfgrass Mixtures

Select a seed mixture from Table 2.6, using Table 2.7 (conditions by mix) as a guideline. Some guidance for common mixes is as follows:

1. Kentucky Bluegrass (full sun mixture) – For use in areas that receive intensive management. The recommended certified Kentucky bluegrass cultivars seeding rate is 1.5 to 2.0 pounds per 1,000 square feet. Choose a minimum of three bluegrass cultivars ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.
2. Kentucky Bluegrass/Perennial Rye (full sun mixture) – For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. The certified perennial ryegrass cultivars/certified Kentucky bluegrass seeding rate is 2 pounds mixture per 1,000 square feet. A minimum of three Kentucky bluegrass cultivars must be chosen, with each cultivar ranging from 10% to 35% of the mixture by weight.
3. Tall Fescue/Kentucky Bluegrass (full sun mixture) – For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. The recommended mixture includes 95% to100% certified tall fescue cultivars and 0% to5% certified Kentucky bluegrass cultivars. The seeding rate is 5 to 8 pounds per1,000 square feet. One or more cultivars may be blended.
4. Kentucky Bluegrass/Fine Fescue (shade mixture) – For use in areas with shade in bluegrass lawns or for establishment in high quality, intensively managed turf area. The mixture includes 30% to 40% certified Kentucky bluegrass cultivars and 60% to 70% of certified fine fescue. The seeding rate is 1½ to 3 pounds per 1,000 square feet. A minimum of 3 Kentucky bluegrass cultivars must be chosen, with each cultivar ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.
   Note: Select turfgrass varieties from those listed in the most current Maryland-Virginia Turfgrass Variety Recommendation Work Group list (http://www.pubs.ext.vt.edu/)

Table 2.6 Recommended Permanent Seeding Mixtures by Site Condition or Purpose

Site Condition or Purpose of the Planting	Recommended Mix (see Table 2.7)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Steep Slopes, Roadsides	R	R	R	A	R	A				A	A	R	R
Sand and Gravel Pits, Sanitary Landfills	R	R	R	A	R	A				A	A	R	R
Salt-Damaged Areas				A		A							
Mine Spoil, Dredged Material, and Spoil Banks				A	R	A	A			R	R		
Utility Rights-of-Ways		R	R	R	R	R			A			R	
Dikes and Dams		A	A	R	R	A			R	R	R	R	
Berms and Low Embankments (not on Ponds)		R	R	R		R	R	A	A				A
Pond and Channel Banks, Streambanks		R	R	R		R	A	A	A			A	A
Grassed Waterways, Diversions, Terraces, Spillways		A							R			A	R
Grassed Buffer Strips, Filter Strips, Contour Buffer Strips			A			A	A	R	A		A	R	R
Field Borders, Filter Strips, Contour Buffer Strips		R				R			A	A	R	R	A
Wastewater Treatment Strips and Areas			R			R			R	R	A		
Heavy Use Areas (Grass Loafing Paddocks for Livestock)												R	
Athletic Fields, Residential and Commercial Lawns												R	R
Recreation Areas												R	R

R = Recommended seeds for this site condition or purpose.
A = Acceptable seeds depending on site conditions.

Table 2.7 Selected List of Permanent Herbaceous Seeding Mixtures

Mix	Recommended Cultivar	Seeding Rate[1] lb/ac	Seeding Rate[1] lb/ 1,000 ft²	Soil Drainage Class[2]	Max. Height (in.)	Maint. Level[3]	Remarks
Warm-Season/Cool-Season Grass Mixes							
1. SHADY OR SEMI-SHADY AREAS							
Switch Grass (*Panicum virgatum*)	Blackwell, Cardinal, Cave-in-the-Rock, or Shelter	10	0.23				All species are native to the eastern United States.
OR							Plant this mix with a regular grass mix.
Coastal Panic Grass (*Panicum amarum var. amarulum*)	Atlantic	10	0.23				Coastal panic grass is a native species that is best adapted to Coastal areas.
Creeping Red Fescue (*Festuca rubra var. rubra*)	Navigator II	15	0.34	E-P	4-5	C-D	Creeping red fescue is a cool-season grass that will provide erosion protection while the warm-season grasses are getting established. The cool-season grasses will eventually die out as the warm-season grasses become established.
PLUS SOME OF THE FOLLOWING LEGUMES							
Partridge Pea (*Chamaecrista fasciculata*)	Common	4	0.09				Partridge pea is a native legume. The seed will germinate and provide some ground cover and nitrogen fixation while the slower growing grasses (Indiangrass) is becoming established.
Birds Clover (*Lespedeza capitata*)	Common	2	0.05				Birds clover is a native legume. It will tolerate shade and will fix nitrogen.
Wild Indigo (*Baptisia tinctoria*)	Common	2	0.05				Common wild indigo (*Baptisia tinctoria*) is a native legume.
2. Big Bluestem (*Andropogon gerardii*)							
Indiangrass (*Sorghastrum nutans*)	Rumper or Rumpster	6	0.14				All species are native to the eastern United States.
Little Bluestem (*Schizachyrium scoparium*)	Rumper or Rumpster	6	0.14				Little bluestem is a native bunch grass. Tall, warm-season grasses are slow to establish.
Creeping Red Fescue (*Festuca rubra var. rubra*)	Rumper or Rumpster	4	0.09				Creeping red fescue is a cool-season grass that will provide erosion protection while the warm-season grasses are becoming established.
PLUS SOME OF THE FOLLOWING FORBS							
Partridge Pea (*Chamaecrista fasciculata*)	Common	15	0.34	E-MD	6-8	C-D	
Indiangrass (*Sorghastrum nutans*)	Common	4	0.09				
Birds Clover (*Lespedeza capitata*)	Common	2	0.05				
Wild Indigo (*Baptisia tinctoria*)	Common	2	0.05				
Showy Tick-Trefoil (*Desmodium canadense*)	Common	1	0.05				

Mix	Recommended Cultivar	Seeding Rate[1] lb/ac	Seeding Rate[1] lb/ 1,000 ft²	Soil Drainage Class[2]	Max. Height (in.)	Maint. Level[3]	Remarks
Warm-Season/Cool-Season Grass Mixes							
3. SHADY TIDEWATER GRASSES							
Deertongue (*Dichanthelium clandestinum*)	Tioga	20	0.46				Excellent for excessively droughty, low pH sandy soils.
Canada Wild Rye (*Elymus canadensis*)	Common	3	0.07	E-MD	4-8	C-D	Canada wild rye and redtop are cool-season grasses that will provide erosion protection while the warm-season grasses (deertongue) is becoming established.
Redtop (*Agrostis gigantea*)	Streaker	1	0.02				
PLUS THE FOLLOWING LEGUME							
Common Lespedeza (*Lespedeza striata*)	Kobe	10	0.23				Common lespedeza (KoBe variety) is a crowding annual.
4. Deertongue (*Dichanthelium clandestinum*)							
Creeping Red Fescue (*Festuca rubra var. rubra*)	Tioga	13	0.34				
Virginia Wild Rye (*Elymus virginicus*)	Common	5	0.11	W-P	2-3	C-D	Use Virginia wild rye on moist, shady sites. Very tolerant of low pH droughty sites.
OR							
Canada Wild Rye (*Elymus canadensis*)	Common	5	0.11				
Cool-Season Grass Mixes							
5. SHADY TWO GRASSES							
Creeping Red Fescue (*Festuca rubra var. rubra*)	Navigator II	20	0.46				Use creeping red fescue in heavy shade and on droughty sites.
OR							
Hard Fescue (*Festuca ovina/longifolia*)	Bocon, Codian, Spartan II, Smooth	20	0.46				Perennial ryegrass and redtop will establish more rapidly than either fescue. Redtop is more tolerant of droughty sites.
Perennial Ryegrass (*Lolium perenne*)	Blazer III, Omnibus	10	0.23	F-SP	2-3	D-F	Ryegrass will suppress weedy vegetation. Plant in the spring or as a dormant seeding in late fall. Ryegrass will germinate in cool weather, as well as covered with mulch. It may not be hardy in the Coastal Plain or Piedmont. Use Tall Cultivars. Ryegrass are spread aggressively, and will thin when they mature.
OR							
Redtop (*Agrostis gigantea*)	Streaker	1	0.02				
AND ADD THE FOLLOWING LEGUME							
Flatpea (*Lathyrus sylvestris*)	Lathco	15	0.34				

Mix	Recommended Cultivar	Seeding Rate[1] lb/ac	Seeding Rate[1] lb/ 1,000 ft²	Soil Drainage Class[2]	Max. Height (in.)	Maint. Level[3]	Remarks
Cool-Season Grass Mixes							
6. Tall Fescue (*Lolium arundinaceum*)	Bocontender, Bocoboy, Codian	40	0.93				
Perennial Ryegrass (*Lolium perenne*)	Blazer III, Omnibus	25	0.57	W-SP	2-3	C-D	
PLUS THE FOLLOWING LEGUME:							
White Clover (*Trifolium repens*)	Common	5	0.11				
7. Creeping Red Fescue (*Festuca rubra var. rubra*)	Navigator II	60	1.38				
Kentucky Bluegrass (*Poa pratensis*)	Bocontender, Bocoboy, Bedazzled	15	0.34	W-MD	1-2	C-D	This mix has good shade tolerance.
8. Tall Fescue (*Lolium arundinaceum*) (Intensive Management)	Bocontender, Bedazzled	100	2.3	E-SP	2-3	A-D	Tall fescue persists in hot, dry, infertile soils and has been to be tolerant of drought, compaction, and low fertility. Use only the endophyte-free cultivars. Avoid the endophyte-infected cultivars such as Kentucky 31.
9. SHADY ONE SPECIES OF FESCUE (Intensive Management)							
(Hard Fescue (*Festuca ovina/longifolia*))	Bocoverde, Bedazzled	60	1.38				Good for highly managed athletic fields.
OR							
(Hard Fescue (*Festuca ovina/longifolia*))	Bocoa, Codian, Spartan II, Smooth	40	0.92				Tall fescue is more suitable for unmanaged, high use areas and on moist sites.
AND ADD							
Kentucky Bluegrass (*Poa pratensis*)	Bocontender, Bedazzled	40	0.92	W-SP	2-3	A-D	Use tall fescue instead of hard fescue for Piedmont or Coastal Plain.
Perennial Ryegrass (*Lolium perenne*)	Blazer III, Omnibus	20	0.46				Use Tall Cultivars. Ryegrass are spread aggressively, and will thin when they mature.

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N.W. WASHINGTON,
DISTRICT OF COLUMBIA

ENGINEER ATTESTATION:

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

I FURTHER CERTIFY THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER IN THE DISTRICT OF COLUMBIA, LICENSE NUMBER PE906954, EXPIRATION DATE 06/31/2024. THIS ATTESTATION APPLIES ONLY TO CIVIL ENGINEERING AND RELATED COMPONENTS TO THE EXTENT THEY ARE WITHIN OUR SCOPE OF SERVICES FOR THIS PROJECT, AND BEAR MY SEAL AND SIGNATURE.

DISTRICT OF COLUMBIA
DAVID C. LANGSHAW
PE906954
CIVIL
PROFESSIONAL ENGINEER

02/09/2023

BASE SHEET ISSUED	06.06.2022
PERMIT SET	11.11.2022
REVISED PER DC WATER COMMENTS	12.01.2022
REVISED PER DOEE COMMENTS	12.16.2022
TO DOEE FOR APPROVAL	01.18.2023
OGB PERMIT SET	02.09.2023
REVISION	DATE

CAS PROJECT	22-0282-DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	N.T.S.

SCALE: 1 INCH = 10 FEET

NORTH

DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE

SEDIMENT CONTROL NOTES

CIV301

Mix	Recommended Cultivar	Seeding Rate[1]		Soil Drainage Class[2]	Max. Height (in.)	Maint. Level[3]	Remarks
		lb/ac	lb/1,000 ft²				
Cool-Season Grass Mixes							
10. Orchardgrass (*Dactylis glomerata*)	Any	25	0.57	W–SP	2–3	C–D	Low maintenance mix that is easy to establish.
Creeping Red Fescue (*Festuca rubra var. rubra*)	Navigator II	10	0.23				
Redtop (*Agrostis gigantean*)	Streaker	1	0.02				
Alsike Clover (*Trifolium hybridum*)	Common	3	0.07				Alsike clover can be toxic to horses.
White Clover (*Trifolium repens*)	Common	3	0.07				Omit the clovers if using this mix for wastewater treatment strips and areas.
11. Creeping Red Fescue (*Festuca rubra var. rubra*)	Navigator II	30	0.69	E–MW	2–3	B–D	
Chewings Fescue (*Festuca rubra ssp. commutata*)	Radar	30	0.69				
Kentucky Bluegrass (*Poa pratensis*)	Recommended turf-types[4]	20	0.46				
OPTIONAL ADDITION Rough Bluegrass (*Poa trivialis*)	Common	15	0.34				Add rough bluegrass in moist, shady conditions.
12. Creeping Red Fescue (*Festuca rubra var. rubra*)	Navigator II	25	0.57	E–MW	2–3	C–D	Attractive mix of fine fescues and wildflowers for low maintenance conditions. Once well-established, the grasses may tend to outcompete the wildflowers.
Hard Fescue (*Festuca trachyphylla*)	Beacon, Gotham, Spartan II, Sword	25	0.57				
Sheep Fescue (*Festuca ovina*)	Common or Bighorn	25	0.57				
PLUS WILDFLOWER MIX:							Wildflowers are best established by broadcasting and cultipacking on a prepared seedbed. Drilling can be also used, but care must be taken so that seeds are not drilled too deep.
Black-eyed Susan (*Rudbeckia hirta*)	Common	2	0.05				
Lance-leaved Coreopsis (*Coreopsis lanceolata*)	Common	2	0.05				
Partridge Pea (*Chamaecrista fasciculate*)	Common	5	0.11				Hydroseeding is not recommended for this mix if wildflowers are used. (They have very small seeds.)
OR ADD CLOVER MIX:							
White Clover (*Trifolium repens*)	Common	3	0.07				
Red Clover (*Trifolium pretense*)	Any	3	0.07				

Mix	Recommended Cultivar	Seeding Rate[1]		Soil Drainage Class[2]	Max. Height (in.)	Maint. Level[3]	Remarks
		lb/ac	lb/1,000 ft²				
Cool-Season Grass Mixes							
13. Alkali Saltgrass (*Puccinellia distans*)	Fults or Salty	20	0.46	W–P	2–3	B–D	This is the recommended mix for saline sites. Saltgrass will persist only under saline conditions.
Creeping Red Fescue (*Festuca rubra var. rubra*)	Navigator II	15	0.34				
Fowl Meadowgrass (*Poa palustris*)	Common	2	0.05				For best results, use only the 'Dawson' variety of creeping red fescue. It is a salt-tolerant variety.
OPTIONAL ADDITION Creeping Bentgrass (*Agrostis stolonifera*)	Seaside	2	0.05				Add bentgrass for wetter conditions.

Notes:

1. Seeding Rates: Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates must be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses, legumes, or wildflowers. All legume seeds must be inoculated before planting with the appropriate Rhizobium bacteria. When feasible, scarify hard-seeded legumes scarified to improve germination.
2. Soil Drainage Class (refer to the county soil survey for further information):
   E - Excessively Drained; W - Well Drained; MW - Moderately Well Drained; SP - Somewhat Poorly Drained; P - Poorly Drained.
3. Maintenance Level:
   A - Intensive mowing (every 2 4 days), fertilization, lime, insect and weed control, and watering (examples: high maintenance lawns and athletic fields).
   B - Frequent mowing (every 4–7 days), occasional fertilization, lime, pest control, and watering (examples: residential, school, and commercial lawns).
   C - Periodic mowing (every 7–14 days), occasional fertilization and lime (examples: residential lawns, parks).
   D - Infrequent or no mowing, fertilization, or lime after the first year of establishment (examples: wildlife areas, roadsides, steep banks).
4. Turf-type cultivars of tall fescue and Kentucky bluegrass must be selected based on recommendations of the Maryland-Virginia Turfgrass Variety Recommendation Work Group.
   Kentucky Bluegrass Individual varieties selected must make up not less than 10%, nor more than 35% of the total mixture on a weight basis. All varieties must be certified. Selections can be made from Category I alone or various combinations of Categories I and II. Kentucky bluegrasses listed as "Promising" (Category II below) can account for no more than 35% of the blend by weight).
   Category I – Recommended Kentucky Bluegrass Varieties (65% to 100% of blend by weight). Aries, Blue Bank, Blue Coat, Blue Note, Bolt, Full Back, Hampton, Legend, Midnight, Noble, Skye, and Sudden Impact[3].
   Category II Promising Kentucky Bluegrasses (10% to 35% on a weight basis). Aramintha, Barvette HGT, Endurance, Heidi, Keeneland, Mazama, Merlot, NuChicago, Oasis, Skye, and Wildhorse[1] (Wildhorse is only for mixing with tall fescue).
   Tall Fescue – Both recommended and promising varieties can be used in the VCIA Sod Certification Program.
   Category I – Recommended Tall Fescue Varieties (90% to 100% on a weight basis). Annapolis, Avenger II, Black Tail, Bladerunner II[4], Bullseye, Catalyst, Dakota[4], Embrace, Falcon V, Firecracker SLS[2], Guardian 41[4], Gazelle II, Golconda[4], Gold Medallion, GTO, Hemi[3], Inferno, Integrity, Justice, Leonardo[2], Maestro, Michelangelo, Mustang 4, Penn RK4, Persuasion[4], Raptor III, Rebel IV, Reflection, Regenerate, Rendition RX, Rockwell, Saltillo, Screamer LS, Speedway[4], Spyder LS, SR 8650[4], Sunset Gold, Supersonic, Technique, Temple, Thor, Titanium 2LS, Titan Rx, Turbo, Turbo RZ[1], Xtender, and Xtremegreen.
   Category II – Promising tall fescue varieties (may be 90% to 100% of the mixture on a weight basis): 4th Millennium, Amity, Bloodhound, Crossfire 4, Fantasia, Fayette, Fesnova, Firebird 2, Firewall, Foxhound, Grande 3, Hot Rod, Houndog 8, Hover, Maestro, Nightcrawler, Paramount, Persuasion, Rebel V, Rebounder, Rhambler 2 SRP, Rhizing Moon, Rowdy, Swagger, Terrano, Traverse II SRP, Trinity, Turfway, Valkyrie LS, and Wichita.
   Kentucky bluegrass varieties recommended for mixing with tall fescue sod to enhance sod strength (up to 10% of the seed mixture by weight): All cultivars in Categories I and II above. Note recommendation of hybrid bluegrasses as promising varieties for mixtures with turf-type tall fescues in the traditionally warmer climates of Virginia.
   Varieties marked with superscript notations denote the following:
   1. To be considered for removal in 2018 due to declining performance relative to other varieties.
   2. To be considered for removal in 2018 due to declining seed quality.
   3. To be considered for removal in 2018 due to the absence of recent testing of certified seed lots in MD and VA.
   4. To be considered for removal in 2018 due to lack of recent testing in MD and VA.

Sod grass

Use sod grass to provide quick cover on disturbed areas (2:1 grade or flatter).

1. Class of turfgrass sod must comply with the grass varieties listed in Table 2.7. Make sod labels available to the job foreman and inspector.
2. Machine cut sod at a uniform soil thickness of ¾ inches, plus or minus ¼ inches, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Individual pieces of sod must be cut to the supplier's width and length. Maximum allowable deviation from standard widths and lengths is 5%. Broken pads and torn or uneven ends will not be acceptable.
3. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10% of the section.
4. Do not harvest or transplant sod when moisture content (excessively dry or wet) may adversely affect its survival.
5. Harvest, deliver, and install sod within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.

Planting Dates

The recommended planting dates for permanent cover can be found in Table 2.8.

Table 2.8 Recommended Planting Dates for Permanent Cover

Type of Plant Material	Planting Dates
Seeds - Cool-Season Grasses (includes mixes with forbs and/or legumes)	Feb 15 to Apr 30 Aug 15 to Oct 31 Nov 1 to Nov 30[3]
Seeds - Warm-Season/Cool-Season Grass Mixes (includes mixes with forbs and/or legumes)	Feb 15 to Apr 30[4] May 1 to May 31[5]
Sod - Cool-Season	Feb 15 to Apr 30 May 1 to Sep 30[5] Oct 1 to Dec 1[5, 6]

Notes:

1. When seeding toward the end of the listed planting dates, or when conditions are expected to be less than optimal, select an appropriate nurse crop from Table 2.4 Temporary Seeding for Site Stabilization and plant together with the permanent seeding mix.
2. When planted during the growing season, most of these materials must be purchased and kept in a dormant condition until planting.
3. Recommend adding a nurse crop, as noted above, if planting during this period.
4. Warm-season grasses need a soil temperature of at least 50 degrees F in order to germinate. If soil temperatures are colder than 50 degrees, or moisture is not adequate, the seeds will remain dormant until conditions are favorable. In general, planting during the latter portion of this period allows more time for weed emergence and weed control prior to planting. When selecting a planting date, consider the need for weed control vs. the likelihood of having sufficient moisture for later plantings, especially on droughty sites.
5. Additional planting dates during which supplemental watering may be needed to ensure plant establishment.
6. Frequent freezing and thawing of wet soils may result in frost-heaving of materials planted in late fall, if plants have not sufficiently rooted in place. Sod usually needs 4 to 6 weeks to become sufficiently rooted.

Minimum Soil Criteria

Minimum soil conditions required for permanent vegetative establishment include the following:

1. Soil pH must be between 6.0 and 7.0.
2. Soluble salts must be less than 500 parts per million (ppm).
3. The soil must contain less than 40% clay but enough fine grained material (> 30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. As an exception, it is acceptable to plant lovegrass or serecia lespedeza in sandy soil (< 30% silt plus clay).
4. Soil must contain 1.5% minimum organic matter by weight.
5. Soil must contain sufficient pore space to permit adequate root penetration.
6. If these conditions cannot be met by soils on site, topsoil must be added as required in Section 2.6 Topsoiling.

Soil Amendments (Fertilizer and Lime Specifications)

1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites with disturbed areas over 5 acres. Soil analysis may be performed by

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the University of the District of Columbia or a certified commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.

2. Fertilizers must be uniform in composition, free flowing, and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from DOEE. Deliver all fertilizers to the site fully labeled per applicable laws and bear the name, trade name or trademark, and warranty of the producer.
3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted) containing at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98% to 100% will pass through a #20 mesh sieve.

2.10.5 Construction Specifications

Site Preparation

1. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
2. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
3. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.
4. Distribute lime and fertilizer evenly and incorporate them into the top 3 to 5 inches of soil by disking or other suitable means.
5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons per acre (200 to 400 pounds per 1,000 square feet) prior to the placement of topsoil.

Seedbed Preparation

1. Temporary Seeding
   (a) Seedbed preparation must consist of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, do not roll or drag smooth but leave in the roughened condition. Track sloped areas (greater than 3:1) leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
   (b) Apply fertilizer and lime as prescribed on the plans.
   (c) Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
2. Permanent Seeding – Maintain areas previously graded in conformance with the drawings in a true and even grade, then scarified or otherwise loosened to a depth of 3 to 5 inches to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.

Apply soil amendments as per soil test or as included on the plans.

Mix soil amendments into the top 3 to 5 inches of topsoil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Track steep slopes (steeper than 3:1) by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1 to 3 inches of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

3. Methods of Seeding – Apply seed uniformly with hydroseeder (slurry includes seed, fertilizer and mulch), broadcast or drop seeder, or a cultipacker seeder.
   (a) Hydroseeding
      i) If fertilizer is being applied at the time of seeding, the application rates will not exceed the following: nitrogen, maximum of 100 pounds per acre total of soluble nitrogen; P_2O_5 (phosphorous), 200 pounds per acre; K_2O (potassium), 200 pounds per acre.
      ii) Lime – Use only ground agricultural limestone, (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons per acre are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
      iii) Seed and fertilizer must be mixed on site and seeding must be done immediately and without interruption.
      iv) Fiber mulch may be incorporated into the hydroseeding mixture. Consult Section 2.7 Mulching for standards and specifications for mulch materials.
   (b) Dry Seeding – This includes use of conventional drop or broadcast spreaders.
      i) Incorporate seed spread dry into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 2.4 or 2.7. The seeded area must then be rolled with a weighted roller to provide good seed to soil contact.
      ii) Where practical, apply seed in two directions perpendicular to each other. Apply half the seeding rate in each direction.
   (c) Drill or Cultipacker Seeding – Mechanized seeders that apply and cover seed with soil.
      i) Cultipacking seeders are required to bury the seed in such a fashion as to provide at least ¼ inches of soil covering. Seedbed must be firm after planting.
      ii) Where practical, apply seed in two directions perpendicular to each other. Apply half the seeding rate in each direction.

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4. Sod Installation – During periods of excessively high temperature or in areas having dry subsoil, the subsoil must be lightly irrigated immediately prior to laying the sod.

   The first row of sod must be laid in a straight line with subsequent rows placed parallel to and tightly wedged against each other. Lateral joints must be staggered to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids, which would cause air drying of the roots.

   Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg, or otherwise secure sod to prevent slippage on slopes and to ensure solid contact between sod roots and the underlying soil surface.

   Immediately water sod following rolling or tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.

5. Incremental Stabilization – Cut Slopes

   Dress, prepare, seed, and mulch all cut slopes as the work progresses. Excavate and stabilize slopes in equal increments not to exceed 15 feet.

   The construction sequence is as follows (refer to Figure 2.1):

   (a) Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
   (b) Perform phase 1 excavation, dress, and stabilize.
   (c) Perform phase 2 excavation, dress, and stabilize. Overseed phase 1 areas as necessary.
   (d) Perform final phase excavation, dress, and stabilize. Overseed previously seeded areas as necessary.

   Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

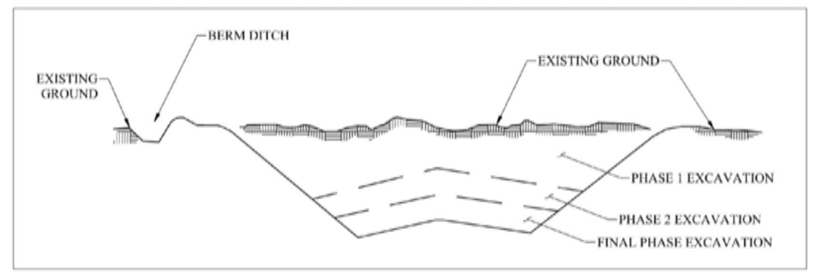

Figure 2.1 Incremental stabilization – cut.

6. Incremental Stabilization of Embankments – Fill Slopes

   Construct embankments in lifts as prescribed on the plans.

   Immediately stabilize slopes when the vertical height of the multiple lifts reaches 15 feet, or when the grading operation ceases as prescribed in the plans.

   At the end of each day, construct temporary berms and pipe slope drains along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.

   The construction sequence is as follows (refer to Figure 2.2):

   (a) Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct Slope Silt Fence on low side of fill as shown in Figure 2.2, unless other methods shown on the plans address this area.
   (b) Place phase 1 embankment, dress and stabilize.
   (c) Place phase 2 embankment, dress and stabilize.
   (d) Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.

   Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

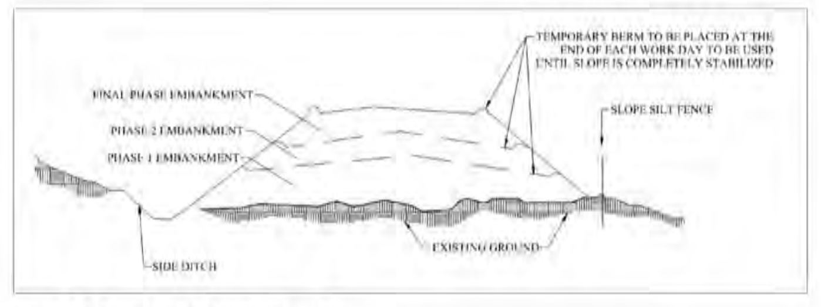

Figure 2.2 Incremental stabilization – fill.

2.10.6 Maintenance

Grass Maintenance

1. Inspect all seeded areas for failures and make necessary repairs, replacements, and reseedings within the planting season.
2. Once the vegetation is established, the site must have 95% ground cover to be considered adequately stabilized.
3. If the stand provides less than 40% ground coverage, reestablish following original lime, fertilizer, seedbed preparation and seeding recommendations.
4. If the stand provides between 40% and 94% ground coverage, overseeding and fertilizing using half of the rates originally applied may be necessary.
5. Maintenance fertilizer rates for permanent seedings are shown in Table 2.9.

Table 2.9 Maintenance Fertilization for Permanent Seeding

Seeding Mixture	Type	Seeding Rate		Time	Mowing
		lb/ac	lb/1,000 ft²		
Tall fescue makes up 70% or more of cover.	10-10-10	500	11.5	Yearly or as needed.	Not closer than 3 inches, if occasional mowing is desired.
	30-10-10	400	9.2	Fall	
Birdsfoot trefoil.	0-20-0	400	9.2	Spring, the year following establishment, and every 4 to 5 years, after.	Mow no closer than 2 inches.
Fairly uniform stand of tall fescue or birdsfoot trefoil.	5-10-10	500	11.5	Fall, the year following establishment, and every 4 to 5 years, after.	Not required, no closer than 4 inches in the fall after seed has matured.
Weeping lovegrass fairly uniform plant distribution.	5-10-10	500	11.5	Spring, the year following establishment, and every 3 to 4 years, after.	Not required, not closer than 4 inches in fall after seed has matured.
Red & chewings fescue, Kentucky bluegrass, hard fescue mixtures.	20-10-10	250	5.8	September, 30 days later.	Mow no closer than 2 inches for red fescue and Kentucky bluegrass, 3 inches for fescue.
		100	2.3	December, May 20, June 30, if needed.	
Red & chewings fescue, Kentucky bluegrass, hard fescue mixtures.	20-10-10	250	5.8	September, 30 days later.	Mow no closer than 2 inches for red fescue and Kentucky bluegrass, 3 inches for fescue.
		100	2.3	December, May 20, June 30, if needed.	

Sod Maintenance

1. In the absence of adequate rainfall, perform watering daily or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of 4 inches. Water during the heat of the day to prevent wilting.
2. After the first week, sod watering is required as necessary to maintain adequate moisture content.
3. Do not attempt the first mowing of sod until the sod is firmly rooted. Do not remove more than a third of the grass leaf by the initial cutting or subsequent cuttings. Maintain grass height between 2 to 3 inches unless otherwise specified.

Chapter 9 Other Practices

9.1 Dust Control

9.1.1 Definition

To control blowing dust and movement on construction sites and roads.

9.1.2 Purpose

To prevent or reduce the blowing and movement of dust from disturbed soil surfaces that may create off-site damage, health hazards, and traffic safety problems.

9.1.3 Conditions Where Practice Applies

This practice is applicable to areas subject to dust blowing and movement where on and off-site nuisance dust damage is likely without treatment.

9.1.4 Design Criteria

When designing a dust control plan for a site, the amount of soil exposed will dictate the quantity of dust generation and transport. Therefore, construction sequencing and disturbing only small areas at a time can greatly reduce problematic dust from a site. If land should be disturbed, consider additional temporary stabilization measures prior to disturbance.

Temporary Methods

1. Mulches – See Section 2.7 Mulching. Chemical or wood cellulose fiber binders must be used instead of asphalt to bind mulch material.
2. Vegetative Cover – See Section 2.10 Vegetative Stabilization.
3. Spray-on Adhesives – Use on mineral soils (not effective on muck soils). These are generally synthetic materials that are applied to the soil surface to act as binding agents. Asphalt-based and coal tar-based materials are not accepted. Keep traffic off these areas once they have been treated. The following table may be used for general guidance.

Table 9.1 Spray-on Adhesives Guidance

Adhesive	Water Dilution (Adhesive: Water)	Type of Nozzle	Application Rate (gallons/acre)
Latex emulsion	12.5:1	Fine spray	235
Resin-in-water emulsion	4:1	Fine spray	300
Acrylic emulsion (non-traffic)	7:1	Coarse spray	450
Acrylic emulsion (traffic)	3.5:1	Coarse spray	350

4. Tillage – This is an emergency temporary practice that will scarify the soil surface and prevent or reduce the amount of blowing dust until a more appropriate solution can be implemented. Begin the tillage operation on the windward side of site. Use a chisel-type plows to produce the best results.
5. Sprinkling – This is the most commonly used dust control practice. The site is sprinkled with water until the surface is moist and repeated as needed. This practice can be particularly effective for road construction and other traffic routes. The site must not be sprinkled to the point that runoff occurs.
6. Barriers – Solid board fences, snow fences, burlap fences, straw bales, crate walls, or similar materials can be used to control air currents and soil blowing.
7. Calcium Chloride – Can be applied as flakes or granular material with a mechanical spreader at a rate that will keep the soil surface moist but not so high as to cause water pollution or plant damage. Can be reapplied as necessary.

Permanent Methods

1. Permanent Vegetation – See Section 2.10 Vegetative Stabilization. Existing trees or large shrubs may afford valuable protection if left in place.
2. Topsoiling – Covering with less erosive soil materials. See Section 2.6 Topsoiling.
3. Stone – Cover surface with crushed stone or coarse gravel. See Section 2.3 Construction Road Stabilization and Section 2.4 Construction Debris Ground Cover.

9.1.5 Construction Specifications

1. The contractor must conduct operations and maintain the project site so as to minimize the creation and dispersion of dust. Use dust control throughout the work at the site.
2. The contractor must provide clean water, free from salt, oil, and other deleterious material to be used for on-site dust control.
3. The contractor shall supply water-spraying equipment capable of accessing all work areas.
4. The contractor shall implement strict dust control measures during active construction periods on-site. These control measures shall generally consist of water applications that

---

shall be applied a minimum of once per day during dry weather or more often as required to prevent dust emissions.

5. For water application to undisturbed soil surfaces, the contractor shall:
   (a) Apply water with equipment consisting of tank, spray bar, and pump with discharge pressure gauge.
   (b) Arrange spray bar height, nozzle spacing and spray pattern to provide complete coverage of ground with water.
   (c) Disperse water through nozzles on spray bar at 20 psi (137.8 kPa) minimum. Keep areas damp without creating nuisance conditions such as ponding.
6. For water application to soil surfaces during demolition and/or excavation, the contractor shall:
   a) Apply water with equipment consisting of a tank, pump with discharge gauge, hoses and mist nozzles.
   b) Locate tank and spraying equipment so that the entire excavation area can be misted without interfering with demolition and/or excavation equipment or operations. Keep areas damp without creating nuisance conditions such as ponding.
   c) Apply water spray in a manner to prevent movement of spray beyond the site boundaries.

9.1.6 Maintenance

Because dust controls are dependent on specific site and weather conditions, inspection and maintenance are unique for each site. Generally, dust control measures involving application of either water or chemicals require more monitoring than structural or vegetative controls to remain effective. If structural controls are used, inspect them for deterioration on a regular basis to ensure that they are still achieving their intended purpose.

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LOT 0889, SQUARE 1254
GEORGETOWN

1524 33RD
STREET, NW

N.W. WASHINGTON,
DISTRICT OF COLUMBIA

ENGINEER ATTESTATION:

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

I FURTHER CERTIFY THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER IN THE DISTRICT OF COLUMBIA, LICENSE NUMBER PE906954, EXPIRATION DATE 08/31/2024. THIS ATTESTATION APPLIES ONLY TO CIVIL ENGINEERING AND RELATED COMPONENTS TO THE EXTENT THEY ARE WITHIN OUR SCOPE OF SERVICES FOR THIS PROJECT, AND BEAR MY SEAL AND SIGNATURE.

DAVID C. LANDSMAN
PE906954

02/09/2023

BASE SHEET ISSUED	06.06.2022
PERMIT SET	11.11.2022
REVISED PER DC WATER COMMENTS	12.01.2022
REVISED PER DOEE COMMENTS	12.16.2022
TO DOEE FOR APPROVAL	01.18.2023
OGB PERMIT SET	02.09.2023
REVISION	DATE

CAS PROJECT	22-0282-DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	N.T.S.

5 0 5 10 20
SCALE: 1 INCH = 10 FEET

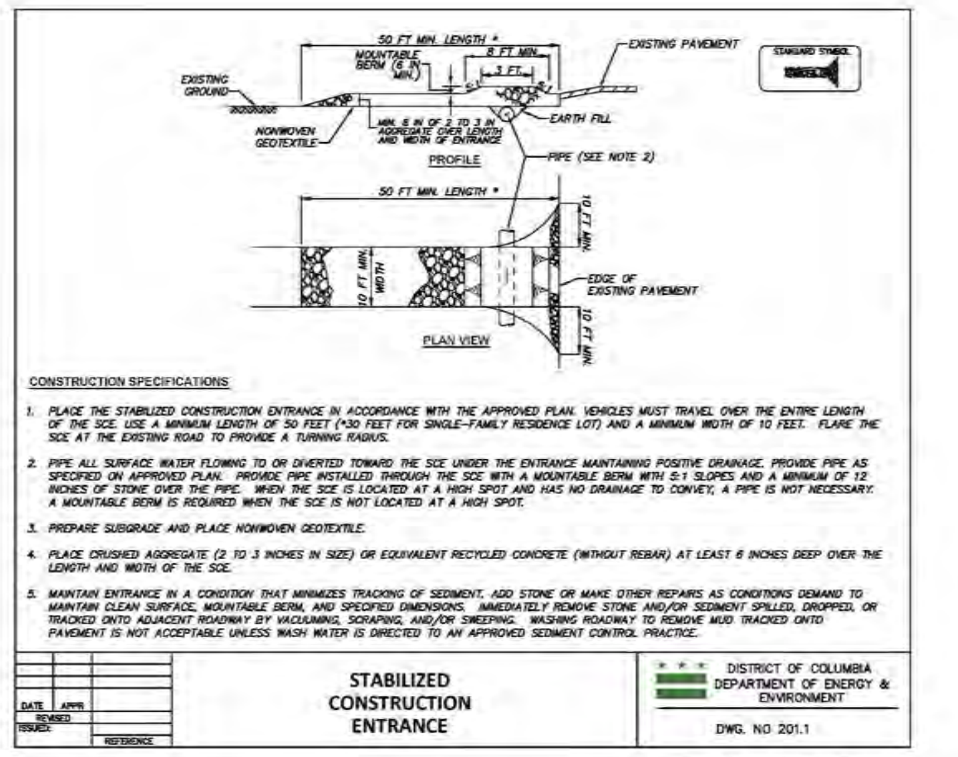
NORTH
N

DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE

SEDIMENT CONTROL NOTES

CIV302



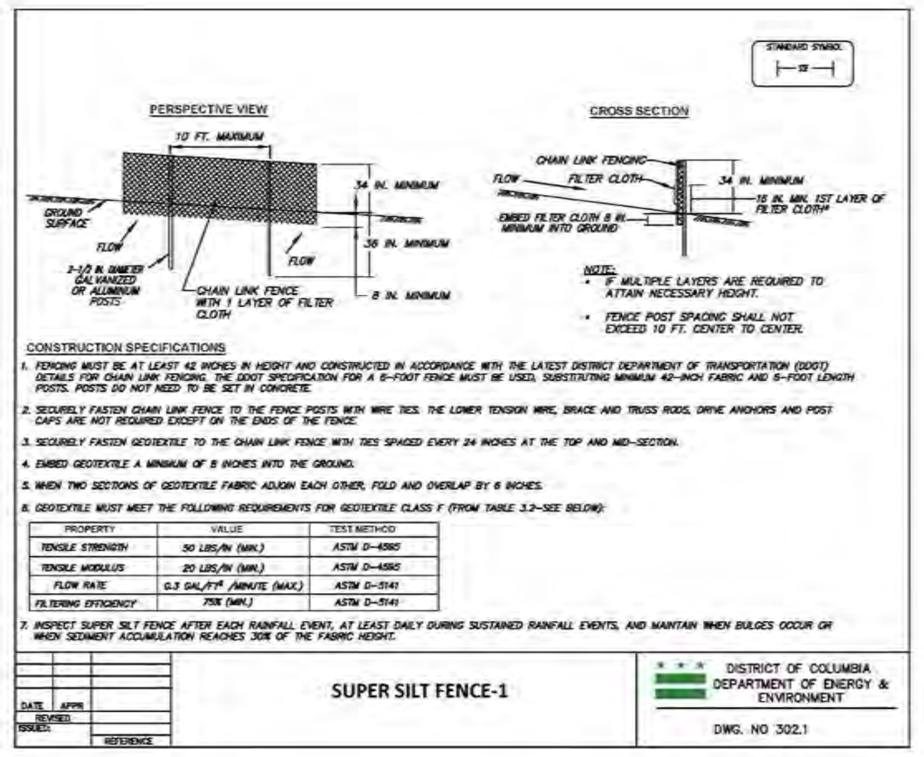
CONSTRUCTION SPECIFICATIONS

1. PLACE THE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE A MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE-FAMILY RESIDENCE LOT) AND A MINIMUM WIDTH OF 10 FEET. FLARE THE SCE AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE MAINTAINING POSITIVE DRAINAGE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. PROVIDE PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN THE SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

STABILIZED CONSTRUCTION ENTRANCE

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 201.1



NOTE:
- IF MULTIPLE LAYERS ARE REQUIRED TO ATTAIN NECESSARY HEIGHT.
- FENCE POST SPACING SHALL NOT EXCEED 10 FT. CENTER TO CENTER.

CONSTRUCTION SPECIFICATIONS

1. FENCING MUST BE AT LEAST 42 INCHES IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST DISTRICT DEPARTMENT OF TRANSPORTATION (DDOT) DETAILS FOR CHAIN LINK FENCING. THE DDOT SPECIFICATION FOR A 6-FOOT FENCE MUST BE USED, SUBSTITUTING MINIMUM 42-INCH FABRIC AND 6-FOOT LENGTH POSTS. POSTS DO NOT NEED TO BE SET IN CONCRETE.
2. SECURELY FASTEN CHAIN LINK FENCE TO THE FENCE POSTS WITH WIRE TIES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, DRIVE ANCHORS AND POST CAPS ARE NOT REQUIRED EXCEPT ON THE ENDS OF THE FENCE.
3. SECURELY FASTEN GEOTEXTILE TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID-SECTION.
4. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES INTO THE GROUND.
5. WHEN TWO SECTIONS OF GEOTEXTILE FABRIC ADJOIN EACH OTHER, FOLD AND OVERLAP BY 6 INCHES.
6. GEOTEXTILE MUST MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F (FROM TABLE 3.2-SEE BELOW):

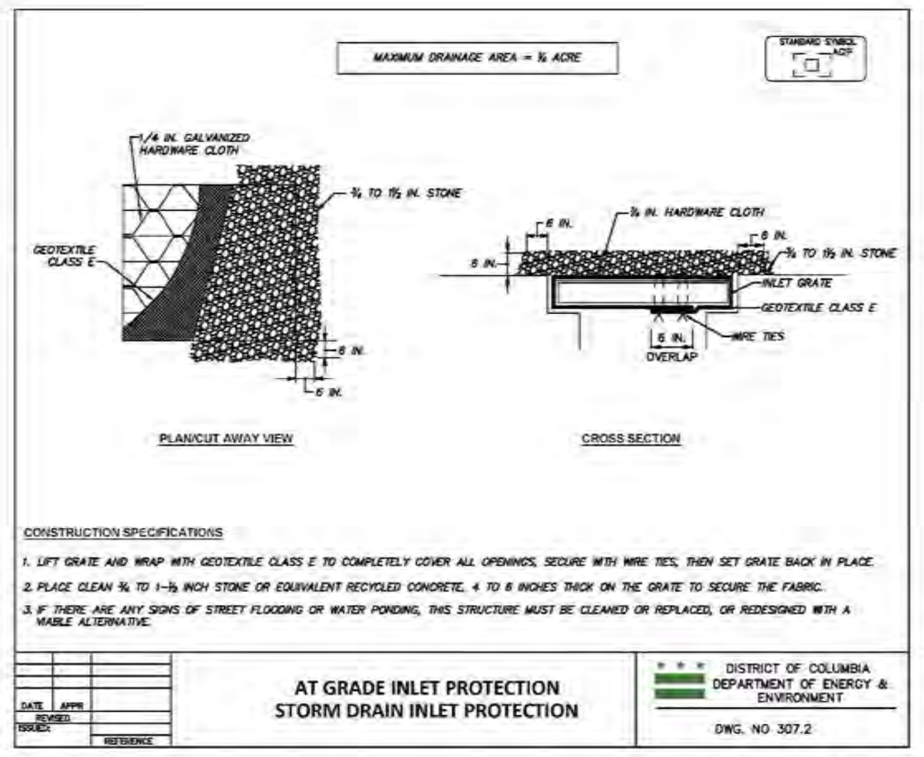
PROPERTY	VALUE	TEST METHOD
TENSILE STRENGTH	50 LBS/IN (MIN.)	ASTM D-4595
TENSILE MODULUS	20 LBS/IN (MIN.)	ASTM D-4595
FLOW RATE	0.3 GAL/FT² /MINUTE (MAX.)	ASTM D-5141
FILTERING EFFICIENCY	75% (MIN.)	ASTM D-5141

7. INSPECT SUPER SILT FENCE AFTER EACH RAINFALL EVENT, AT LEAST DAILY DURING SUSTAINED RAINFALL EVENTS, AND MAINTAIN WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHES 30% OF THE FABRIC HEIGHT.

SUPER SILT FENCE-1

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 302.1



CONSTRUCTION SPECIFICATIONS

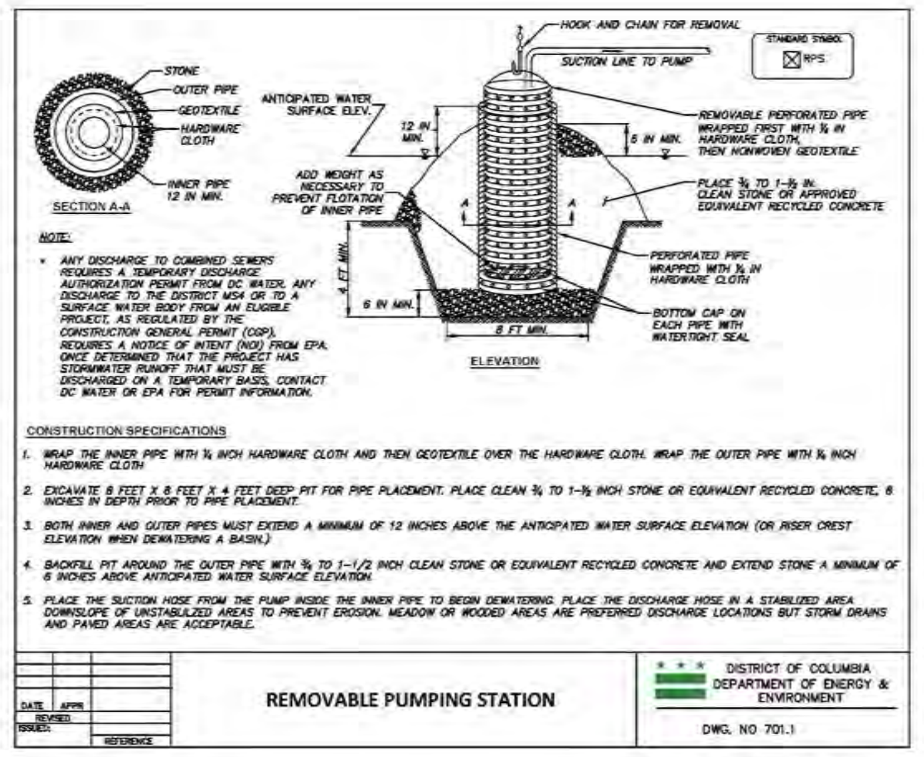
1. LIFT GRATE AND WRAP WITH GEOTEXTILE CLASS E TO COMPLETELY COVER ALL OPENINGS, SECURE WITH WIRE TIES, THEN SET GRATE BACK IN PLACE.
2. PLACE CLEAN ¾ TO 1-½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 4 TO 6 INCHES THICK ON THE GRATE TO SECURE THE FABRIC.
3. IF THERE ARE ANY SIGNS OF STREET FLOODING OR WATER PONDING, THIS STRUCTURE MUST BE CLEANED OR REPLACED, OR REDESIGNED WITH A VIABLE ALTERNATIVE.

AT GRADE INLET PROTECTION
STORM DRAIN INLET PROTECTION

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 307.2

SOURCE: 2011 MARYLAND STANDARDS AND SPECIFICATIONS



NOTE:
- ANY DISCHARGE TO COMBINED SEWERS REQUIRES A TEMPORARY DISCHARGE AUTHORIZATION PERMIT FROM DC WATER. ANY DISCHARGE TO THE DISTRICT MS4 OR TO A SURFACE WATER BODY FROM AN ELIGIBLE PROJECT, AS REGULATED BY THE CONSTRUCTION GENERAL PERMIT (CGP), REQUIRES A NOTICE OF INTENT (NOI) FROM EPA. ONCE DETERMINED THAT THE PROJECT HAS STORMWATER RUNOFF THAT MUST BE DISCHARGED ON A TEMPORARY BASIS, CONTACT DC WATER OR EPA FOR PERMIT INFORMATION.

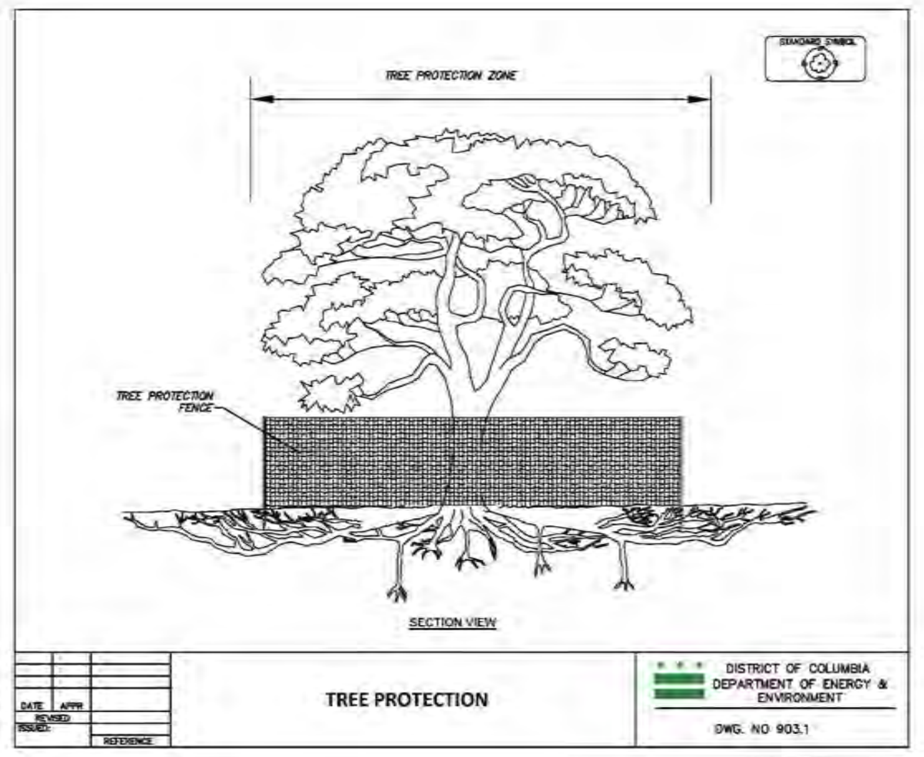
CONSTRUCTION SPECIFICATIONS

1. WRAP THE INNER PIPE WITH ¼ INCH HARDWARE CLOTH AND THEN GEOTEXTILE OVER THE HARDWARE CLOTH. WRAP THE OUTER PIPE WITH ¼ INCH HARDWARE CLOTH.
2. EXCAVATE 8 FEET X 8 FEET X 4 FEET DEEP PIT FOR PIPE PLACEMENT. PLACE CLEAN ¾ TO 1-½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 6 INCHES IN DEPTH PRIOR TO PIPE PLACEMENT.
3. BOTH INNER AND OUTER PIPES MUST EXTEND A MINIMUM OF 12 INCHES ABOVE THE ANTICIPATED WATER SURFACE ELEVATION (OR RISER CREST ELEVATION WHEN DEWATERING A BASIN.)
4. BACKFILL PIT AROUND THE OUTER PIPE WITH ¾ TO 1-1/2 INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
5. PLACE THE SUCTION HOSE FROM THE PUMP INSIDE THE INNER PIPE TO BEGIN DEWATERING. PLACE THE DISCHARGE HOSE IN A STABILIZED AREA DOWNSLOPE OF UNSTABILIZED AREAS TO PREVENT EROSION. MEADOW OR WOODED AREAS ARE PREFERRED DISCHARGE LOCATIONS BUT STORM DRAINS AND PAVED AREAS ARE ACCEPTABLE.

REMOVABLE PUMPING STATION

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 701.1

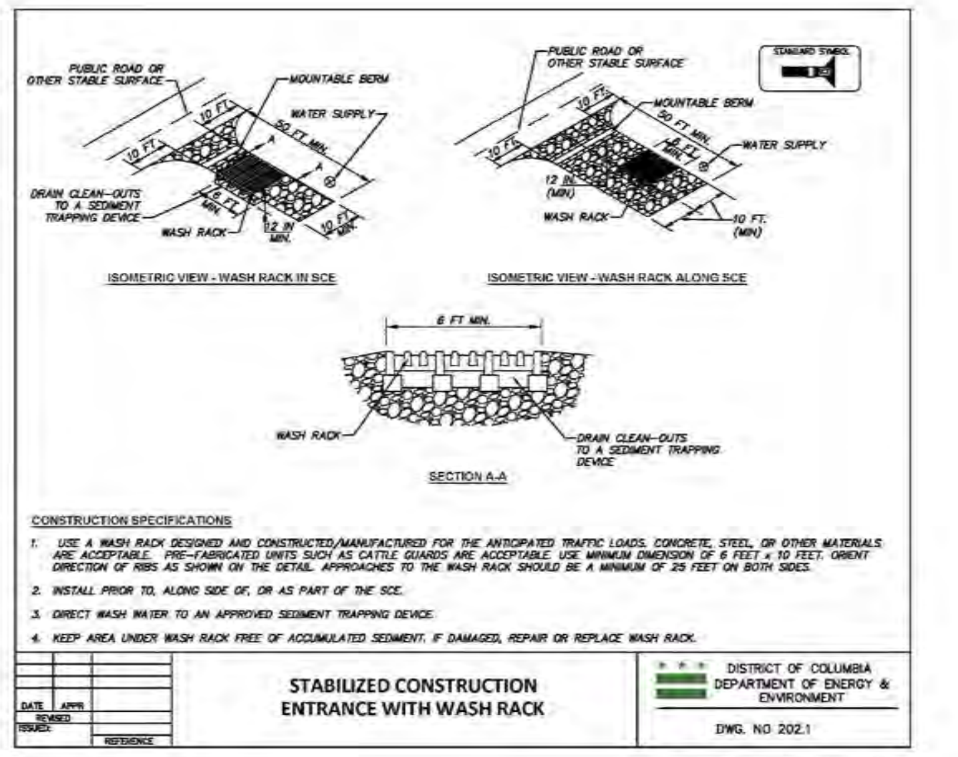


TREE PROTECTION

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 903.1

6' TALL CHAIN LINK FENCE REQUIRED FOR TREE PROTECTION FENCING PER DDOT UFD REQUIREMENTS.



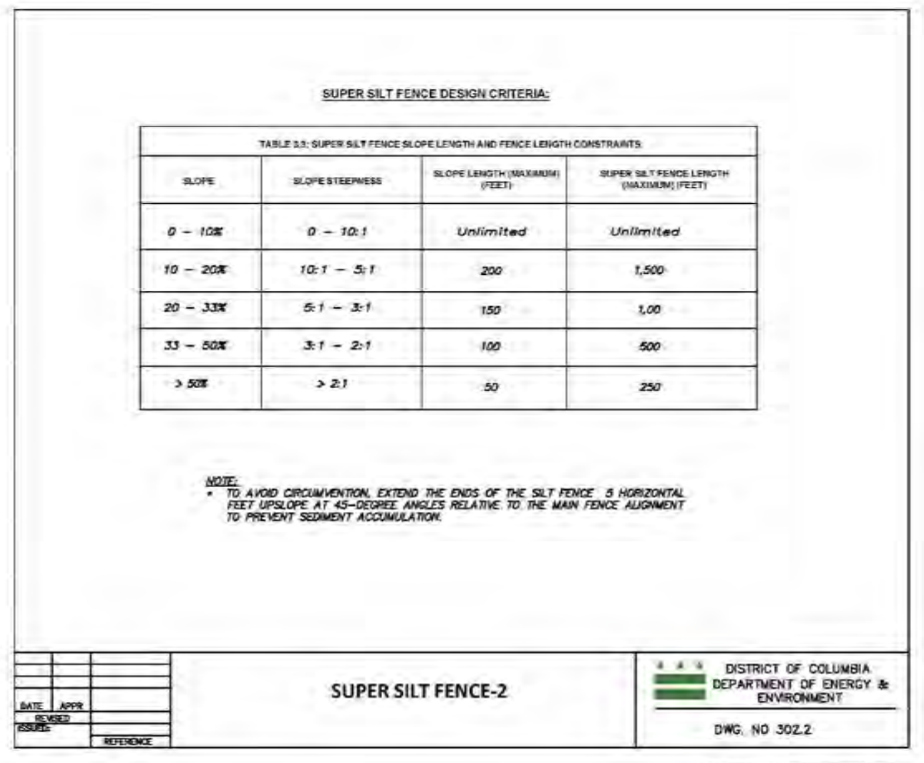
CONSTRUCTION SPECIFICATIONS

1. USE A WASH RACK DESIGNED AND CONSTRUCTED/MANUFACTURED FOR THE ANTICIPATED TRAFFIC LOADS. CONCRETE, STEEL, OR OTHER MATERIALS ARE ACCEPTABLE. PRE-FABRICATED UNITS SUCH AS CATTLE GUARDS ARE ACCEPTABLE. USE MINIMUM DIMENSION OF 6 FEET x 10 FEET. ORIENT DIRECTION OF RIBS AS SHOWN ON THE DETAIL. APPROACHES TO THE WASH RACK SHOULD BE A MINIMUM OF 25 FEET ON BOTH SIDES.
2. INSTALL PRIOR TO, ALONG SIDE OF, OR AS PART OF THE SCE.
3. DIRECT WASH WATER TO AN APPROVED SEDIMENT TRAPPING DEVICE.
4. KEEP AREA UNDER WASH RACK FREE OF ACCUMULATED SEDIMENT. IF DAMAGED, REPAIR OR REPLACE WASH RACK.

STABILIZED CONSTRUCTION ENTRANCE WITH WASH RACK

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 202.1



SUPER SILT FENCE DESIGN CRITERIA:

TABLE 3.3: SUPER SILT FENCE SLOPE LENGTH AND FENCE LENGTH CONSTRAINTS

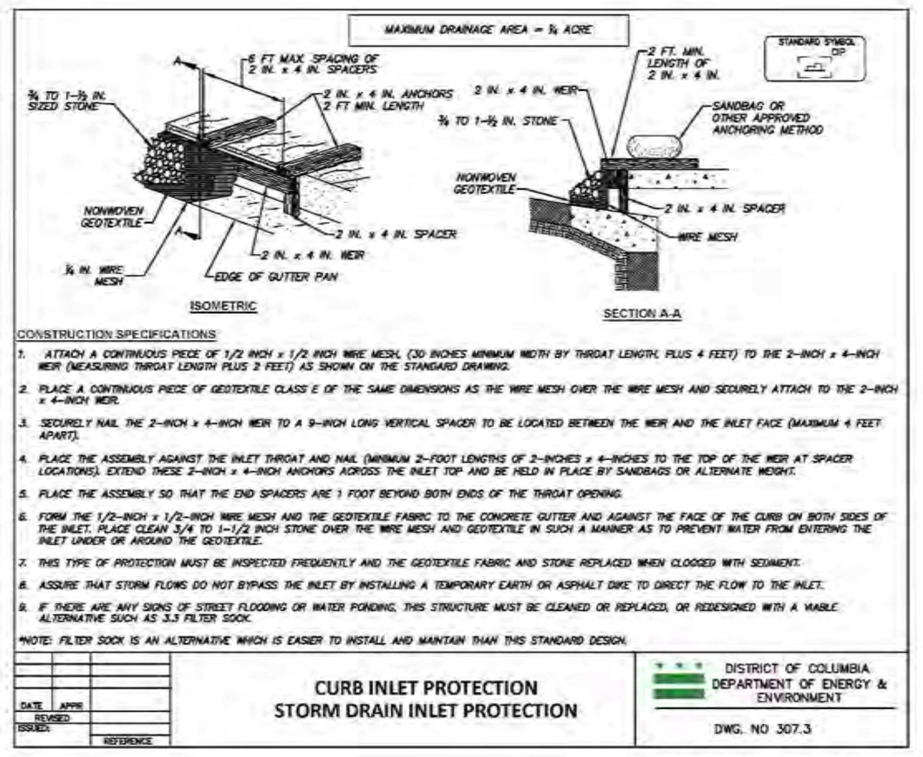
SLOPE	SLOPE STEEPNESS	SLOPE LENGTH (MAXIMUM) (FEET)	SUPER SILT FENCE LENGTH (MAXIMUM) (FEET)
0 – 10%	0 – 10 : 1	Unlimited	Unlimited
10 – 20%	10:1 – 5:1	200	1,500
20 – 33%	5:1 – 3:1	150	1,00
33 – 50%	3:1 – 2:1	100	500
> 50%	> 2:1	50	250

NOTE:
- TO AVOID CIRCUMVENTION, EXTEND THE ENDS OF THE SILT FENCE 5 HORIZONTAL FEET UPSLOPE AT 45-DEGREE ANGLES RELATIVE TO THE MAIN FENCE ALIGNMENT TO PREVENT SEDIMENT ACCUMULATION.

SUPER SILT FENCE-2

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 302.2



CONSTRUCTION SPECIFICATIONS

1. ATTACH A CONTINUOUS PIECE OF 1/2 INCH x 1/2 INCH WIRE MESH, (30 INCHES MINIMUM WIDTH BY THROAT LENGTH, PLUS 4 FEET) TO THE 2-INCH x 4-INCH WEIR (MEASURING THROAT LENGTH PLUS 2 FEET) AS SHOWN ON THE STANDARD DRAWING.
2. PLACE A CONTINUOUS PIECE OF GEOTEXTILE CLASS E OF THE SAME DIMENSIONS AS THE WIRE MESH OVER THE WIRE MESH AND SECURELY ATTACH TO THE 2-INCH x 4-INCH WEIR.
3. SECURELY NAIL THE 2-INCH x 4-INCH WEIR TO A 9-INCH LONG VERTICAL SPACER TO BE LOCATED BETWEEN THE WEIR AND THE INLET FACE (MAXIMUM 4 FEET APART).
4. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL (MINIMUM 2-FOOT LENGTHS OF 2-INCHES x 4-INCHES TO THE TOP OF THE WEIR AT SPACER LOCATIONS). EXTEND THESE 2-INCH x 4-INCH ANCHORS ACROSS THE INLET TOP AND BE HELD IN PLACE BY SANDBAGS OR ALTERNATE WEIGHT.
5. PLACE THE ASSEMBLY SO THAT THE END SPACERS ARE 1 FOOT BEYOND BOTH ENDS OF THE THROAT OPENING.
6. FORM THE 1/2-INCH x 1/2-INCH WIRE MESH AND THE GEOTEXTILE FABRIC TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN 3/4 TO 1-1/2 INCH STONE OVER THE WIRE MESH AND GEOTEXTILE IN SUCH A MANNER AS TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE.
7. THIS TYPE OF PROTECTION MUST BE INSPECTED FREQUENTLY AND THE GEOTEXTILE FABRIC AND STONE REPLACED WHEN CLOGGED WITH SEDIMENT.
8. ASSURE THAT STORM FLOWS DO NOT BYPASS THE INLET BY INSTALLING A TEMPORARY EARTH OR ASPHALT DIKE TO DIRECT THE FLOW TO THE INLET.
9. IF THERE ARE ANY SIGNS OF STREET FLOODING OR WATER PONDING, THIS STRUCTURE MUST BE CLEANED OR REPLACED, OR REDESIGNED WITH A VIABLE ALTERNATIVE SUCH AS 3.3 FILTER SOCK.

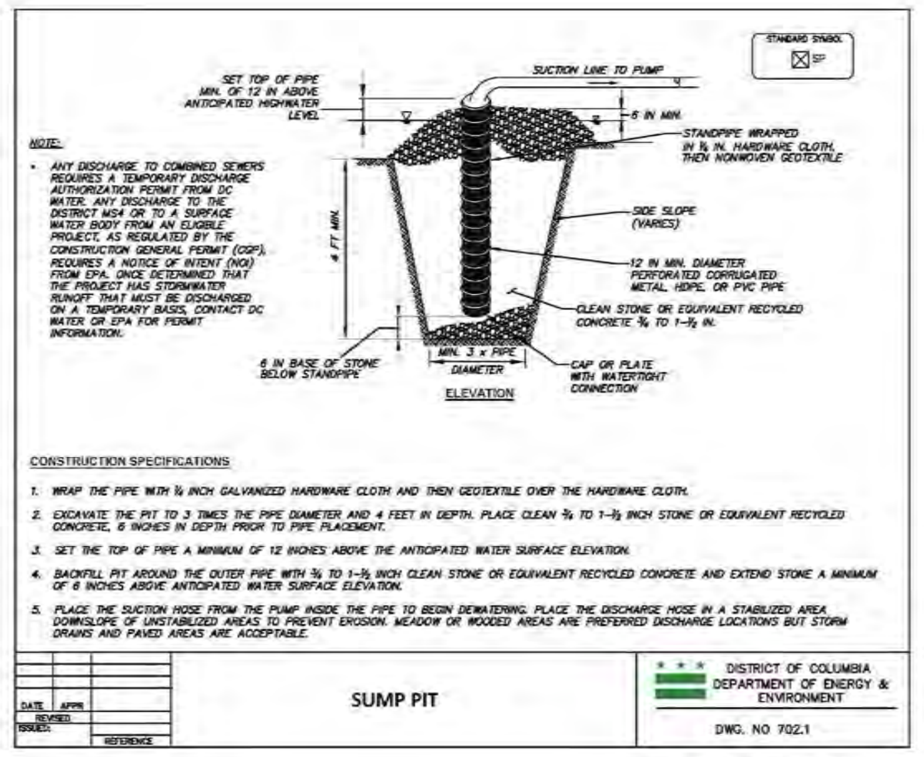
*NOTE: FILTER SOCK IS AN ALTERNATIVE WHICH IS EASIER TO INSTALL AND MAINTAIN THAN THIS STANDARD DESIGN.

CURB INLET PROTECTION
STORM DRAIN INLET PROTECTION

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 307.3

SOURCE: 2011 MARYLAND STANDARDS AND SPECIFICATIONS



NOTE:
- ANY DISCHARGE TO COMBINED SEWERS REQUIRES A TEMPORARY DISCHARGE AUTHORIZATION PERMIT FROM DC WATER. ANY DISCHARGE TO THE DISTRICT MS4 OR TO A SURFACE WATER BODY FROM AN ELIGIBLE PROJECT, AS REGULATED BY THE CONSTRUCTION GENERAL PERMIT (CGP), REQUIRES A NOTICE OF INTENT (NOI) FROM EPA. ONCE DETERMINED THAT THE PROJECT HAS STORMWATER RUNOFF THAT MUST BE DISCHARGED ON A TEMPORARY BASIS, CONTACT DC WATER OR EPA FOR PERMIT INFORMATION.

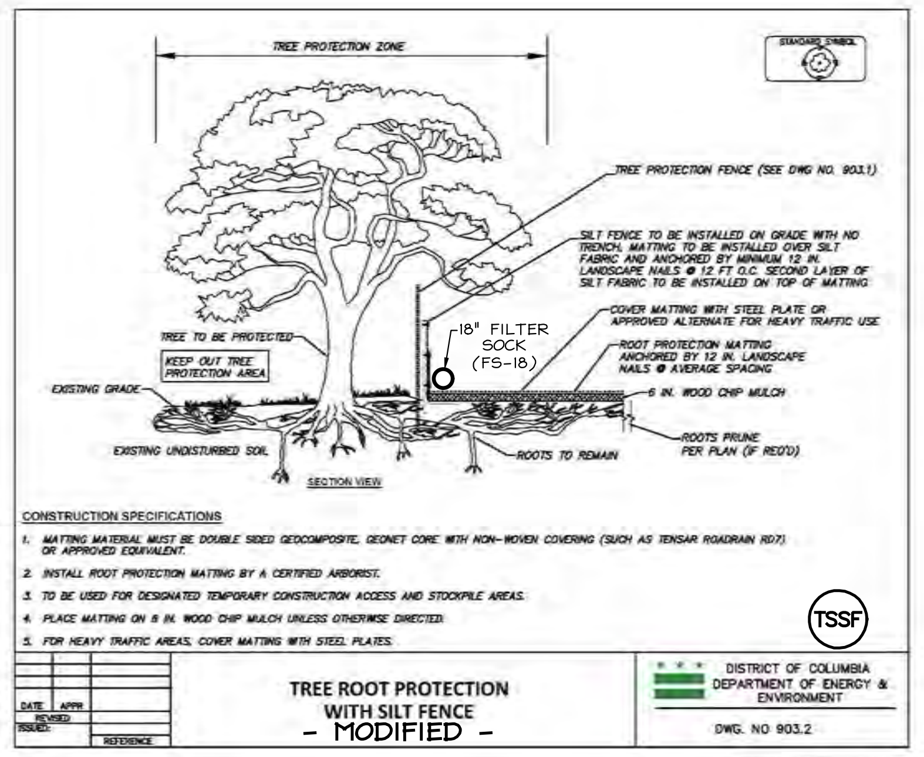
CONSTRUCTION SPECIFICATIONS

1. WRAP THE PIPE WITH ¼ INCH GALVANIZED HARDWARE CLOTH AND THEN GEOTEXTILE OVER THE HARDWARE CLOTH.
2. EXCAVATE THE PIT TO 3 TIMES THE PIPE DIAMETER AND 4 FEET IN DEPTH. PLACE CLEAN ¾ TO 1-½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 6 INCHES IN DEPTH PRIOR TO PIPE PLACEMENT.
3. SET THE TOP OF PIPE A MINIMUM OF 12 INCHES ABOVE THE ANTICIPATED WATER SURFACE ELEVATION.
4. BACKFILL PIT AROUND THE OUTER PIPE WITH ¾ TO 1-½ INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
5. PLACE THE SUCTION HOSE FROM THE PUMP INSIDE THE PIPE TO BEGIN DEWATERING. PLACE THE DISCHARGE HOSE IN A STABILIZED AREA DOWNSLOPE OF UNSTABILIZED AREAS TO PREVENT EROSION. MEADOW OR WOODED AREAS ARE PREFERRED DISCHARGE LOCATIONS BUT STORM DRAINS AND PAVED AREAS ARE ACCEPTABLE.

SUMP PIT

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 702.1



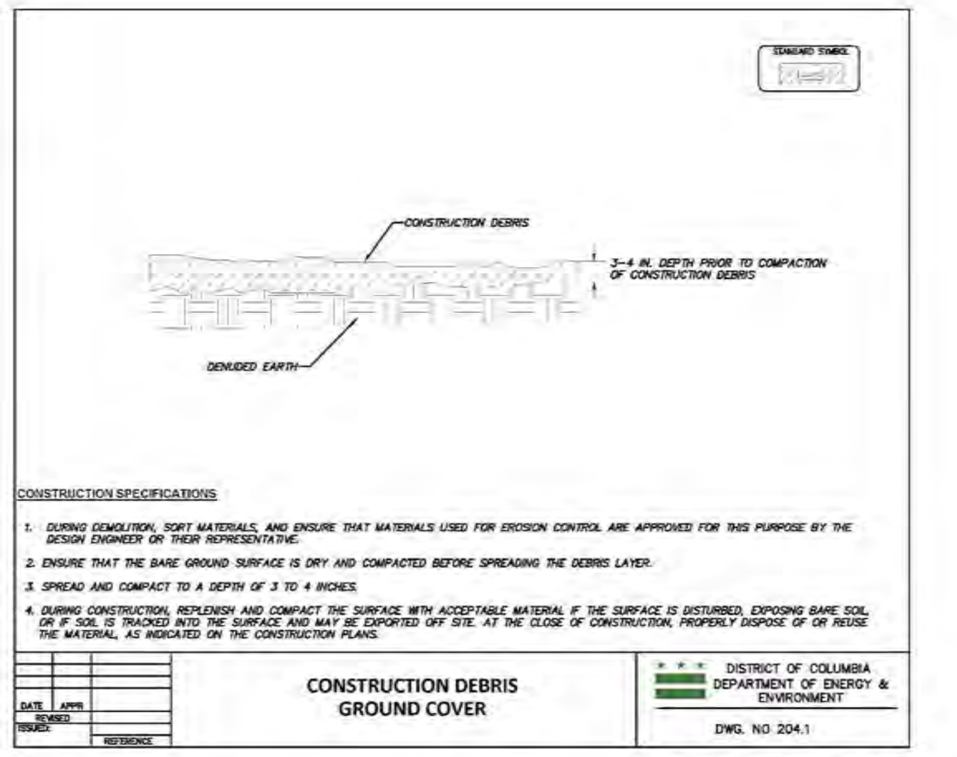
CONSTRUCTION SPECIFICATIONS

1. MATTING MATERIAL MUST BE DOUBLE SIDED GEOCOMPOSITE, GEONET CORE WITH NON-WOVEN COVERING (SUCH AS TENSAR ROADRAIN RD7) OR APPROVED EQUIVALENT.
2. INSTALL ROOT PROTECTION MATTING BY A CERTIFIED ARBORIST.
3. TO BE USED FOR DESIGNATED TEMPORARY CONSTRUCTION ACCESS AND STOCKPILE AREAS.
4. PLACE MATTING ON 6 IN. WOOD CHIP MULCH UNLESS OTHERWISE DIRECTED.
5. FOR HEAVY TRAFFIC AREAS, COVER MATTING WITH STEEL PLATES.

TREE ROOT PROTECTION WITH SILT FENCE
- MODIFIED -

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 903.2



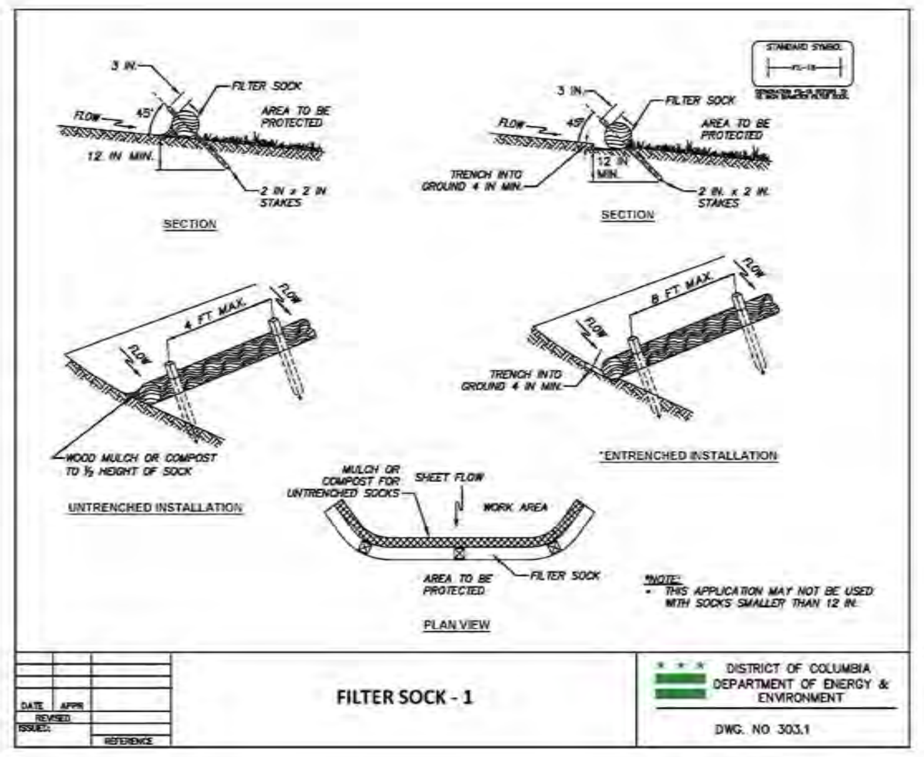
CONSTRUCTION SPECIFICATIONS

1. DURING DEMOLITION, SORT MATERIALS, AND ENSURE THAT MATERIALS USED FOR EROSION CONTROL ARE APPROVED FOR THIS PURPOSE BY THE DESIGN ENGINEER OR THEIR REPRESENTATIVE.
2. ENSURE THAT THE BARE GROUND SURFACE IS DRY AND COMPACTED BEFORE SPREADING THE DEBRIS LAYER.
3. SPREAD AND COMPACT TO A DEPTH OF 3 TO 4 INCHES.
4. DURING CONSTRUCTION, REPLENISH AND COMPACT THE SURFACE WITH ACCEPTABLE MATERIAL IF THE SURFACE IS DISTURBED, EXPOSING BARE SOIL, OR IF SOIL IS TRACKED INTO THE SURFACE AND MAY BE EXPORTED OFF SITE. AT THE CLOSE OF CONSTRUCTION, PROPERLY DISPOSE OF OR REUSE THE MATERIAL, AS INDICATED ON THE CONSTRUCTION PLANS.

CONSTRUCTION DEBRIS GROUND COVER

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 204.1

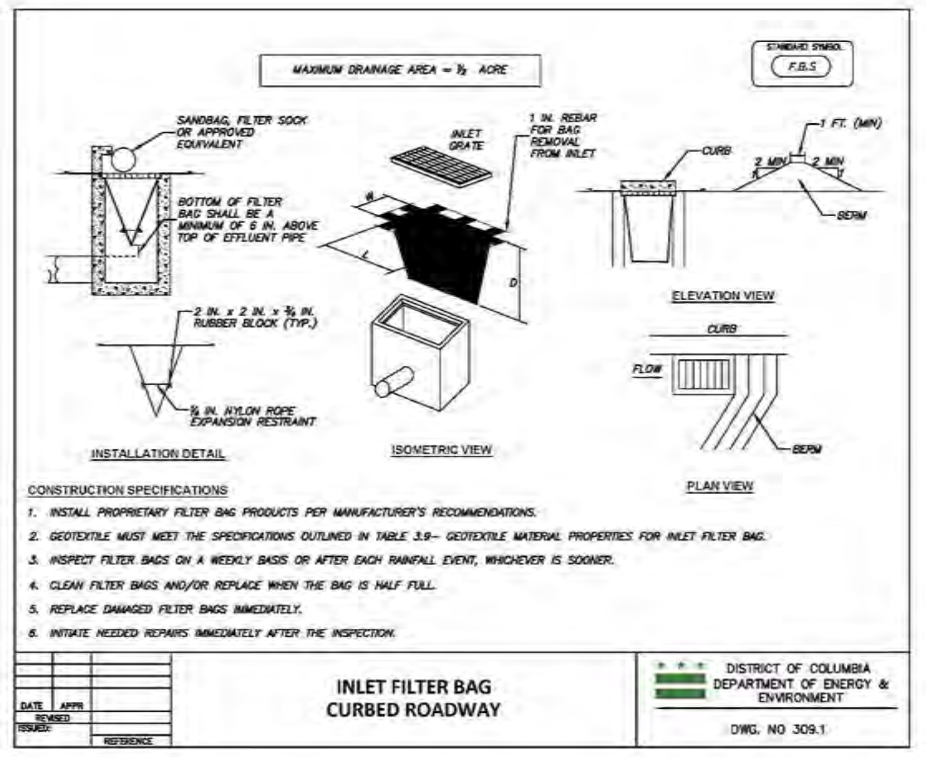


*NOTE:
- THIS APPLICATION MAY NOT BE USED WITH SOCKS SMALLER THAN 12 IN.

FILTER SOCK - 1

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 303.1



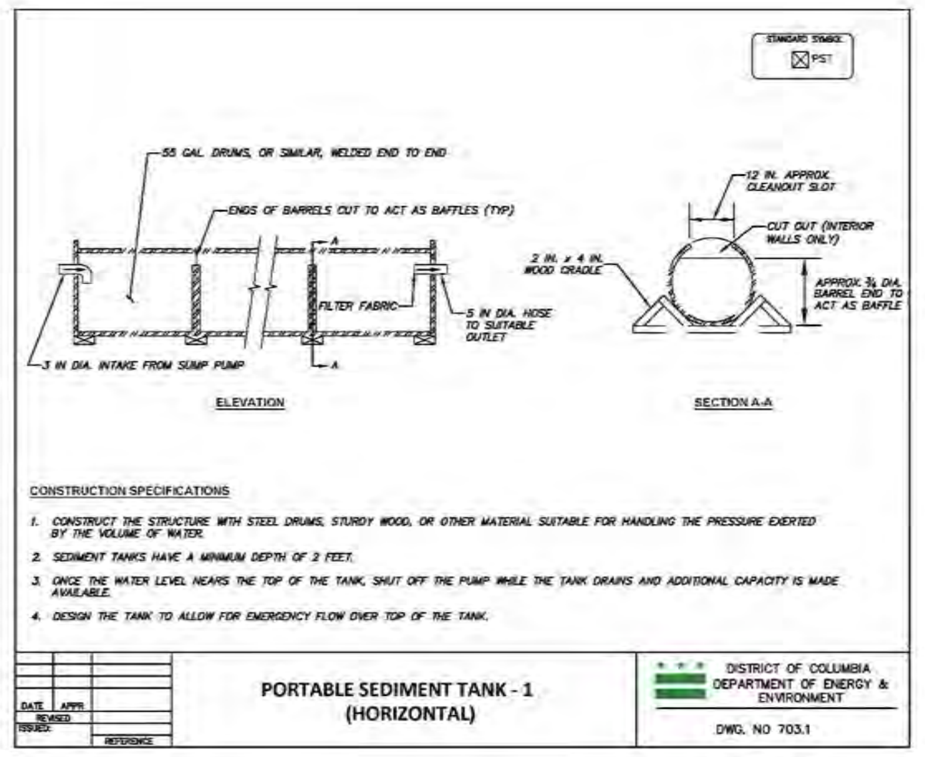
CONSTRUCTION SPECIFICATIONS

1. INSTALL PROPRIETARY FILTER BAG PRODUCTS PER MANUFACTURER'S RECOMMENDATIONS.
2. GEOTEXTILE MUST MEET THE SPECIFICATIONS OUTLINED IN TABLE 3.9– GEOTEXTILE MATERIAL PROPERTIES FOR INLET FILTER BAG.
3. INSPECT FILTER BAGS ON A WEEKLY BASIS OR AFTER EACH RAINFALL EVENT, WHICHEVER IS SOONER.
4. CLEAN FILTER BAGS AND/OR REPLACE WHEN THE BAG IS HALF FULL.
5. REPLACE DAMAGED FILTER BAGS IMMEDIATELY.
6. INITIATE NEEDED REPAIRS IMMEDIATELY AFTER THE INSPECTION.

INLET FILTER BAG CURBED ROADWAY

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 309.1



CONSTRUCTION SPECIFICATIONS

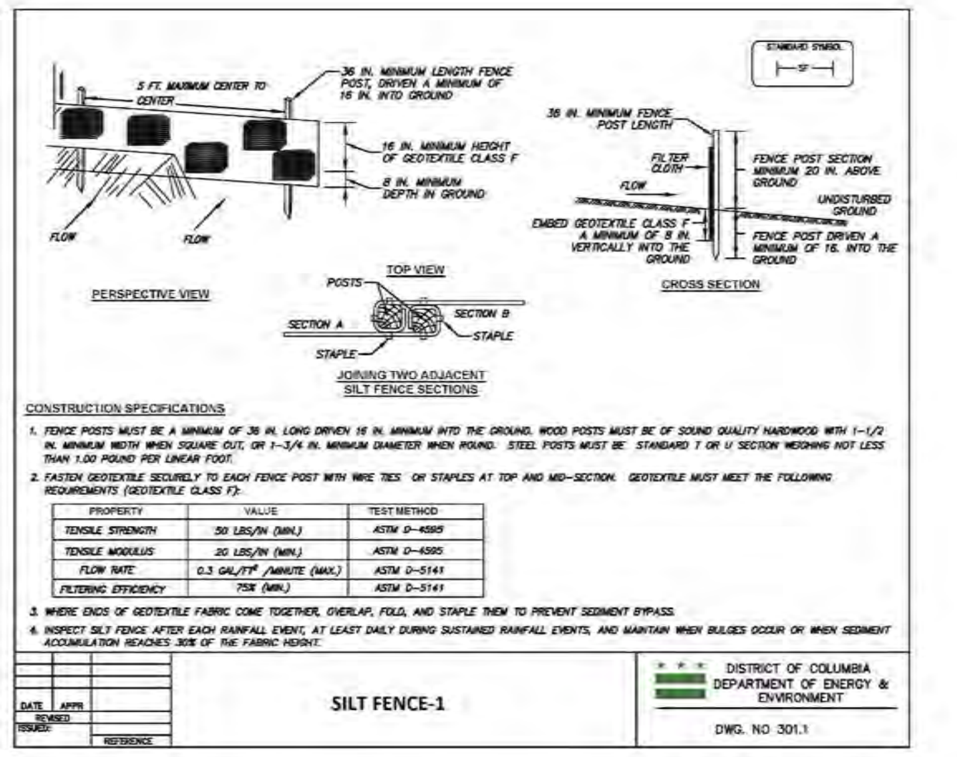
1. CONSTRUCT THE STRUCTURE WITH STEEL DRUMS, STURDY WOOD, OR OTHER MATERIAL SUITABLE FOR HANDLING THE PRESSURE EXERTED BY THE VOLUME OF WATER.
2. SEDIMENT TANKS HAVE A MINIMUM DEPTH OF 2 FEET.
3. ONCE THE WATER LEVEL NEARS THE TOP OF THE TANK, SHUT OFF THE PUMP WHILE THE TANK DRAINS AND ADDITIONAL CAPACITY IS MADE AVAILABLE.
4. DESIGN THE TANK TO ALLOW FOR EMERGENCY FLOW OVER TOP OF THE TANK.

PORTABLE SEDIMENT TANK - 1 (HORIZONTAL)

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 703.1

SOURCE: USDA-NRCS



CONSTRUCTION SPECIFICATIONS

1. FENCE POSTS MUST BE A MINIMUM OF 36 IN. LONG DRIVEN 16 IN. MINIMUM INTO THE GROUND. WOOD POSTS MUST BE OF SOUND QUALITY HARDWOOD WITH 1-1/2 IN. MINIMUM WIDTH WHEN SQUARE CUT, OR 1-3/4 IN. MINIMUM DIAMETER WHEN ROUND. STEEL POSTS MUST BE STANDARD T OR U SECTION WEIGHING NOT LESS THAN 1.00 POUND PER LINEAR FOOT.
2. FASTEN GEOTEXTILE SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION. GEOTEXTILE MUST MEET THE FOLLOWING REQUIREMENTS (GEOTEXTILE CLASS F):

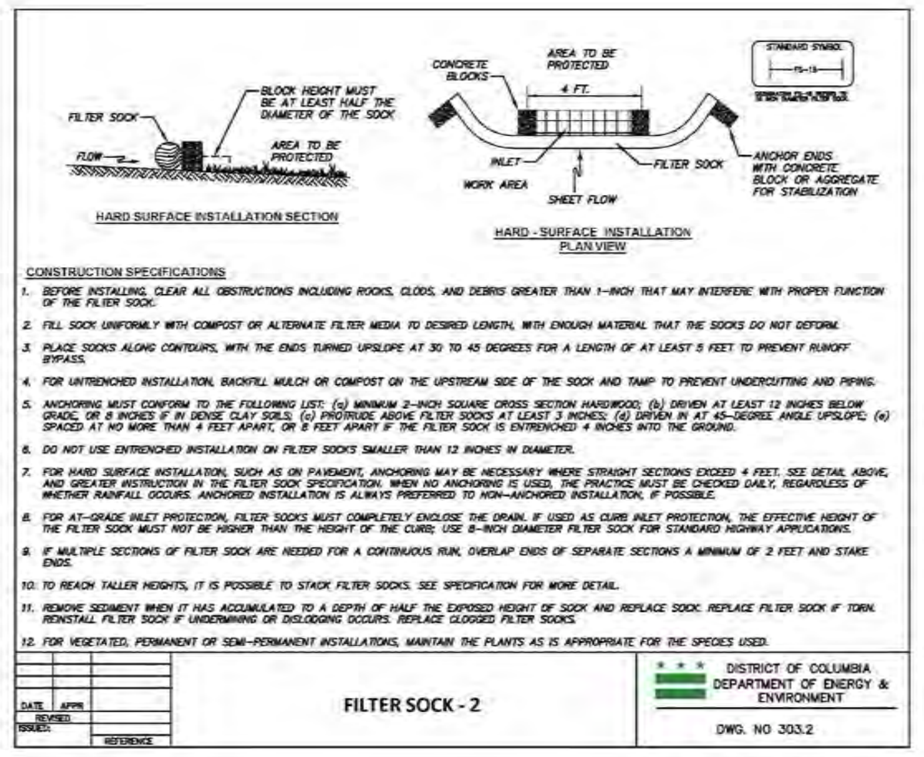
PROPERTY	VALUE	TEST METHOD
TENSILE STRENGTH	50 LBS/IN (MIN.)	ASTM D-4595
TENSILE MODULUS	20 LBS/IN (MIN.)	ASTM D-4595
FLOW RATE	0.3 GAL/FT² /MINUTE (MAX.)	ASTM D-5141
FILTERING EFFICIENCY	75% (MIN.)	ASTM D-5141

3. WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, OVERLAP, FOLD, AND STAPLE THEM TO PREVENT SEDIMENT BYPASS.
4. INSPECT SILT FENCE AFTER EACH RAINFALL EVENT, AT LEAST DAILY DURING SUSTAINED RAINFALL EVENTS, AND MAINTAIN WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHES 30% OF THE FABRIC HEIGHT.

SILT FENCE-1

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 301.1



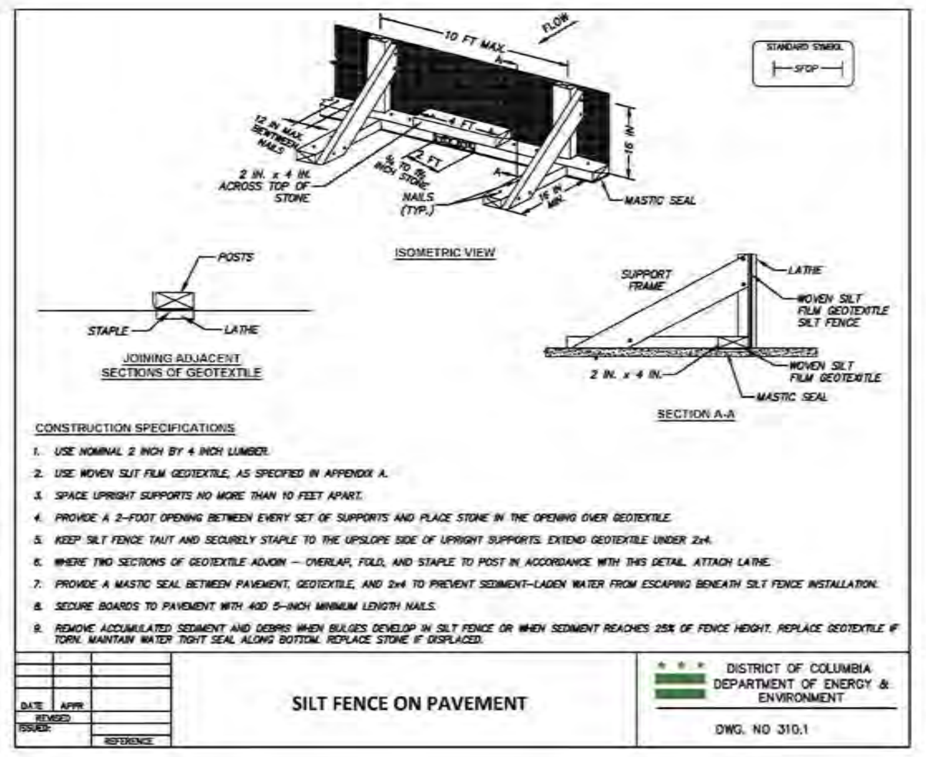
CONSTRUCTION SPECIFICATIONS

1. BEFORE INSTALLING, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN 1-INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF THE FILTER SOCK.
2. FILL SOCK UNIFORMLY WITH COMPOST OR ALTERNATE FILTER MEDIA TO DESIRED LENGTH, WITH ENOUGH MATERIAL THAT THE SOCKS DO NOT DEFORM.
3. PLACE SOCKS ALONG CONTOURS, WITH THE ENDS TURNED UPSLOPE AT 30 TO 45 DEGREES FOR A LENGTH OF AT LEAST 5 FEET TO PREVENT RUNOFF BYPASS.
4. FOR UNTRENCHED INSTALLATION, BACKFILL MULCH OR COMPOST ON THE UPSTREAM SIDE OF THE SOCK AND TAMP TO PREVENT UNDERCUTTING AND PIPING.
5. ANCHORING MUST CONFORM TO THE FOLLOWING LIST: (a) MINIMUM 2-INCH SQUARE CROSS SECTION HARDWOOD; (b) DRIVEN AT LEAST 12 INCHES BELOW GRADE, OR 8 INCHES IF IN DENSE CLAY SOILS; (c) PROTRUDE ABOVE FILTER SOCKS AT LEAST 3 INCHES; (d) DRIVEN IN AT 45-DEGREE ANGLE UPSLOPE; (e) SPACED AT NO MORE THAN 4 FEET APART, OR 8 FEET APART IF THE FILTER SOCK IS ENTRENCHED 4 INCHES INTO THE GROUND.
6. DO NOT USE ENTRENCHED INSTALLATION ON FILTER SOCKS SMALLER THAN 12 INCHES IN DIAMETER.
7. FOR HARD SURFACE INSTALLATION, SUCH AS ON PAVEMENT, ANCHORING MAY BE NECESSARY WHERE STRAIGHT SECTIONS EXCEED 4 FEET. SEE DETAIL ABOVE, AND GREATER INSTRUCTION IN THE FILTER SOCK SPECIFICATION. WHEN NO ANCHORING IS USED, THE PRACTICE MUST BE CHECKED DAILY, REGARDLESS OF WHETHER RAINFALL OCCURS. ANCHORED INSTALLATION IS ALWAYS PREFERRED TO NON-ANCHORED INSTALLATION, IF POSSIBLE.
8. FOR AT-GRADE INLET PROTECTION, FILTER SOCKS MUST COMPLETELY ENCLOSE THE DRAIN. IF USED AS CURB INLET PROTECTION, THE EFFECTIVE HEIGHT OF THE FILTER SOCK MUST NOT BE HIGHER THAN THE HEIGHT OF THE CURB; USE 8-INCH DIAMETER FILTER SOCK FOR STANDARD HIGHWAY APPLICATIONS.
9. IF MULTIPLE SECTIONS OF FILTER SOCK ARE NEEDED FOR A CONTINUOUS RUN, OVERLAP ENDS OF SEPARATE SECTIONS A MINIMUM OF 2 FEET AND STAKE ENDS.
10. TO REACH TALLER HEIGHTS, IT IS POSSIBLE TO STACK FILTER SOCKS. SEE SPECIFICATION FOR MORE DETAIL.
11. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF HALF THE EXPOSED HEIGHT OF SOCK AND REPLACE SOCK. REPLACE FILTER SOCK IF TORN. REINSTALL FILTER SOCK IF UNDERMINING OR DISLODGING OCCURS. REPLACE CLOGGED FILTER SOCKS.
12. FOR VEGETATED, PERMANENT OR SEMI-PERMANENT INSTALLATIONS, MAINTAIN THE PLANTS AS IS APPROPRIATE FOR THE SPECIES USED.

FILTER SOCK - 2

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 303.2



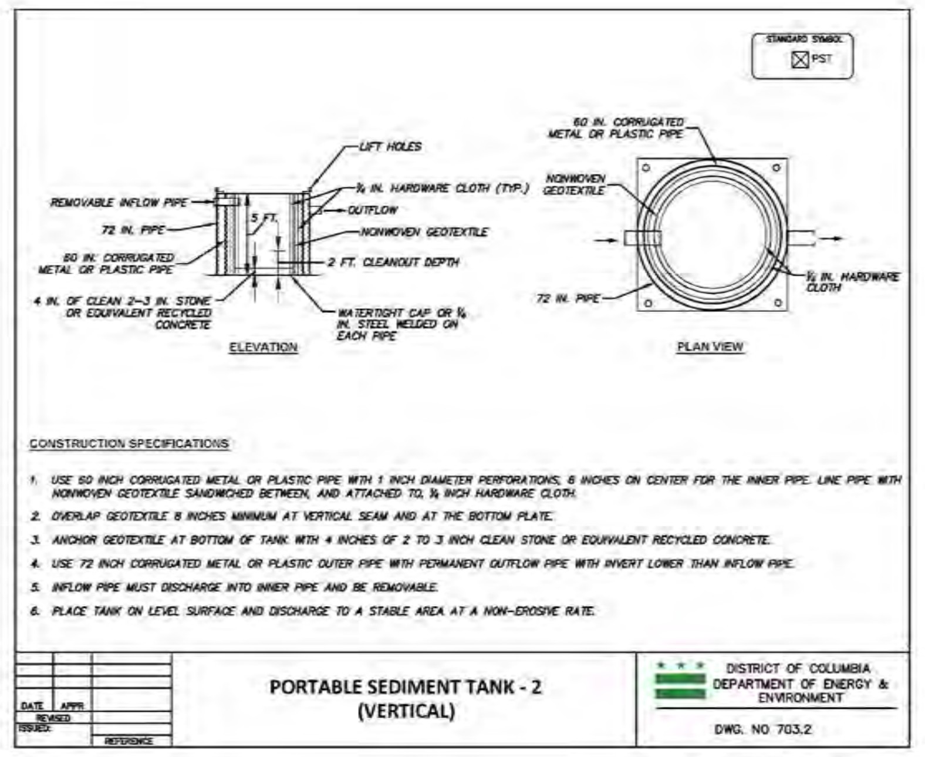
CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH BY 4 INCH LUMBER.
2. USE WOVEN SILT FILM GEOTEXTILE, AS SPECIFIED IN APPENDIX A.
3. SPACE UPRIGHT SUPPORTS NO MORE THAN 10 FEET APART.
4. PROVIDE A 2-FOOT OPENING BETWEEN EVERY SET OF SUPPORTS AND PLACE STONE IN THE OPENING OVER GEOTEXTILE.
5. KEEP SILT FENCE TAUT AND SECURELY STAPLE TO THE UPSLOPE SIDE OF UPRIGHT SUPPORTS. EXTEND GEOTEXTILE UNDER 2x4.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN – OVERLAP, FOLD, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. ATTACH LATHE.
7. PROVIDE A MASTIC SEAL BETWEEN PAVEMENT, GEOTEXTILE, AND 2x4 TO PREVENT SEDIMENT-LADEN WATER FROM ESCAPING BENEATH SILT FENCE INSTALLATION.
8. SECURE BOARDS TO PAVEMENT WITH 40D 5-INCH MINIMUM LENGTH NAILS.
9. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. MAINTAIN WATER TIGHT SEAL ALONG BOTTOM. REPLACE STONE IF DISPLACED.

SILT FENCE ON PAVEMENT

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 310.1



CONSTRUCTION SPECIFICATIONS

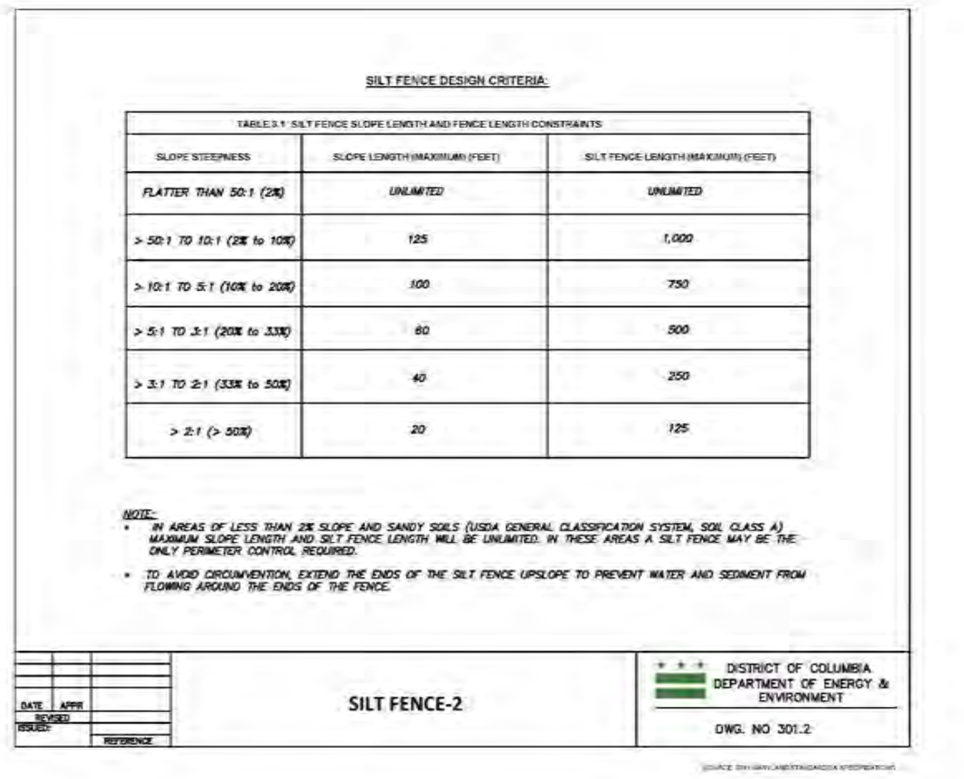
1. USE 60 INCH CORRUGATED METAL OR PLASTIC PIPE WITH 1 INCH DIAMETER PERFORATIONS, 6 INCHES ON CENTER FOR THE INNER PIPE. LINE PIPE WITH NONWOVEN GEOTEXTILE SANDWICHED BETWEEN, AND ATTACHED TO, ¼ INCH HARDWARE CLOTH.
2. OVERLAP GEOTEXTILE 6 INCHES MINIMUM AT VERTICAL SEAM AND AT THE BOTTOM PLATE.
3. ANCHOR GEOTEXTILE AT BOTTOM OF TANK WITH 4 INCHES OF 2 TO 3 INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE.
4. USE 72 INCH CORRUGATED METAL OR PLASTIC OUTER PIPE WITH PERMANENT OUTFLOW PIPE WITH INVERT LOWER THAN INFLOW PIPE.
5. INFLOW PIPE MUST DISCHARGE INTO INNER PIPE AND BE REMOVABLE.
6. PLACE TANK ON LEVEL SURFACE AND DISCHARGE TO A STABLE AREA AT A NON-EROSIVE RATE.

PORTABLE SEDIMENT TANK - 2 (VERTICAL)

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 703.2

SOURCE: 2011 MARYLAND STANDARDS AND SPECIFICATIONS



SILT FENCE DESIGN CRITERIA:

TABLE 3.1: SILT FENCE SLOPE LENGTH AND FENCE LENGTH CONSTRAINTS

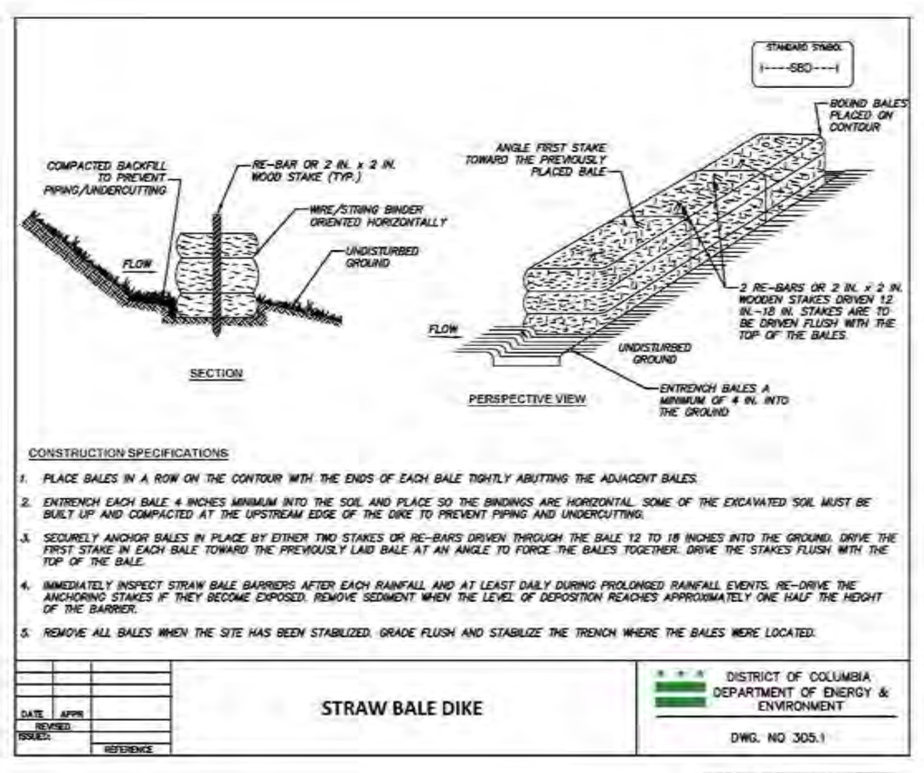
SLOPE STEEPNESS	SLOPE LENGTH (MAXIMUM) (FEET)	SILT FENCE LENGTH (MAXIMUM) (FEET)
FLATTER THAN 50:1 (2%)	UNLIMITED	UNLIMITED
> 50:1 TO 10:1 (2% TO 10%)	125	1,000
> 10:1 TO 5:1 (10% TO 20%)	100	750
> 5:1 TO 3:1 (20% TO 33%)	60	500
> 3:1 TO 2:1 (33% TO 50%)	40	250
> 2:1 (> 50%)	20	125

NOTE:
- IN AREAS OF LESS THAN 2% SLOPE AND SANDY SOILS (USDA GENERAL CLASSIFICATION SYSTEM, SOIL CLASS A) MAXIMUM SLOPE LENGTH AND SILT FENCE LENGTH WILL BE UNLIMITED. IN THESE AREAS A SILT FENCE MAY BE THE ONLY PERIMETER CONTROL REQUIRED.
- TO AVOID CIRCUMVENTION, EXTEND THE ENDS OF THE SILT FENCE UPSLOPE TO PREVENT SEDIMENT AND WATER FROM FLOWING AROUND THE ENDS OF THE FENCE.

SILT FENCE-2

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 301.2



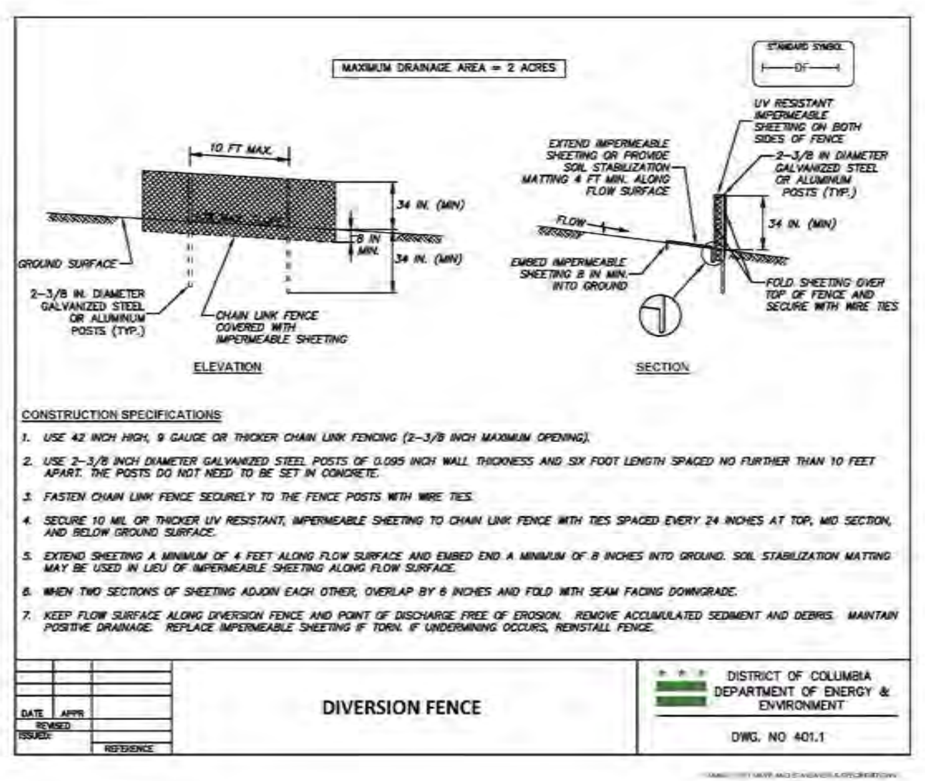
CONSTRUCTION SPECIFICATIONS

1. PLACE BALES IN A ROW ON THE CONTOUR WITH THE ENDS OF EACH BALE TIGHTLY ABUTTING THE ADJACENT BALES.
2. ENTRENCH EACH BALE 4 INCHES MINIMUM INTO THE SOIL AND PLACE SO THE BINDINGS ARE HORIZONTAL. SOME OF THE EXCAVATED SOIL MUST BE BUILT UP AND COMPACTED AT THE UPSTREAM EDGE OF THE DIKE TO PREVENT PIPING AND UNDERCUTTING.
3. SECURELY ANCHOR BALES IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE 12 TO 18 INCHES INTO THE GROUND. DRIVE THE FIRST STAKE IN EACH BALE TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. DRIVE THE STAKES FLUSH WITH THE TOP OF THE BALE.
4. IMMEDIATELY INSPECT STRAW BALE BARRIERS AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL EVENTS. RE-DRIVE THE ANCHORING STAKES IF THEY BECOME EXPOSED. REMOVE SEDIMENT WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER.
5. REMOVE ALL BALES WHEN THE SITE HAS BEEN STABILIZED. GRADE FLUSH AND STABILIZE THE TRENCH WHERE THE BALES WERE LOCATED.

STRAW BALE DIKE

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 305.1



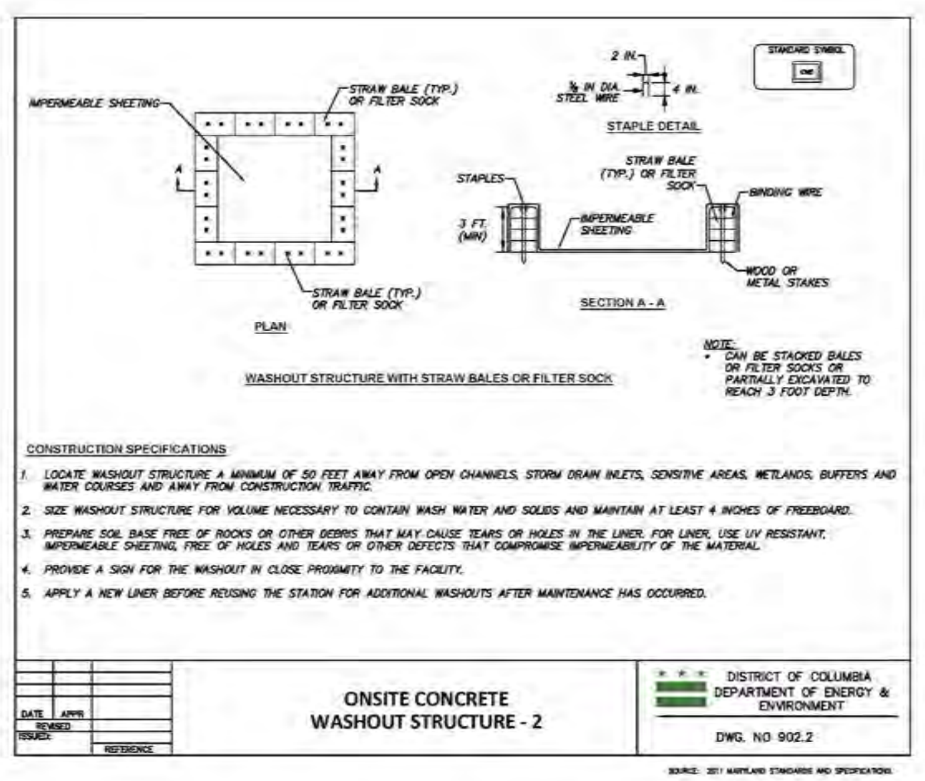
CONSTRUCTION SPECIFICATIONS

1. USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2-3/8 INCH MAXIMUM OPENING).
2. USE 2-3/8 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
3. FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.
4. SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.
5. EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE.
6. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE.
7. KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

DIVERSION FENCE

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 401.1



CONSTRUCTION SPECIFICATIONS

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING THAT IS FREE OF HOLES, TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. APPLY A NEW LINER BEFORE REUSING THE STATION FOR ADDITIONAL WASHOUTS AFTER MAINTENANCE HAS OCCURRED.

ONSITE CONCRETE WASHOUT STRUCTURE - 2

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 902.2

SOURCE: 2011 MARYLAND STANDARDS AND SPECIFICATIONS

CONTRACTOR TO REFER TO THE DOEE 2017 EROSION AND SEDIMENT CONTROL MANUAL FOR DESIGN, CONSTRUCTION, AND MAINTENANCE SPECIFICATIONS FOR EACH ESC MEASURE.

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abdo@cobadc.com
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OVERMYER ARCHITECTS
3213 P STREET, NW
WASHINGTON, DC 20007
(202) 333-5596 (PHONE)

LOT 0889, SQUARE 1254
GEORGETOWN

1524 33RD STREET, NW

N.W. WASHINGTON,
DISTRICT OF COLUMBIA

ENGINEER ATTESTATION:

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

I FURTHER CERTIFY THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER IN THE DISTRICT OF COLUMBIA, LICENSE NUMBER PE906954, EXPIRATION DATE 08/31/2024. THIS ATTESTATION APPLIES ONLY TO CIVIL ENGINEERING AND RELATED COMPONENTS TO THE EXTENT THEY ARE WITHIN OUR SCOPE OF SERVICES FOR THIS PROJECT, AND BEAR MY SEAL AND SIGNATURE.

DAVID C. LANDSMAN
PE906954

02/09/2023

REVISION	DATE
BASE SHEET ISSUED	06.06.2022
PERMIT SET	11.11.2022
REVISED PER DC WATER COMMENTS	12.01.2022
REVISED PER DOEE COMMENTS	12.16.2022
TO DOEE FOR APPROVAL	01.18.2023
OGB PERMIT SET	02.09.2023

CAS PROJECT	22–0282–DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	AS SHOWN

5 0 5 10 20
SCALE: 1 INCH = 10 FEET

NORTH

DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE

SEDIMENT CONTROL DETAILS

CIV303

GENERAL NOTES

SEE PUBLIC SPACE RELATED NOTES ON SHEET CIV001.

PUBLIC SPACE SCOPE

33RD STREET, NW

FEATURES TO BE REMOVED:

- NONE

FEATURES TO REMAIN:

- EXISTING CURB & GUTTER
- EXISTING SIDEWALK
- EXISTING STREET TREES
- EXISTING WINDOW WELLS
- EXISTING STEPS

FEATURES TO BE CONSTRUCTED:

- SEE SHEET CIV401

VOLTA PLACE, NW

FEATURES TO BE REMOVED:

- EXISTING DRIVEWAY APRON AND DRIVEWAY (TO BE REPLACED)
- EXISTING TREES AND STUMP IN PUBLIC PARKING AREA

FEATURES TO REMAIN:

- EXISTING CURB & GUTTER
- EXISTING SIDEWALK
- EXISTING STREET TREE

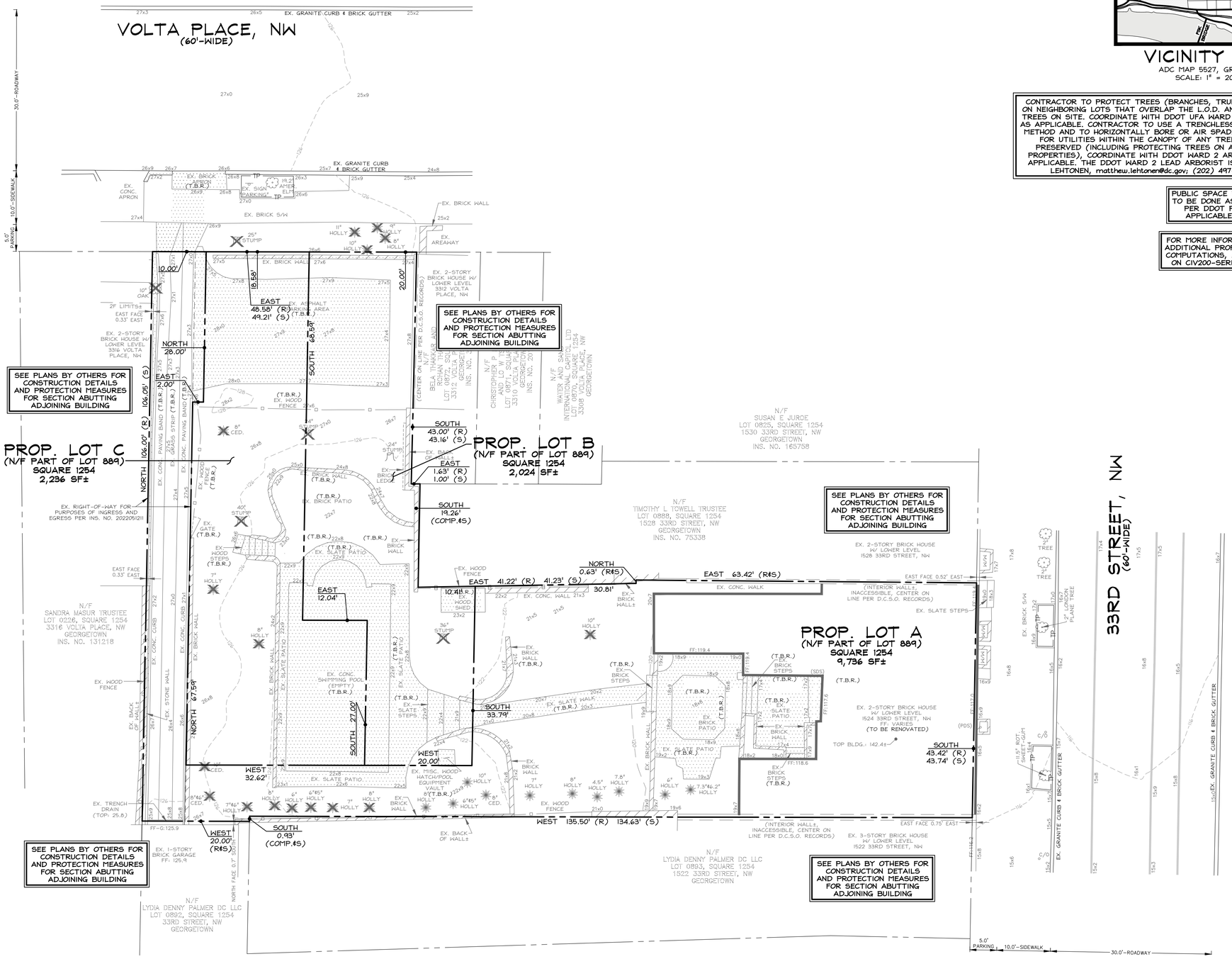
FEATURES TO BE CONSTRUCTED:

- SEE SHEET CIV401

TREE AND ROOT PROTECTION NOTES

THE CONTRACTOR MUST ADHERE TO THE FOLLOWING TREE PROTECTION CONDITIONS. ALL PROTECTION MEASURES AND EXCAVATION OPERATIONS SHALL COMPLY WITH THE 2013 DISTRICT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND STRUCTURES (GOLD BOOK) – SECTIONS 207.03, 608.07 AND 608.08 AND DDOT STANDARD DRAWINGS 608.10, 608.11, AND 608.12

1. TREES WITHIN OR DIRECTLY ADJACENT TO THE LIMITS OF WORK MUST BE PROTECTED WITH 6 FT. TALL CHAIN LINK FENCE TO THE EXTENT OF THE TREE BOX (MINIMUM 4 FT. X 9 FT.) OR TO THE ROOT ZONE IN A PLANTING STRIP. THE ROOT ZONE IS MEASURED FROM THE NEAR SIDE OF THE TRUNK TO THE DISTANCE THAT EQUALS THE TREE'S DIAMETER (MEASURED AT 4.5' ABOVE GRADE) X 1 FT. (PREFERRED DISTANCE 1.5 FEET).
2. NONE OF THE FOLLOWING SHALL OCCUR WITHIN THE ROOT ZONE OF A TREE: ALTERATION OR DISTURBANCE TO EXISTING GRADE, STAGING/STORAGE OF CONSTRUCTION MATERIALS, EQUIPMENT, SOIL, OR DEBRIS; DISPOSAL OF ANY LIQUIDS E.G. CONCRETE, GAS, OIL, PAINT; AND BLACKTOP, AND TRENCHING.
3. INSTALL ONLY TRENCHLESS SILT/SUPER SILT FENCE METHODS WITHIN THE ROOT ZONE OF A TREE; TRENCHLESS METHODS SUCH AS FILTER LOGS, SILT SOXX, STRAW BALES, OR AN APPROVED EQUIVALENT SHALL BE USED.
4. NO HEAVY EQUIPMENT SHALL BE USED TO EXCAVATE WITHIN THE ROOT ZONE. EXCAVATIONS SHALL PROCEED WITH CARE BY USE OF HAND TOOLS OR EQUIPMENT THAT WILL NOT CAUSE INJURY TO TREE TRUNKS, BRANCHES, AND ROOTS.
5. NO ROOTS GREATER THAN TWO (2) INCHES IN DIAMETER SHALL BE CUT WITHOUT AN ARBORISTS PERMISSION. EXPOSED ROOTS 2 INCHES AND LARGER IN DIAMETER SHALL BE WRAPPED IN BURLAP OR OTHER APPROVED MATERIAL AND KEPT MOIST AT ALL TIMES.
6. IF FOR ANY REASON THE SCOPE OF THE PROJECT REQUIRES WORK TO BE PERFORMED WITHIN THE FENCED PROTECTION ZONE, THE PERMIT HOLDER MUST CALL THE DISTRICT DEPARTMENT OF TRANSPORTATION'S URBAN FORESTRY DIVISION (UFD) AT 202–671–5133 OR 202–671–1490 TO RECEIVE CLEARANCE TO CONTINUE THE CONFLICTING WORK.
7. IF A TREE REQUIRES REMOVAL, APPLICANT MUST APPLY FOR THE PROPER PERMIT (CONSTRUCTION OR SPECIAL TREE) FOR ITS REMOVAL AND COMPENSATE AS PER CURRENT LAWS/REGULATIONS. PLEASE CONTACT DDOT UFD AT 202–671–5133 OR 202–671–1490 FOR QUESTIONS REGARDING PERMITTING REQUIREMENTS.



LEGEND

PROPOSED FEATURES

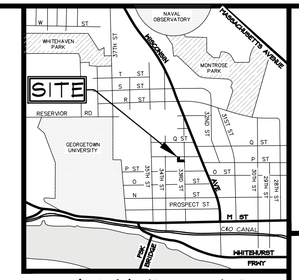
- PROP. CONTOUR WITH ELEVATION
- PROP. SPOT ELEVATION
- PROP. RETAINING WALL
- PROP. SURFACE DRAINAGE FLOWPATH

UTILITY INFORMATION

EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD VERIFIED. UTILITY LOCATIONS ARE BASED UPON AVAILABLE RECORDS AND ARE SHOWN TO THE BEST OF OUR ABILITY.

MISS UTILITY

FOR LOCATION OF UTILITIES, CALL "MISS UTILITY" AT 1–800–257–7777, OR LOG ON TO WWW.MISSUTILITY.NET/ITIC 48 HOURS IN ADVANCE OF ANY WORK IN THIS VICINITY. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDER GROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. THE EXCAVATOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL JURISDICTIONAL REQUIREMENTS.



VICINITY MAP

ADC MAP 5527, GRID K-5
SCALE: 1" = 2000'

CONTRACTOR TO PROTECT TREES (BRANCHES, TRUNK, ROOTS) ON NEIGHBORING LOTS THAT OVERLAP THE L.O.D. AND HERITAGE TREES ON SITE. COORDINATE WITH DDOT UFA WARD 2 ARBORIST AS APPLICABLE. CONTRACTOR TO USE A TRENCHLESS SILT FENCE METHOD AND TO HORIZONTALLY BORE OR AIR SPADE EXCAVATE FOR UTILITIES WITHIN THE CANOPY OF ANY TREE TO BE PRESERVED (INCLUDING PROTECTING TREES ON ADJACENT PROPERTIES), COORDINATE WITH DDOT WARD 2 ARBORIST AS APPLICABLE. THE DDOT WARD 2 LEAD ARBORIST IS MATTHEW LEHTONEN, matthew.lehtonen@dc.gov; (202) 497-0103.

PUBLIC SPACE RESTORATION TO BE DONE AS NECESSARY PER DDOT PERMIT OR APPLICABLE DETAILS.

FOR MORE INFORMATION, SEE ADDITIONAL PROFILES, NOTES, COMPUTATIONS, AND DETAILS ON CIV200-SERIES SHEETS.

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DISTRICT OF COLUMBIA
DAVID C. LANGSHAW
PE906954
CIVIL
PROFESSIONAL ENGINEER

02/09/2023

REVISION	DATE
BASE SHEET ISSUED	06.06.2022
PERMIT SET	11.11.2022
REVISED PER DC WATER COMMENTS	12.01.2022
REVISED PER DOEE COMMENTS	12.16.2022
TO DOEE FOR APPROVAL	01.18.2023
OGB PERMIT SET	02.09.2023

CAS PROJECT	22-0282-DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	1"=10'

SCALE: 1 INCH = 10 FEET

NORTH

DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE

PUBLIC SPACE PLAN (EXISTING)

CIV400

GENERAL NOTES

SEE PUBLIC SPACE RELATED NOTES ON SHEET CIV001.

PUBLIC SPACE SCOPE

33RD STREET, NW

FEATURES TO BE REMOVED:

- SEE SHEET CIV400

FEATURES TO REMAIN:

- EXISTING CURB & GUTTER
- EXISTING SIDEWALK
- EXISTING STREET TREES
- EXISTING WINDOW WELLS
- EXISTING STEPS

FEATURES TO BE CONSTRUCTED:

- NEW UTILITY CONNECTIONS

VOLTA PLACE, NW

FEATURES TO BE REMOVED:

- SEE SHEET CIV401

FEATURES TO REMAIN:

- EXISTING CURB & GUTTER
- EXISTING SIDEWALK
- EXISTING STREET TREE

FEATURES TO BE CONSTRUCTED:

- PROPOSED DRIVEWAY APRON AND DRIVEWAY (TO REPLACE EXISTING DRIVEWAY APRON AND DRIVEWAY)
- TWO (2) NEW AREAWAY (WINDOW WELL) PROJECTIONS
- TWO (2) NEW STOOP PROJECTIONS
- TWO (2) NEW STEPS PROJECTIONS
- TWO (2) NEW LEADWALKS
- MINOR LANDSCAPING AND ASSOCIATED GRADING
- NEW UTILITY CONNECTIONS
- AND ASSOCIATED EXCAVATION/EARTHWORK TO CONSTRUCT THE ABOVE SCOPE ITEMS
- NEW DRIVEWAY APRON AND DRIVEWAY WITH ADJACENT SIDEWALK, LANDSCAPING, STREET, AND CURB REPAIR WORK TO FULLY RESTORE PUBLIC SPACE AREA WHERE WORK SCOPE LISTED ABOVE OCCURS

PROJECTION ANALYSIS

VOLTA PLACE, NW

STREET WIDTH: 60'-WIDE

AREAWAY PROJECTION DISTANCE = 1.5 FEET
ALLOWABLE AREAWAY PROJECTION DISTANCE = 6.0 FEET
(PER 12A DCMR 3202.9.1.3.4)

STOOP PROJECTION DISTANCE = 2.9 FEET
ALLOWABLE STOOP PROJECTION DISTANCE = 5.0 FEET
(PER 12A DCMR 3202.11.2.3.3)

STEPS PROJECTION DISTANCE = 3.8 FEET
ALLOWABLE STEPS PROJECTION DISTANCE = 10.0 FEET
(PER 12A DCMR 3202.11.3.2.5)

TREE AND ROOT PROTECTION NOTES

THE CONTRACTOR MUST ADHERE TO THE FOLLOWING TREE PROTECTION CONDITIONS. ALL PROTECTION MEASURES AND EXCAVATION OPERATIONS SHALL COMPLY WITH THE 2013 DISTRICT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND STRUCTURES (GOLD BOOK) – SECTIONS 207.03, 608.07 AND 608.08 AND DDOT STANDARD DRAWINGS 608.10, 608.11, AND 608.12

1. TREES WITHIN OR DIRECTLY ADJACENT TO THE LIMITS OF WORK MUST BE PROTECTED WITH 6 FT. TALL CHAIN LINK FENCE TO THE EXTENT OF THE TREE BOX (MINIMUM 4 FT. X 9 FT.) OR TO THE ROOT ZONE IN A PLANTING STRIP. THE ROOT ZONE IS MEASURED FROM THE NEAR SIDE OF THE TRUNK TO THE DISTANCE THAT EQUALS THE TREE'S DIAMETER (MEASURED AT 4.5' ABOVE GRADE) X 1 FT. (PREFERRED DISTANCE 1.5 FEET).
2. NONE OF THE FOLLOWING SHALL OCCUR WITHIN THE ROOT ZONE OF A TREE: ALTERATION OR DISTURBANCE TO EXISTING GRADE, STAGING/STORAGE OF CONSTRUCTION MATERIALS, EQUIPMENT, SOIL, OR DEBRIS; DISPOSAL OF ANY LIQUIDS E.G. CONCRETE, GAS, OIL, PAINT; AND BLACKTOP, AND TRENCHING.
3. INSTALL ONLY TRENCHLESS SILT/SUPER SILT FENCE METHODS WITHIN THE ROOT ZONE OF A TREE; TRENCHLESS METHODS SUCH AS FILTER LOGS, SILT SOXX, STRAW BALES, OR AN APPROVED EQUIVALENT SHALL BE USED.
4. NO HEAVY EQUIPMENT SHALL BE USED TO EXCAVATE WITHIN THE ROOT ZONE. EXCAVATIONS SHALL PROCEED WITH CARE BY USE OF HAND TOOLS OR EQUIPMENT THAT WILL NOT CAUSE INJURY TO TREE TRUNKS, BRANCHES, AND ROOTS.
5. NO ROOTS GREATER THAN TWO (2) INCHES IN DIAMETER SHALL BE CUT WITHOUT AN ARBORISTS PERMISSION. EXPOSED ROOTS 2 INCHES AND LARGER IN DIAMETER SHALL BE WRAPPED IN BURLAP OR OTHER APPROVED MATERIAL AND KEPT MOIST AT ALL TIMES.
6. IF FOR ANY REASON THE SCOPE OF THE PROJECT REQUIRES WORK TO BE PERFORMED WITHIN THE FENCED PROTECTION ZONE, THE PERMIT HOLDER MUST CALL THE DISTRICT DEPARTMENT OF TRANSPORTATION'S URBAN FORESTRY DIVISION (UFD) AT 202-671-5133 OR 202-671-1490 TO RECEIVE CLEARANCE TO CONTINUE THE CONFLICTING WORK.
7. IF A TREE REQUIRES REMOVAL, APPLICANT MUST APPLY FOR THE PROPER PERMIT (CONSTRUCTION OR SPECIAL TREE) FOR ITS REMOVAL AND COMPENSATE AS PER CURRENT LAWS/REGULATIONS. PLEASE CONTACT DDOT UFD AT 202-671-5133 OR 202-671-1490 FOR QUESTIONS REGARDING PERMITTING REQUIREMENTS.

LEGEND

PROPOSED FEATURES

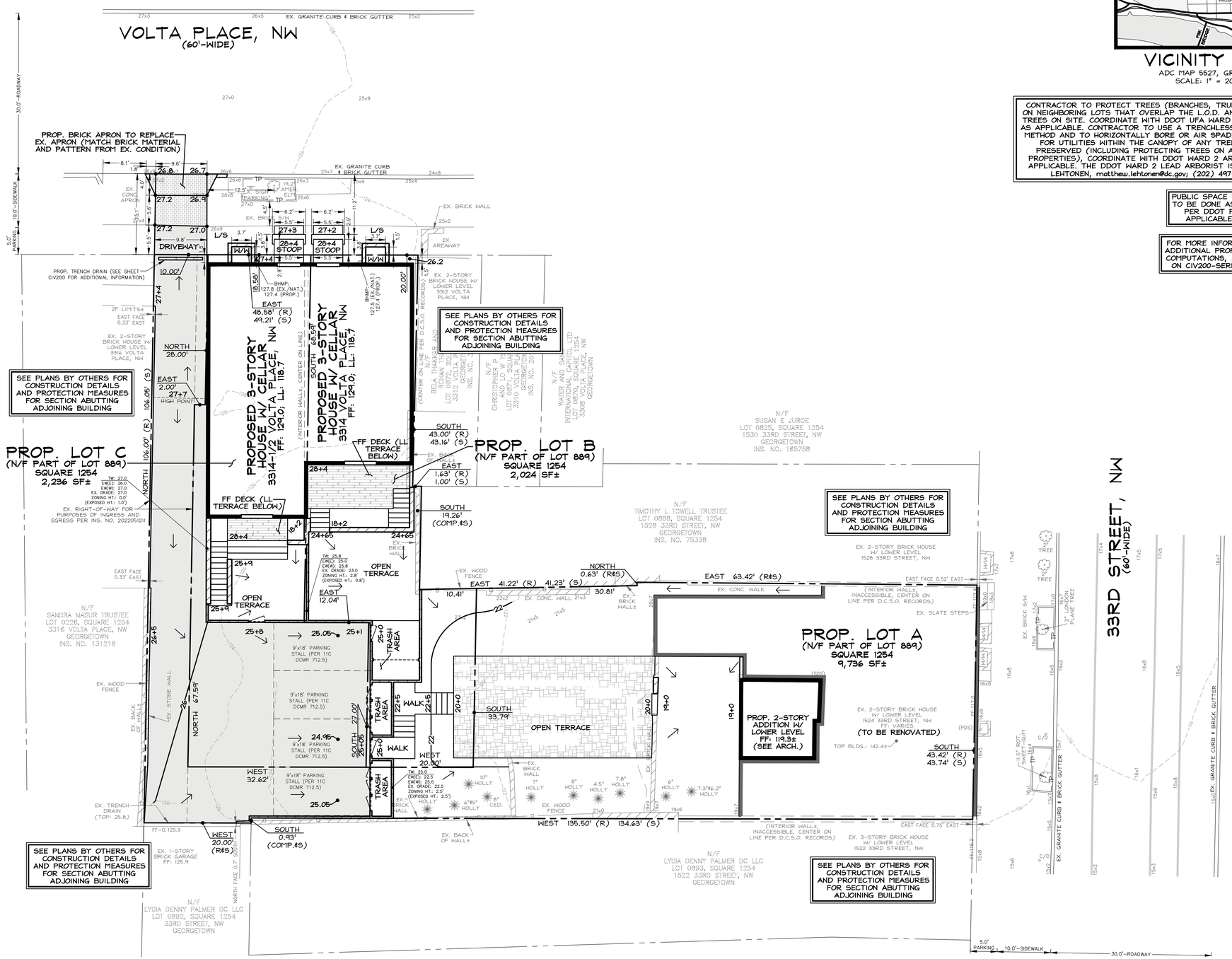
00	PROP. CONTOUR WITH ELEVATION
00•0	PROP. SPOT ELEVATION
	PROP. RETAINING WALL
→	PROP. SURFACE DRAINAGE FLOWPATH

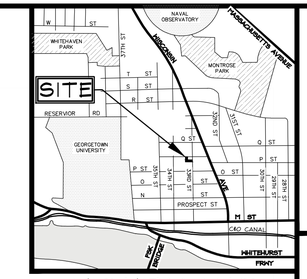
UTILITY INFORMATION

EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD VERIFIED. UTILITY LOCATIONS ARE BASED UPON AVAILABLE RECORDS AND ARE SHOWN TO THE BEST OF OUR ABILITY.

MISS UTILITY

FOR LOCATION OF UTILITIES, CALL "MISS UTILITY" AT 1-800-257-7777, OR LOG ON TO WWW.MISSUTILITY.NET/ITIC 48 HOURS IN ADVANCE OF ANY WORK IN THIS VICINITY. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDER GROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. THE EXCAVATOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL JURISDICTIONAL REQUIREMENTS.





VICINITY MAP

ADC MAP 5527, GRID K-5
SCALE: 1" = 2000'

CONTRACTOR TO PROTECT TREES (BRANCHES, TRUNK, ROOTS) ON NEIGHBORING LOTS THAT OVERLAP THE L.O.D. AND HERITAGE TREES ON SITE. COORDINATE WITH DDOT UFA WARD 2 ARBORIST AS APPLICABLE. CONTRACTOR TO USE A TRENCHLESS SILT FENCE METHOD AND TO HORIZONTALLY BORE OR AIR SPADE EXCAVATE FOR UTILITIES WITHIN THE CANOPY OF ANY TREE TO BE PRESERVED (INCLUDING PROTECTING TREES ON ADJACENT PROPERTIES). COORDINATE WITH DDOT WARD 2 ARBORIST AS APPLICABLE. THE DDOT WARD 2 LEAD ARBORIST IS MATTHEW LEHTONEN, matthew.lehtonen@dc.gov; (202) 497-0103.

PUBLIC SPACE RESTORATION TO BE DONE AS NECESSARY PER DDOT PERMIT OR APPLICABLE DETAILS.

FOR MORE INFORMATION, SEE ADDITIONAL PROFILES, NOTES, COMPUTATIONS, AND DETAILS ON CIV200-SERIES SHEETS.

CAS ENGINEERING-DC, LLC
Experience you can build on.

CAS ENGINEERING-DC, LLC
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2nd Floor
Washington, DC 20007
(202) 393-7200 Phone
www.cas-dc.com
info@cas-dc.com
CIVIL • SURVEYING • LAND PLANNING

OWNER/CLIENT
COBA PROPERTIES
1716 14TH STREET, NW, SUITE 300
WASHINGTON, DC 20009
(202) 596-7459 (CELL)
abdo@cobadc.com
ATTN: ABDO ROFFE

ARCHITECT
OVERMYER ARCHITECTS
3213 P STREET, NW
WASHINGTON, DC 20007
(202) 333-5596 (PHONE)

LOT 0889, SQUARE 1254
GEORGETOWN

1524 33RD STREET, NW

N.W. WASHINGTON,
DISTRICT OF COLUMBIA

ENGINEER ATTESTATION:

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

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DISTRICT OF COLUMBIA
DAVID C. LANDSWAY
PE906954
PROFESSIONAL ENGINEER
CIVIL

02/09/2023

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SCALE: 1 INCH = 10 FEET

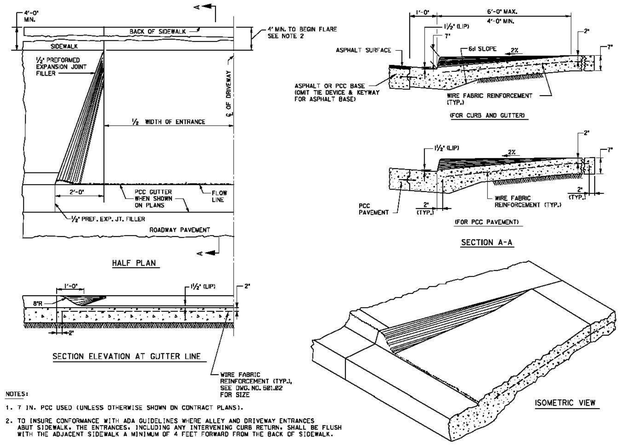
NORTH

DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE

PUBLIC SPACE PLAN (PROPOSED)

CIV401



NOTES:

1. 7 IN. PCC USED (UNLESS OTHERWISE SHOWN ON CONTRACT PLANS).
2. TO INSURE CONFORMANCE WITH ADA GUIDELINES WHERE ALLEY AND DRIVEWAY ENTRANCES ABUT SIDEWALK, THE ENTRANCES, INCLUDING ANY INTERVENING CURB RETURN, SHALL BE FLUSH WITH THE ADJACENT SIDEWALK A MINIMUM OF 4 FEET FORWARD FROM THE BACK OF SIDEWALK.

DATE	APPR.	
REVISED:		
ISSUED:		REFERENCE

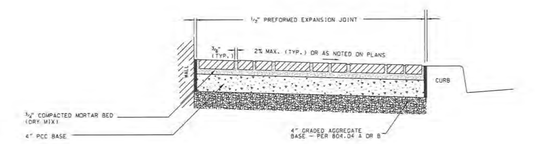
RECOMMENDED: DEPUTY CHIEF ENGINEER

APPROVED: CHIEF TRANSPORTATION ENGINEER

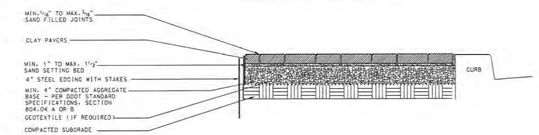
DRIVEWAY ENTRANCE TYPE "D"

d. DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION

DWG. NO. 504.04



BRICK ON 4" PCC BASE - SECTION



BRICK ON SAND & GRAVEL BASE - SECTION

NOTES:

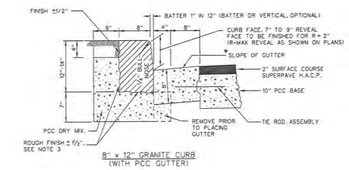
1. BRICK PATTERN SHALL BE AS SHOWN ON DWG. NO. 605.05 OR PER APPROVED CONTRACT PLANS
2. SAND SHALL BE CONCRETE SAND (ASTM C33), OR APPROVED EQUAL.
3. BRICK ON SAND & GRAVEL TO BE USED ONLY WITH APPROVAL FROM THE CHIEF ENGINEER

ISSUED: 8/2015	RECOMMENDED:	PROJECT MANAGER
REVISION	APPROVED: Mohammed Khalid	CHIEF ENGINEER

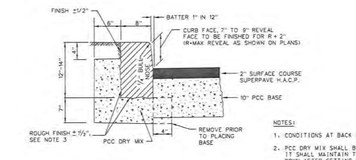
BRICK SIDEWALK SETTING BED

d. DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION

DWG. NO. 605.04



8" x 12" GRANITE CURB (WITH PCC GUTTER)



8" x 12" GRANITE CURB (WITHOUT PCC GUTTER)

NOTES:

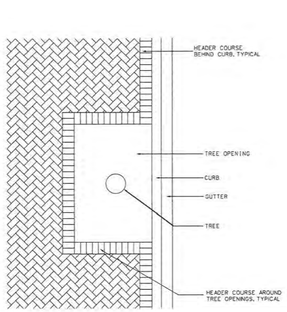
1. CONDITIONS AT BACK OF CURB VARY AND ARE AS SHOWN ON THE CONTRACT PLANS.
2. PCC DRY MIX SHALL BE PER DDOT STANDARD SPECIFICATIONS, SECTION 801. IT SHALL MAINTAIN THE SAME TIME LIMITS AS PCC AND SHALL BE WATERED DOWN AFTER SETTING OF GRANITE CURB.
3. THE MINIMUM DEPTH TO CONCAVE SURFACE ON ROUGH FINISH SHALL BE 10 IN.
4. GRANITE CURBS ARE SHOWN WITH A COMPOSITE PAVEMENT SECTION.
5. ★ LOW SIDE - 1 IN. PER FT. TOWARD CURB ★ HIGH SIDE - ⅝ IN. PER FT. AWAY FROM CURB
6. A 6 IN. MIN. LAYER OF GRADED AGGREGATE BASE SHALL BE PLACED BENEATH THE ROADWAY AND CURB AND GUTTER AND IS NOT SHOWN FOR CLARITY.

ISSUED: 8/2015	RECOMMENDED:	PROJECT MANAGER
REVISION	APPROVED: Mohammed Khalid	CHIEF ENGINEER

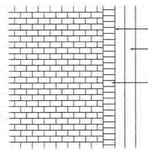
TYPES OF GRANITE CURBS

d. DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION

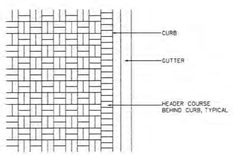
DWG. NO. 606.02



HERRINGBONE PATTERN



RUNNING BOND PATTERN



BASKET WEAVE PATTERN

NOTES:

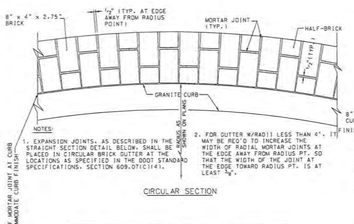
1. REFER TO DWG. NO. 605.04 FOR BRICK SETTING BED.
2. REFER TO CHAPTER 31A DESIGN AND ENGINEERING MANUAL FOR MORE INFORMATION.

ISSUED: 8/2015	RECOMMENDED:	PROJECT MANAGER
REVISION	APPROVED: Mohammed Khalid	CHIEF ENGINEER

PATTERNS FOR BRICK SIDEWALK

d. DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION

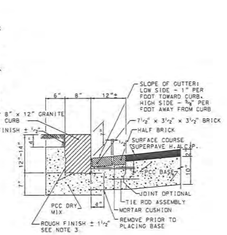
DWG. NO. 605.05



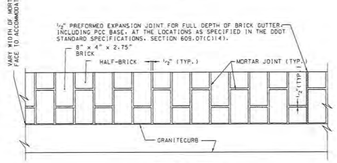
NOTES:

1. EXPANSION JOINTS, AS DESCRIBED IN THE STRAIGHT SECTION DETAIL BELOW, SHALL BE PLACED IN CIRCULAR BRICK CURB AT ANY LOCATIONS AS SPECIFIED IN THE DDOT STANDARD SPECIFICATIONS, SECTION 609.07(C)(4).
2. FOR GUTTER WRADII LESS THAN 4', IT MAY BE REQ'D TO INCREASE THE WIDTH OF RADIAL MORTAR JOINTS AS SHOWN ON PLANS, AND/OR ADJUST SO THAT THE WIDTH OF THE JOINT AT THE EDGE TOWARD RADIUS PT. IS AT LEAST ¼".

CIRCULAR SECTION



8" x 12" GRANITE CURB WITH BRICK GUTTER



STRAIGHT SECTION

NOTES:

1. CONDITIONS AT BACK OF CURB VARY AND ARE AS SHOWN ON THE CONTRACT PLANS.
2. PCC DRY MIX SHALL BE PER DDOT STANDARD SPECIFICATIONS, SECTION 801. IT SHALL MAINTAIN THE SAME TIME LIMITS AS PCC AND SHALL BE WATERED DOWN AFTER SETTING OF GRANITE CURB.
3. THE MINIMUM DEPTH TO CONCAVE SURFACE ON ROUGH FINISH SHALL BE 10 IN.
4. GRANITE CURB IS SHOWN WITH A COMPOSITE PAVEMENT SECTION.
5. A 6 IN. MIN. LAYER OF GRADED AGGREGATE BASE SHALL BE PLACED BENEATH THE ROADWAY AND CURB AND GUTTER AND IS NOT SHOWN FOR CLARITY.

ISSUED: 8/2015	RECOMMENDED:	PROJECT MANAGER
REVISION	APPROVED: Mohammed Khalid	CHIEF ENGINEER

PATTERNS FOR BRICK GUTTER

d. DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION

DWG. NO. 606.04

CAS ENGINEERING-DC, LLC
Experience you can build on.

CAS ENGINEERING-DC, LLC
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2nd Floor
Washington, DC 20007
(202) 393-7200 Phone
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info@cas-dc.com
CIVIL • SURVEYING • LAND PLANNING

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COBA PROPERTIES
1716 14TH STREET, NW, SUITE 300
WASHINGTON, DC 20009
(202) 596-7459 (CELL)
abdo@cobadc.com
ATTN: ABDO ROFFE

ARCHITECT
OVERMYER ARCHITECTS
3213 P STREET, NW
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(202) 333-5596 (PHONE)

LOT 0889, SQUARE 1254
GEORGETOWN

1524 33RD STREET, NW

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DISTRICT OF COLUMBIA

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DISTRICT OF COLUMBIA · DAVID C. LANDSMAN · PE906954 · CIVIL · PROFESSIONAL ENGINEER

02/09/2023

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APPROVAL	DCL
SCALE	AS SHOWN

5 0 5 10 20
SCALE: 1 INCH = 10 FEET

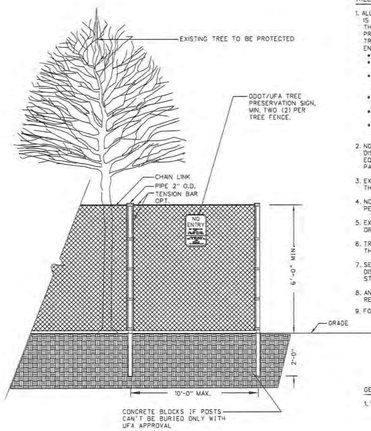
NORTH

DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE

PUBLIC SPACE DETAILS

CIV402



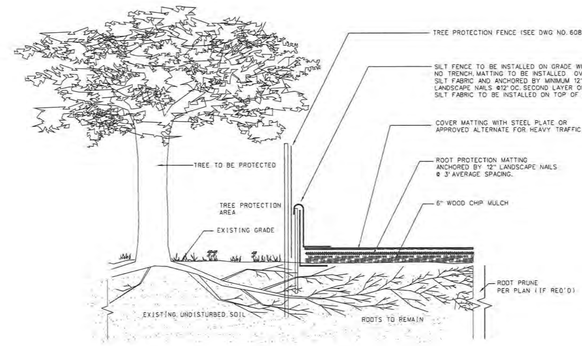
TREE PROTECTION NOTES:

1. ALL EXISTING STREET TREES, TO REMAIN WITHIN A WORK ZONE UNTIL A PROJECT IS COMPLETED, REQUIRE THE FOLLOWING AS TREE PROTECTION. IF FOR ANY REASON THE SCOPE OF THE PROJECT REQUIRES WORK TO BE PERFORMED WITHIN THE FENCED PROTECTION ZONE, THE PERMIT HOLDER MUST CONTACT THE DISTRICT DEPARTMENT OF TRANSPORTATION'S URBAN FORESTRY ADMINSTRATION (UFA) AT 202-671-5133 BEFORE ENTERING.
   - SIX (6) FOOT TALL CHAIN LINK FENCING ON ALL SIDES.
   - INSTALL FENCING PRIOR TO AND MAINTAIN THROUGHOUT CONSTRUCTION, REMOVING ONLY AT THE END OF THE PROJECT.
   - FENCING SHALL PROTECT AN AREA NO SMALLER THAN FOUR (4) FEET BY NINE (9) FEET, CENTERED ON THE TREE, OR ENCLOSE MULTIPLE STREET TREES WHEN IN A CONTINUOUS, OPEN TREE PLANTING SPACE AND SITE ACCESS ALLOWS.
   - FENCING SHALL HAVE VERTICAL AND HORIZONTAL SUPPORT RAILINGS TO DECREASE FLEXIBILITY AND PREVENT SAGGING.
   - FENCE POSTS SHALL BE ANCHORED IN THE GROUND TO PREVENT MOVEMENT AND PROVIDE A SECURE BARRIER.
   - A MINIMUM OF TWO (2) DDOT/UFA STANDARD TREE PRESERVATION SIGNS SHALL BE MOUNTED ON THE FENCE OF EACH ENCLOSED TREE PROTECTION AREA.
2. NO INSTALLATION OF SILT FENCE/SUPER SILT FENCE, TRENCHING, ALTERATION OR DISTURBANCE TO EXISTING GRADE, STAGING/STORAGE OF CONSTRUCTION MATERIALS, EQUIPMENT, SOIL, OR DEBRIS/ DISPOSAL OF ANY MATERIALS SUCH AS CONCRETE, GAS, OIL, PAINT, OR BLACKTOP IS ALLOWED WITHIN THE FENCED TREE PROTECTION ZONE.
3. EXCAVATIONS WITHIN THE DRIP LINE SHALL PROCEED WITH CARE BY USE OF HAND TOOLS. THE DRIPLINE IS DEFINED AS THE GROUND AREA UNDER THE CANOPY OF THE TREE.
4. NO ROOTS LARGER THAN TWO (2) INCHES IN DIAMETER ARE TO BE CUT WITHOUT UFA PERMISSION.
5. EXPOSED ROOTS TWO (2) INCHES AND LARGER IN DIAMETER SHALL BE WRAPPED IN BURLAP OR OTHER APPROVED MATERIAL AND KEPT MOIST AT ALL TIMES.
6. TREES THAT ARE PROTECTED ARE TO BE WATERED EVERY TEN (10) DAYS FROM APRIL THROUGH SEPTEMBER.
7. SECTION 608.07 - TREE PROTECTION AND 608.08 - TREE ROOT PROTECTION OF THE 2013 DISTRICT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND STRUCTURES WILL APPLY SHOULD ANY DAMAGE OCCUR TO THE EXISTING STREET TREES.
8. ANY FINES RELATED TO DAMAGE TO A STREET TREE ON A JOB SITE SHALL BE THE RESPONSIBILITY OF THE PERMIT HOLDER.
9. FOR ANY QUESTIONS, CALL DDOT URBAN FORESTRY ADMINISTRATION AT 202-671-5133.

GENERAL NOTES:

1. SEE TREE PROTECTION FENCE - PLAN, DWG. NO. 608.11

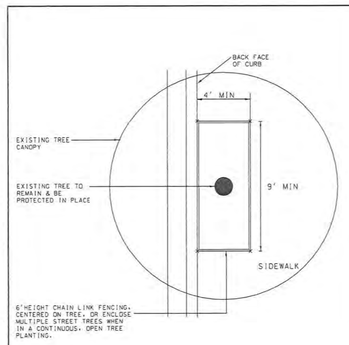
ISSUED: 8/2015	RECOMMENDED: PROJECT MANAGER	TREE PROTECTION FENCE - ELEVATION	d. DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION
REVISION / APPROVAL	APPROVED: Muhammed Khalid CHIEF ENGINEER		DWG. NO. 608.10



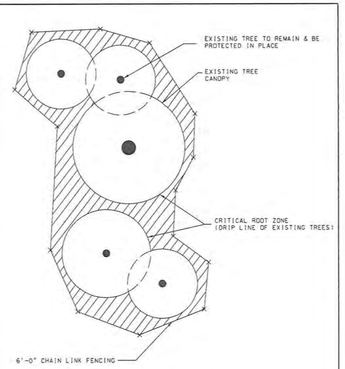
NOTES:

1. MATTING MATERIAL SHALL BE DOUBLE SIDED GEOCOMPOSITE, GEONET CORE WITH NON-WOVEN COVERING (SUCH AS TENSAR ROADRAN R07) OR APPROVED EQUIVALENT.
2. ROOT PROTECTION MATTING SHALL BE INSTALLED BY A CERTIFIED ARBORIST.
3. TO BE USED FOR DESIGNATED TEMPORARY CONSTRUCTION ACCESS AND STOCKPILE AREAS.
4. MATTING SHALL BE PLACED ON 6" WOOD CHIP MULCH UNLESS OTHERWISE DIRECTED.
5. FOR HEAVY TRAFFIC AREAS, MATTING SHALL BE COVERED WITH STEEL PLATES.

ISSUED: 8/2015	RECOMMENDED: PROJECT MANAGER	TREE ROOT PROTECTION W/SILT FENCE	d. DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION
REVISION / APPROVAL	APPROVED: Muhammed Khalid CHIEF ENGINEER		DWG. NO. 608.12



TYPICAL STREET TREE PROTECTION



TYPICAL OPEN AREA TREE PROTECTION

NOTES:

1. FOR STREET TREES (TREES PLANTED IN THE TREE PLANTING SPACE BETWEEN CURB AND SIDEWALK), REFER TO DETAIL ABOVE LABELED "TYPICAL STREET TREE PROTECTION" FOR TREES IN OPEN AREAS (PUBLIC PARKING BEHIND SIDEWALK OR PARK SPACE), REFER TO DETAIL ABOVE LABELED "TYPICAL OPEN AREA TREE PROTECTION".
2. SEE TREE PROTECTION FENCE-ELEVATION, DWG. NO. 608.10 FOR TREE PROTECTION NOTES.

ISSUED: 8/2015	RECOMMENDED: PROJECT MANAGER	TREE PROTECTION FENCE - PLAN VIEW	d. DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION
REVISION / APPROVAL	APPROVED: Muhammed Khalid CHIEF ENGINEER		DWG. NO. 608.11

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LOT 0889, SQUARE 1254
GEORGETOWN

1524 33RD STREET, NW

N.W. WASHINGTON, DISTRICT OF COLUMBIA

ENGINEER ATTESTATION:

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

I FURTHER CERTIFY THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER IN THE DISTRICT OF COLUMBIA, LICENSE NUMBER PE906954, EXPIRATION DATE 06/31/2024. THIS ATTESTATION APPLIES ONLY TO CIVIL ENGINEERING AND RELATED COMPONENTS TO THE EXTENT THEY ARE WITHIN OUR SCOPE OF SERVICES FOR THIS PROJECT, AND BEAR MY SEAL AND SIGNATURE.

DISTRICT OF COLUMBIA
DAVID C. LANDSMAN
PE906954
CIVIL
PROFESSIONAL ENGINEER

02/09/2023

REVISION	DATE
BASE SHEET ISSUED	06.06.2022
PERMIT SET	11.11.2022
REVISED PER DC WATER COMMENTS	12.01.2022
REVISED PER DOEE COMMENTS	12.16.2022
TO DOEE FOR APPROVAL	01.18.2023
OGB PERMIT SET	02.09.2023

CAS PROJECT	22-0282-DC
DATE	02/2023
DRAWN BY	MSL
CHECKED BY	DCL
APPROVAL	DCL
SCALE	AS SHOWN

5 0 5 10 20
SCALE: 1 INCH = 10 FEET

NORTH

DATUM:
VERTICAL
DC WATER
HORIZONTAL
DC SURVEYOR'S OFFICE

SHEET TITLE

PUBLIC SPACE DETAILS

CIV403

PROW (TYPE 2): MAXIMUM EXTENT PRACTICABLE (MEP) DESIGN PROCESS

PER THE DOEE STORMWATER MANAGEMENT GUIDEBOOK, APPENDIX B, JANUARY, 2020.

DESIGN PROCESS:

STEP 1: IDENTIFY DRAINAGE AREAS AND CALCULATE SWRv.

A) THE LIMITS OF DISTURBANCE IN PUBLIC SPACE ARE:
PUBLIC SPACE LOD (TOTAL) = 1,114 SQUARE FEET
UTILITY EXEMPT AREAS = 447 SQUARE FEET
REMAINING LOD = 667 SQUARE FEET

B) ONE PUBLIC SPACE DRAINAGE AREA EXISTS, BEING ALONG THE SUBJECT SITE'S FRONTAGE ON VOLTA PLACE, NW AND 33RD STREET, NW. OFFSITE AREA TO THE DRAINAGE AREA IS NEGLIGIBLE AND THE DRAINAGE AREA DOES NOT RECEIVE ANY ROADWAY RUNOFF.

C) PROPOSED LAND COVER:

COMPACTED COVER = 120 SQUARE FEET
IMPERVIOUS LAND COVER = 547 SQUARE FEET
BMP LAND COVER = 0 SQUARE FEET

D) STORMWATER RETENTION VOLUME (SWRv) – TOTAL = 55 CUBIC FEET

E) CONVERSION OF LAND COVER AND BMP DESIGNATION IN ADJACENT PUBLIC LANDS ARE NOT FEASIBLE.

F) DRAINAGE PROFILE ALTERATION IS NOT FEASIBLE FOR THIS PROJECT.

STEP 2: EVALUATE INFILTRATION.

A) SOIL INVESTIGATION WAS PERFORMED AND IS REFLECTED IN THE PROJECT'S GEOTECHNICAL REPORT. THE SITE HAS DISPLAYED INFILTRATING FEASIBILITY, INFILTRATING BMPs ARE NOT FEASIBLE IN PUBLIC SPACE, SEE JUSTIFICATION TO THE RIGHT.

B) INFILTRATING BMPs ARE NOT FEASIBLE IN PUBLIC SPACE, SEE JUSTIFICATION TO THE RIGHT.

C) NO KNOWN CONTAMINATED SOILS EXIST ON SITE.

STEP 3: CONSIDER OPPORTUNITIES WITH EXISTING INFRASTRUCTURE.

A) A COMPLETE SURVEY OF THE EXISTING STREETSCAPE, INCLUDING UTILITIES ARE SHOWN IN THE PLAN SET. THE EXISTING SITE CONTAINS A DETACHED SINGLE-FAMILY DWELLING TO BE RAZED. THE PUBLIC SPACE AREA TO BE DISTURBED CONTAINS A CIRCULAR DRIVEWAY AND EXISTING LANDSCAPED AREA. NO CHANGE IS PROPOSED TO LAND COVER IN PUBLIC SPACE AND THE EXISTING DRIVEWAY APRONS ARE TO REMAIN. THE DISTURBANCE AREA WITHIN PUBLIC SPACE IS ONLY FOR LANDSCAPING AND ASSOCIATED MINOR GRADING ACTIVITIES, AS WELL AS INSTALLATION OF NEW UTILITY LATERALS.

B) AN EXISTING 12" COMBINED SEWER MAIN EXISTS BENEATH THE ROADWAY ALONG THE SITE'S FRONTAGE ON VOLTA PLACE, NW. AN EXISTING 2.25'x3.37' COMBINED SEWER MAIN EXISTS BENEATH THE ROADWAY ALONG THE SITE'S FRONTAGE ON 33RD STREET, NW.

C) VARIOUS STREET TREES EXIST ADJACENT TO THE SITE'S PROW DISTURBANCE ON VOLTA PLACE, NW AND 33RD STREET, NW. ALL STREET TREES WILL BE RETAINED, HOWEVER ARE LOCATED OUTSIDE OF THE PROJECT'S DISTURBANCE AREA AND THEREFORE CANNOT BE COUNTED TOWARDS RETENTION CREDIT.

STEP 4: CONSIDER LAND COVER CONVERSIONS AND OPTIMUM BMP PLACEMENT.

A) THIS OPTION IS NON-APPLICABLE TO TYPE 2 PROW PROJECTS.

B) THIS OPTION IS NON-APPLICABLE TO TYPE 2 PROW PROJECTS.

C) THIS OPTION IS NON-APPLICABLE TO TYPE 2 PROW PROJECTS.

D) THIS EXISTING FRONTAGE AREA WITHIN THE PROW IS MOSTLY IMPERVIOUS COVER. THE POST-DEVELOPMENT CONDITIONS PROPOSES SLIGHTLY INCREASE THE AMOUNT OF IMPERVIOUS COVER. NO BMPs ARE FEASIBLE FOR THE PROW DISTURBANCE AREA, SEE JUSTIFICATION TO THE RIGHT.

E) NO BMPs ARE FEASIBLE FOR THE PROW DISTURBANCE AREA, SEE JUSTIFICATION TO THE RIGHT.

STEP 5: SIZE BMPS.

A) THE FOLLOWING PROCESSES HAVE BEEN USED TO SIZE THE BMPS IN THE PROW.

1) DELINEATE DRAINAGE AREAS – THIS PROW AREA WILL CONSIST OF ONE DRAINAGE AREA, SEE DRAINAGE AREA EXHIBITS IN THE CIV200-SERIES.

2) NO BMPs ARE FEASIBLE FOR THE PROW DISTURBANCE AREA, SEE JUSTIFICATION TO THE RIGHT.

3) NO BMPs ARE FEASIBLE FOR THE PROW DISTURBANCE AREA, SEE JUSTIFICATION TO THE RIGHT.

4) NO BMPs ARE FEASIBLE FOR THE PROW DISTURBANCE AREA, SEE JUSTIFICATION TO THE RIGHT.

5) SIZING CRITERIA CANNOT BE FULLY ACHIEVED. THE CONSTRAINTS THAT LIMIT THIS ARE OUTLINED IN THE ANALYSIS FOUND BELOW, DOCUMENTING THE REASONS WHY CERTAIN BMPS ARE EITHER INFEASIBLE OR LIMITED IN PRACTICE.

B) THE RETENTION VOLUMES FOR THE BMPS PROVIDED SUM TO 0 CF, LESS THAN THE REGULATED SWRv FOR THE PROW PROJECT, 55 CF.

C) IT IS NOT FEASIBLE TO CONTROL THE RETENTION VOLUME DEFICIENCY ON SITE DUE TO EXISTING AND PROPOSED SITE LAYOUT. ALL STORMWATER THAT FALLS INTO THE PROW DRAINAGE AREA FLOWS AWAY FROM THE SITE.

D) THIS PROCESS HAS BEEN REPEATED TO MINIMIZE THIS RETENTION VOLUME DEFICIENCY, HOWEVER, IT HAS BEEN DEEMED INFEASIBLE TO MEET THE SWRv REQUIREMENTS FOR THE PROW PORTION OF THIS PROJECT.

STEP 6: ADDRESS DRAINAGE AREAS WHERE ZERO-RETENTION PRACTICES ARE INSTALLED.

A) THE DRAINAGE AREA CONTAINING ZERO-RETENTION ARE NOT CHANGED FROM THE EXISTING CONDITIONS AS THERE IS NO CHANGE PROPOSED TO LAND COVER VALUES.

PROW (TYPE 2): MAXIMUM EXTENT PRACTICABLE (MEP) BMP ANALYSIS

PER THE DOEE STORMWATER MANAGEMENT GUIDEBOOK, APPENDIX B, JANUARY, 2020.

THIS PROJECT PROPOSES TO RENOVATE AN EXISTING ATTACHED SINGLE-FAMILY RESIDENTIAL DWELLING, AS WELL AS CONSTRUCT TWO (2) NEW ATTACHED SINGLE-FAMILY RESIDENTIAL DWELLINGS ON A VACANT SITE. VARIOUS IMPROVEMENTS WILL BE CONSTRUCTED IN PUBLIC SPACE TO SERVE THE TWO (2) NEW DWELLINGS, INCLUDING WINDOW WELLS, STOOPS, STEPS, AND LEAD WALKS. THE POST-PROJECT CONDITION RESULTS IN AN INCREASE IN IMPERVIOUS COVER.

STORMWATER MANAGEMENT COMPUTATIONS CAN BE FOUND IN THE CIV200-SERIES AND CIV400-SERIES OF THIS PLAN SET. THE SWRv FOR THE PROW FOR THIS PROJECT IS 55 CUBIC FEET. NO BMPs ARE FEASIBLE FOR THIS PROJECT SITE, CONTRIBUTING 0 CF TOWARDS STORMWATER MANAGEMENT REQUIREMENTS.

THE FOLLOWING ANALYZES ALL POTENTIAL STORMWATER MANAGEMENT BMPS WITHIN THE DOEE GUIDEBOOK AND THEIR FEASIBLE FOR THE PROW OF THIS PROJECT:

GREEN ROOFS (3.2) = NOT APPLICABLE, NO BUILDINGS ARE BEING CONSTRUCTED WITHIN THE PROW DRAINAGE AREA.

RAINWATER HARVESTING (3.3) = NO BUILDINGS ARE PROPOSED IN THE PROW FROM WHICH TO COLLECT RAINWATER. THE INSTALLATION OF A CISTERN BENEATH THE PROPOSED SIDEWALK IS INFEASIBLE DUE TO EXISTING UTILITIES AND PROPOSED UTILITY CONNECTIONS.

IMPERVIOUS SURFACE DISCONNECTION (3.4) = NO AREAS OF NATURAL OR COMPACTED COVER EXIST THAT MEET THE MINIMUM SIZING REQUIREMENTS (150 SQUARE FEET, MINIMUM FOR THE DISCONNECTION AREA). ADDITIONALLY, THE ONLY COMPACTED COVER AREAS LOCATED WITHIN THE PROW DRAINAGE AREA ARE TREE BOXES.

PERMEABLE PAVEMENT (3.5) = THE NEW IMPERVIOUS COVER AREA ARE EITHER TO BE CONSTRUCTED PER DDOT STANDARD DRAWINGS (NEW DRIVEWAY APRON AND SIDEWALK SECTION) OR STRUCTURAL IN NATURE (WINDOW WELL WALLS, STOOP, STEPS) AND THEREFORE CANNOT BE MADE PERMEABLE PAVEMENT. .

BIORETENTION (3.6) = BIORETENTION AREAS ARE NOT FEASIBLE IN THE PROW DISTURBANCE AREA AS IT LARGELY COVERS THE EXISTING SIDEWALK AREA.

FILTERING SYSTEMS (3.7) = FILTERING SYSTEMS PROVIDE NO RETENTION CAPABILITY.

INFILTRATION (3.8) = INFILTRATING BMPs ARE NOT FEASIBLE, SEE PERMEABLE PAVEMENT AND BIORETENTION ITEMS IN THIS SECTION.

OPEN CHANNEL SYSTEMS (3.9) = DUE TO SPACE CONSTRAINTS, OPEN CHANNEL SYSTEMS ARE INFEASIBLE.

PONDS (3.10) = DUE TO SPACE CONSTRAINTS, PONDS ARE INFEASIBLE.

WETLANDS (3.11) = DUE TO SPACE CONSTRAINS, WETLANDS ARE INFEASIBLE.

STORAGE PRACTICES (3.12) = STORAGE PRACTICES PROVIDE NO RETENTION CAPABILITY.

PROPRIETARY PRACTICES (3.13) = PER THE GUIDEBOOK, "HISTORICALLY, PROPRIETARY PRACTICES DO NOT PROVIDE RETENTION VOLUME."

TREE PRESERVATION/PLANTING (3.14) = VARIOUS STREET TREES EXIST AND WILL BE PRESERVED, HOWEVER ARE LOCATED OUTSIDE OF THE PROW DISTURBANCE AREA. TREE PLANTING IS NOT FEASIBLE DUE TO SPACING CONSTRAINTS AND CONFLICTS WITH SUB-GRADE UTILITIES.

NO BMPs ARE PROPOSED IN THE PROW DUE TO THE REASONS OUTLINED ABOVE. THE TOTAL SWRv OF 55 CUBIC FEET IS NOT FULLY MET (RETENTION PROPOSED ACHIEVES 0 CF), HOWEVER, WE BELIEVE THAT THROUGH THE MEP PROCESS LAID OUT IN THE DOEE STORMWATER GUIDEBOOK AND DESCRIBED ON THIS SHEET, STORMWATER HAS BEEN RETAINED TO THE MAXIMUM EXTENT PRACTICABLE IN THE PROW.

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PE906954
PROFESSIONAL CIVIL ENGINEER

02/09/2023

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