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PROJECT TEAM

OWNER	
MAINLAND NORTHWEST	

ARCHITECT SERA DESIGN AND ARCHITECTURE

LANSCAPE ARCHITECT SERA DESIGN AND ARCHITECTURE

STRUCTURAL ENGINEER MADDEN BAUGHMAN ENGINEERING

PROJECT VALUATION

\$12,600,000

ZONING SUMMARY

ZONE EX (CENTRAL EMPLOYMENT) STANDARDS

DEVELOPMENT FEATURE	STANDARD
MAXIMUM FAR MAXIMUM HEIGHT MINIMUM BUILDING STETBACKS (STREET LOT LINE) MAXIMUM BUILDING SETBACKS (STREET LOT LINE) MAXIMUM LOT COVERAGE MINIMUM LANDSCAPED AREA	3:1 65 FEET 0 FEET 10 FEET 100% NONE
ST JOHNS PLAN DISTRICT & RIVERFRONT SUBDISTRICT STANDARDS	
DEVELOPMENT FEATURE	STANDARD
MINIMUM RESIDENTIAL DENSITY MAXIMUM HEIGHT MAXIMUM LOT COVERAGE MINIMUM LANDSCAPED AREA	1 UNIT PER 1,00 45' (55')* 85% 15%

* MAXIMUM BUILDING HEIGHT: THE PROPERTY IS LOCATED IN AN EX ZONE, INCREASED HEIGHT IS REQUESTED AS A MODIFICATION UP TO THE MAXIMUM 55'.

REQUIRED PARKING

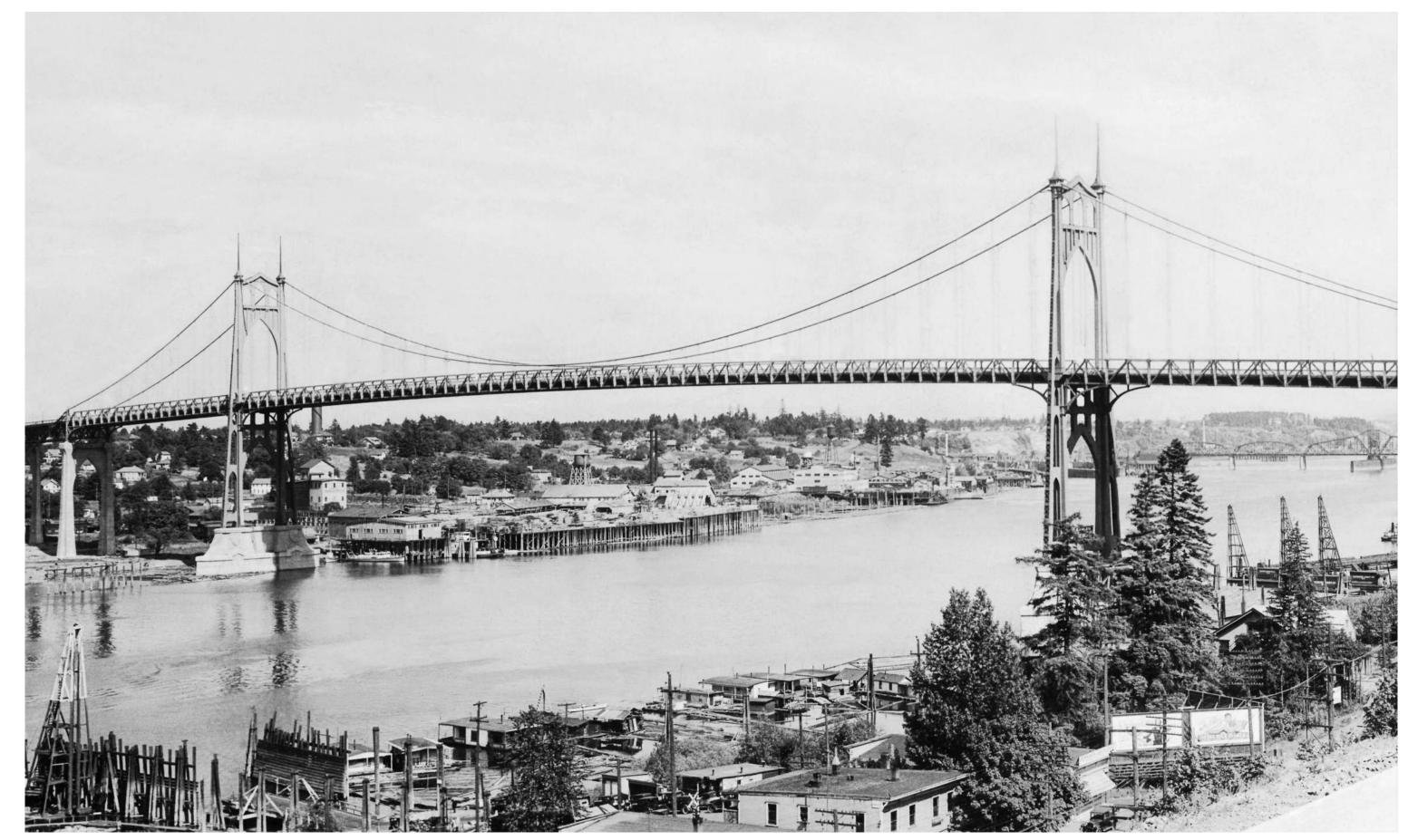
DEVELOPMENT FEATURE	REQUIRED	PROPOSED
AUTO PARKING SPACES (TABLE 266-1) LONG-TERM BIKE PARKING SPACES (TABLE 266-6) SHORT-TERM BIKE PARKING SPACES (TABLE 266-6) LOADING SPACES (33.266.310)	48 106+10=116* 5 1 (STANDARD B)	46* 124 0** 1
* TEN ADDITIONAL BIKE PARKING SPACES PROVIDED ACCORDANCE WITH 33.266.110E3.) IN LIEU OF TWO AUTO PAR	KING SPACES IN

** PROJECT IS TO PAY INTO THE CITY BIKE PARKING FUND IN LIEU OF PROVIDING SHORT-TERM BIKE PARKING SPACES.

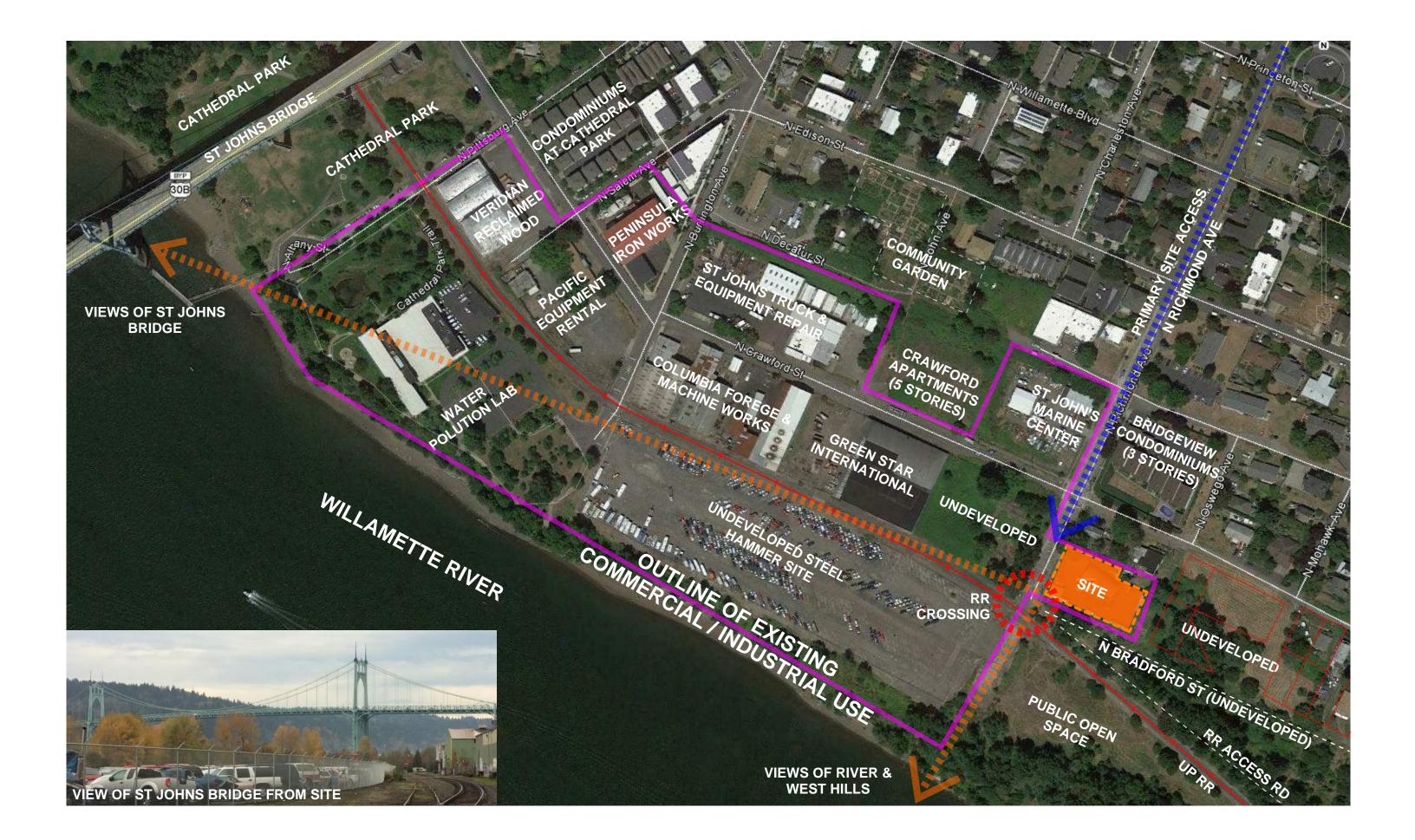
PROPOSAL

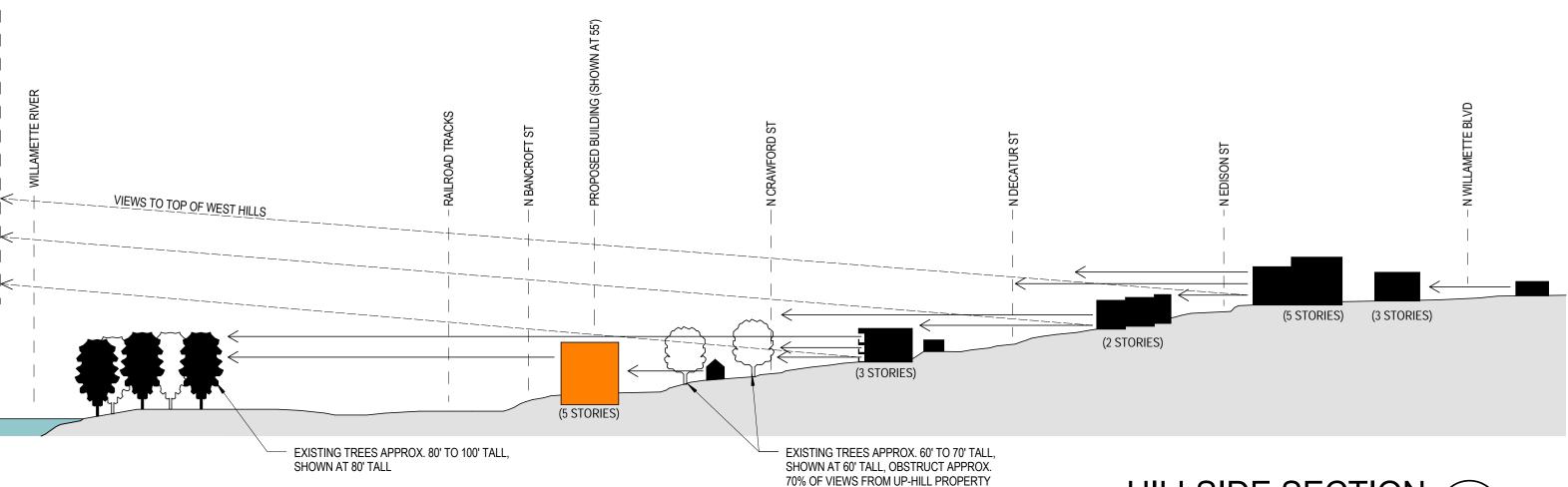
2.98:1
52 FEET
0 FEET
9 FEET
78%
16.5%

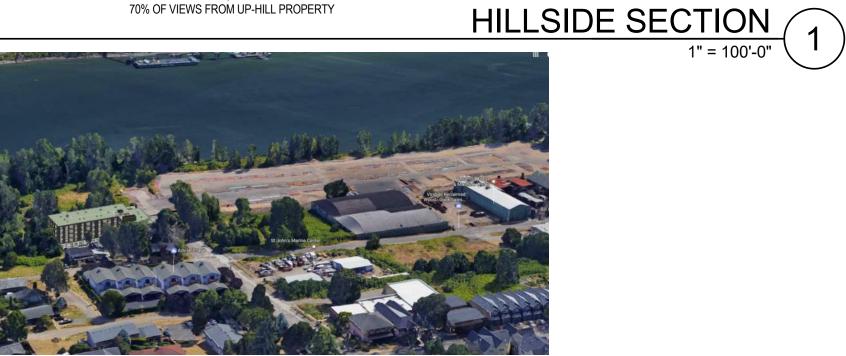
	PROPOSAL
1,000 SF SITE AREA	COMPLIES 52 FEET 78% 16.5%



ST JOHNS BRIDGE 1931







AERIAL VIEW FROM THE NORTH



AERIAL VIEW FROM RIVER



WATER TOWER AT N WILLAMETTE BLVD AND N OSWEGO ST



ST JOHNS BRIDGE



WATER POLUTION LAB



ROW HOUSES ON N EDISON ST

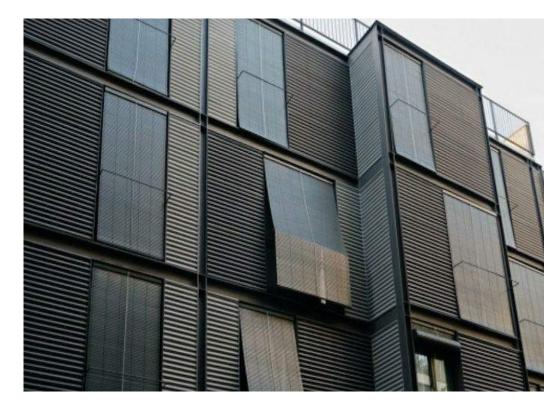


COLUMBIA FOREGE & MACHINE WORKS



MODERN MULTIFAMILY DWELLING AT N WILLAMETTE BLVD & N JOHN ST





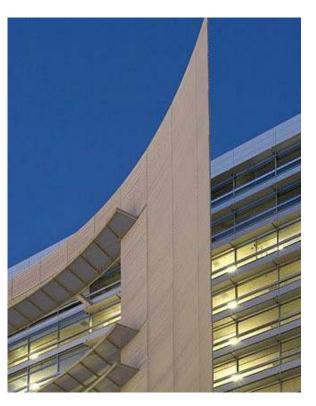


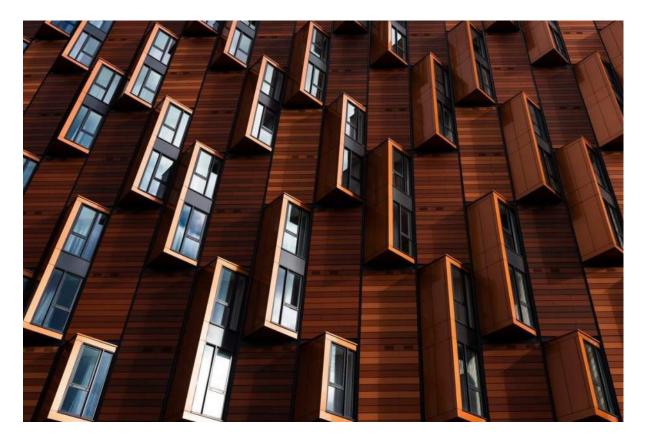
UNDER CONSTUCTION ON N. WILLAMS ST, PORTLAND, OR



PLATOON KUNSTHALE, BERLIN GERMANY

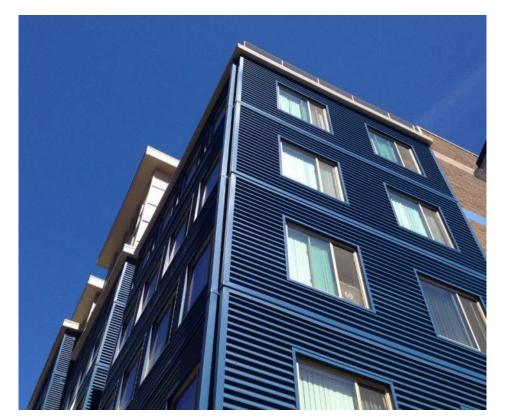








COPENHAGEN, DK



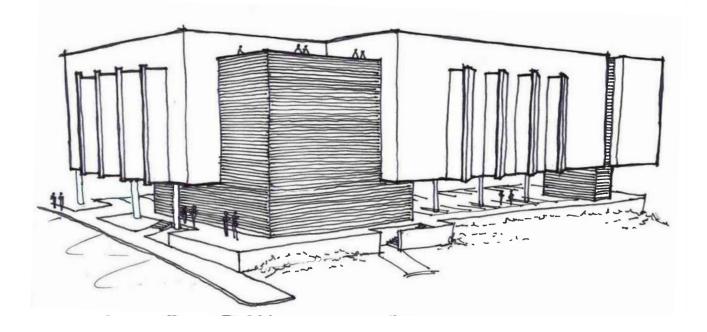
MW8 APARTMENTS - SW 5TH & COLLEGE

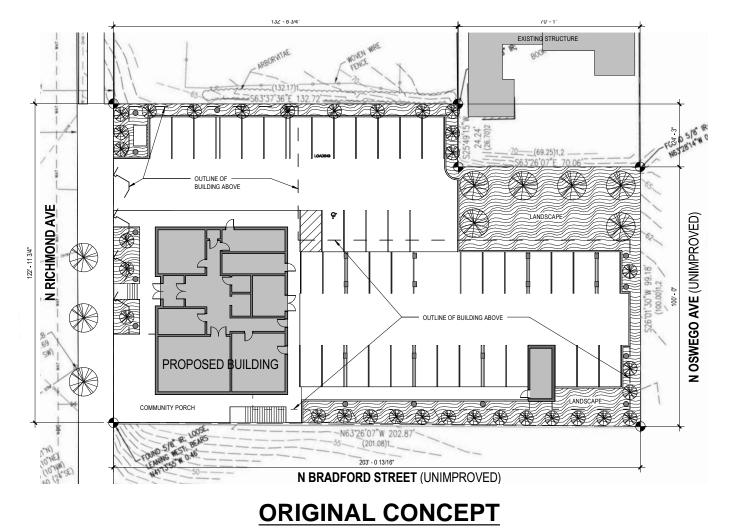


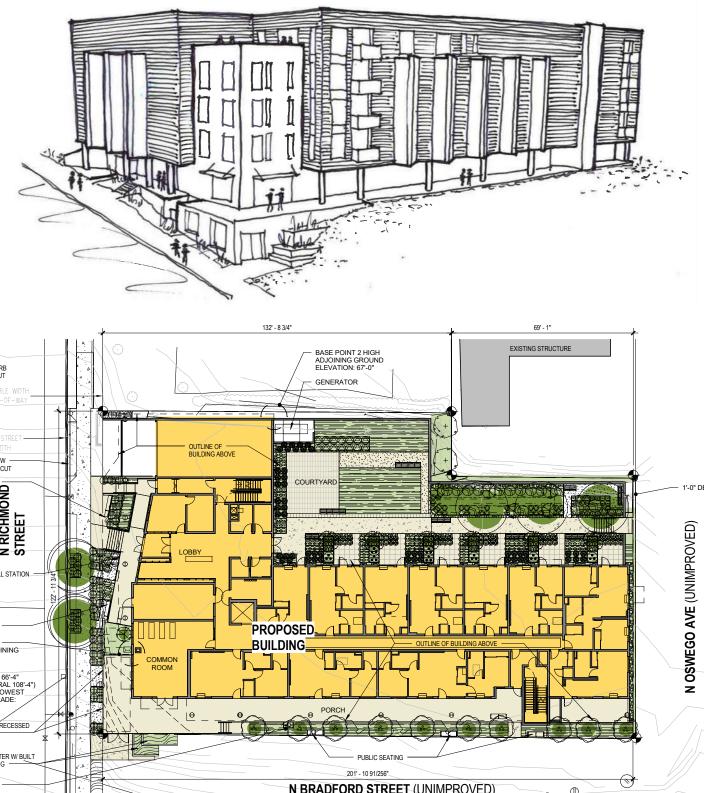
SHIPPING YARD

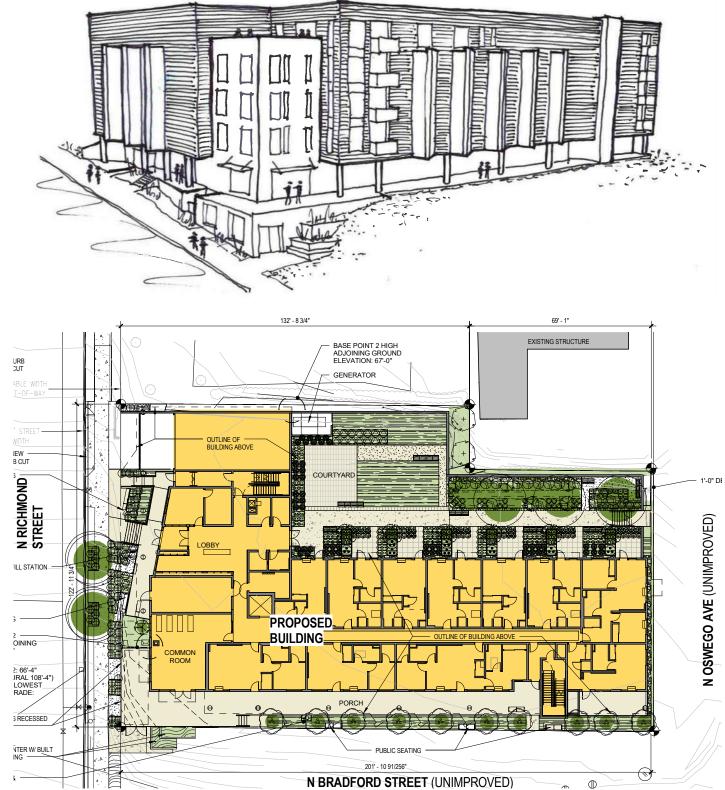


COPENHAGEN, DK





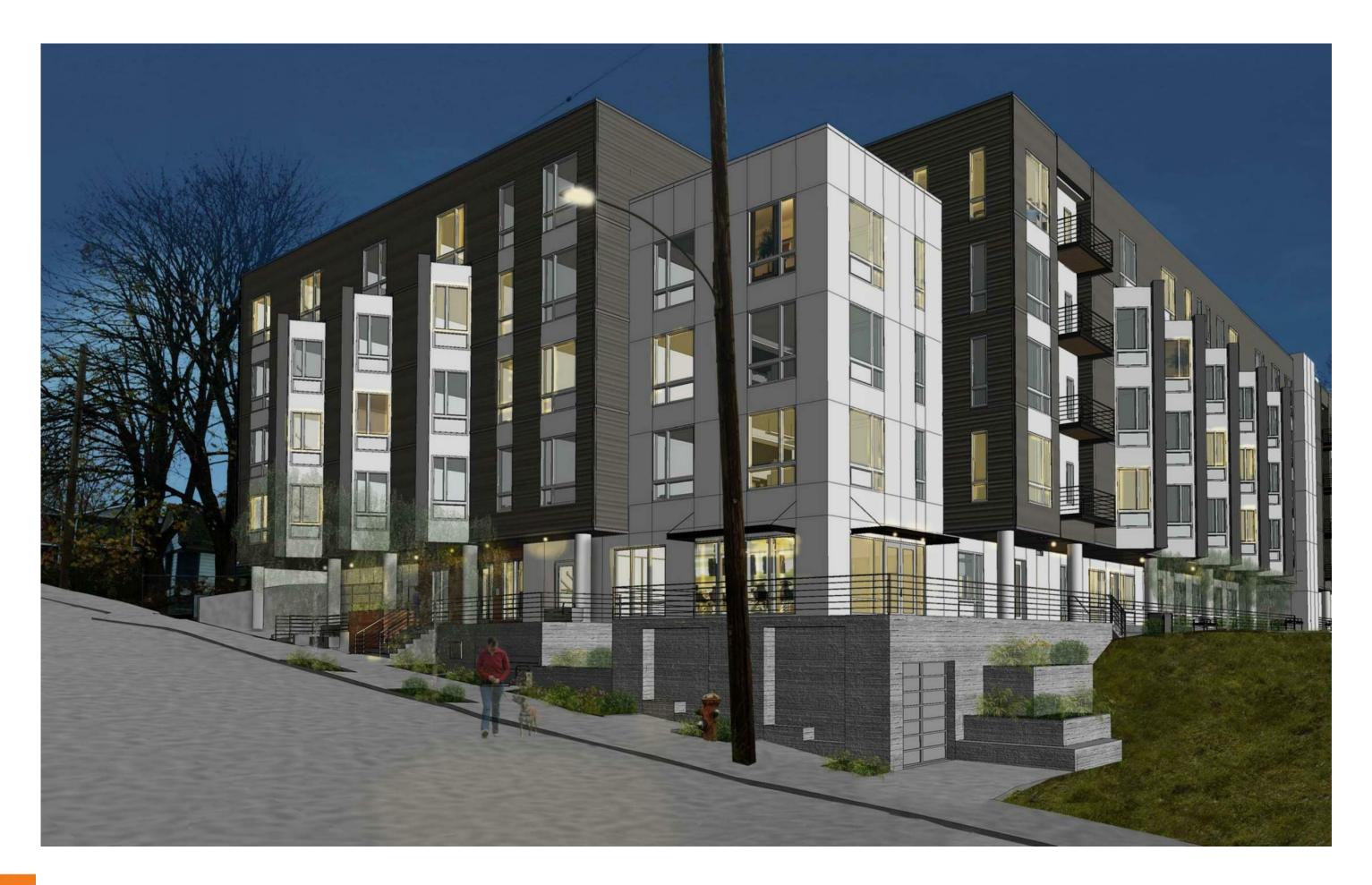




REVISED DESIGN







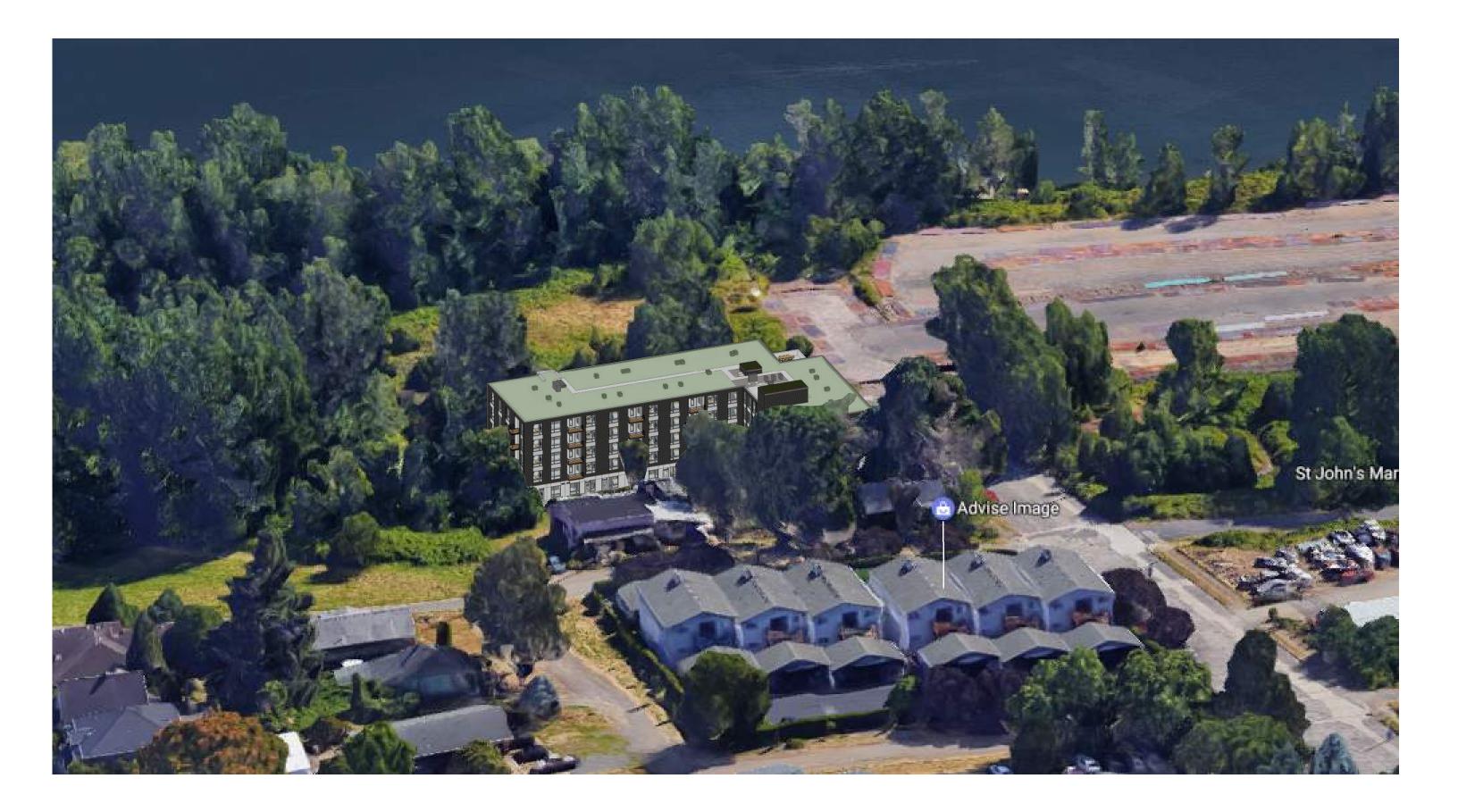




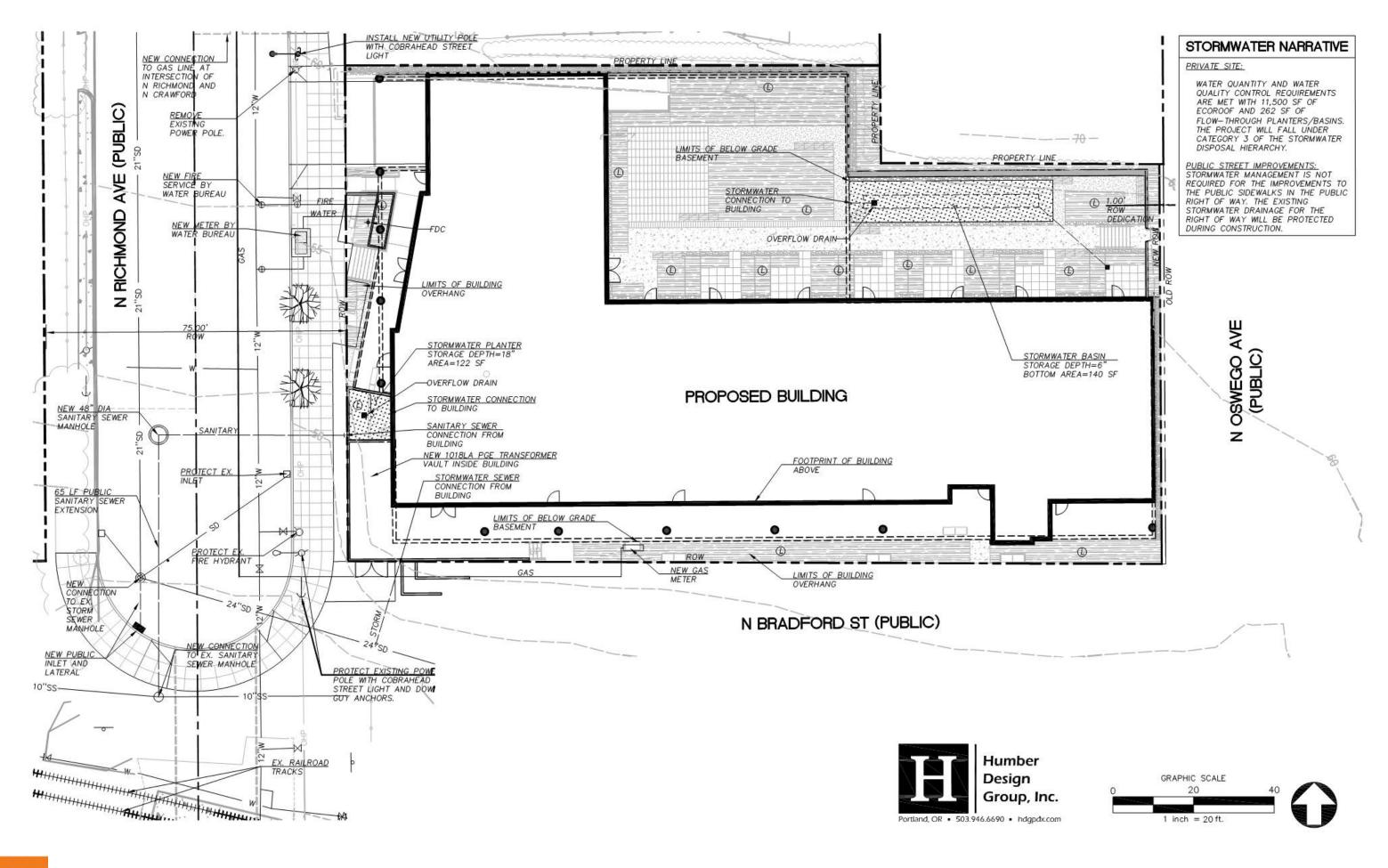


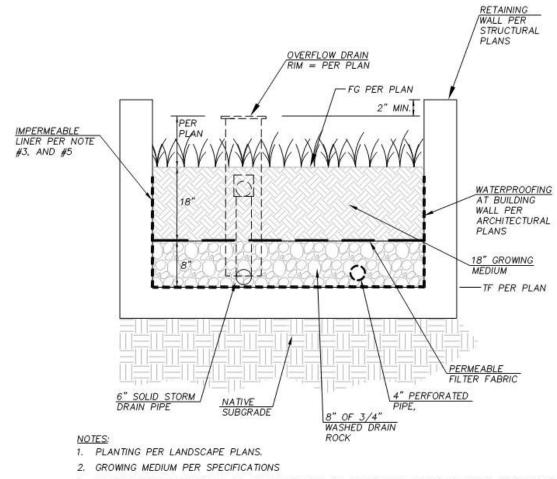
MAIN BUILDING ENTRY ON N RICHMOND AVE











- 3. IMPERMEABLE LINER SHALL BE 30 MIL MINIMUM OR EQUIVALENT SPRAY ON LINER. COORDINATE WITH BES INSPECTOR. ATTACH IMPERMEABLE LINER TO CONCRETE 2" BELOW TOP OF SOIL.
- 4. CONNECT PERFORATED PIPE TO SOLID PIPE DOWNSTREAM OF AREA DRAIN.
- 5. PROVIDE WATERTIGHT PENETRATION THROUGH IMPERMEABLE LINER FOR OUTFLOW FROM AREA DRAIN.
- 6. CONSTRUCT ROCK PAD AT DOWNSPOUT OUTFALLS.

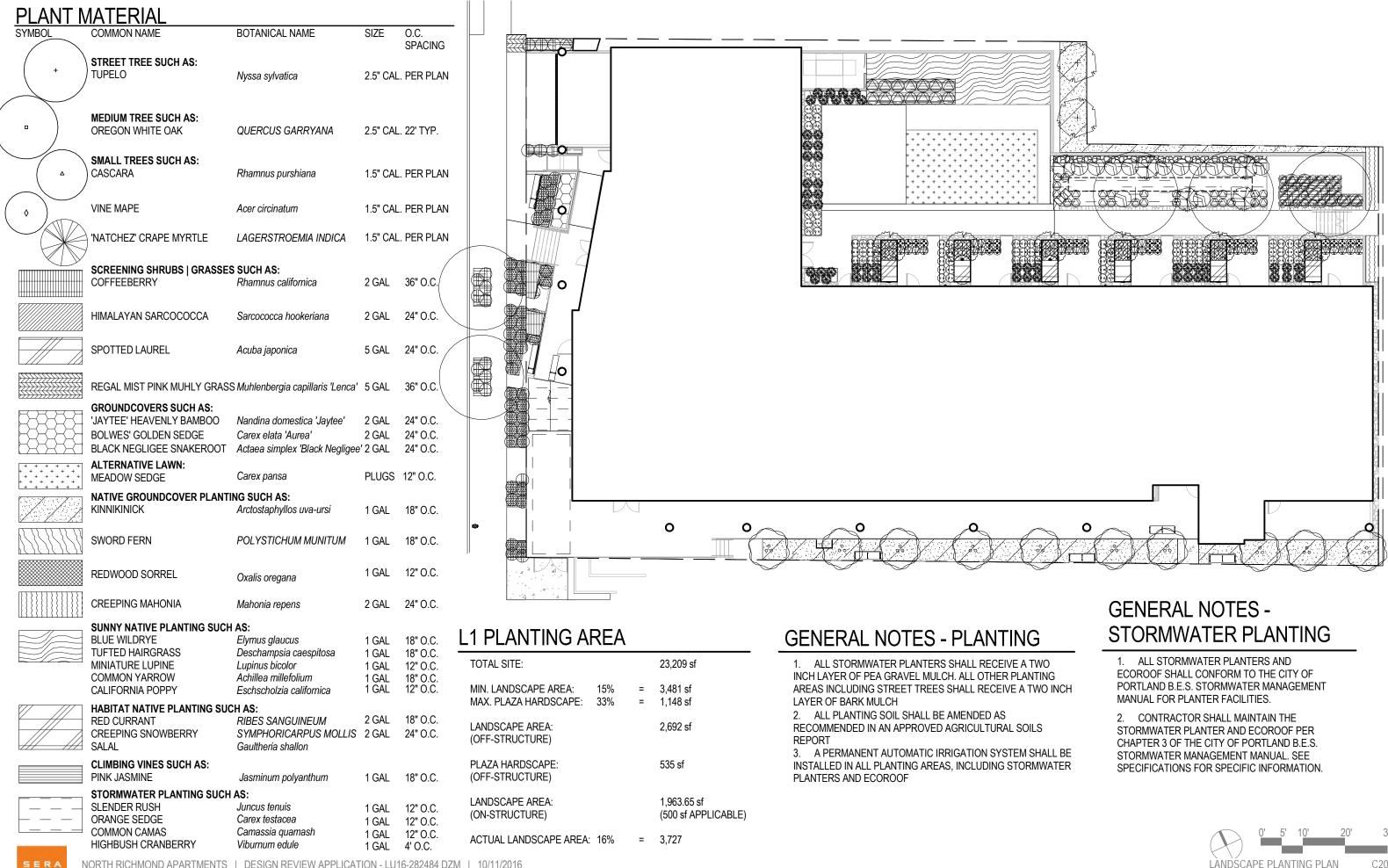
1

NTS

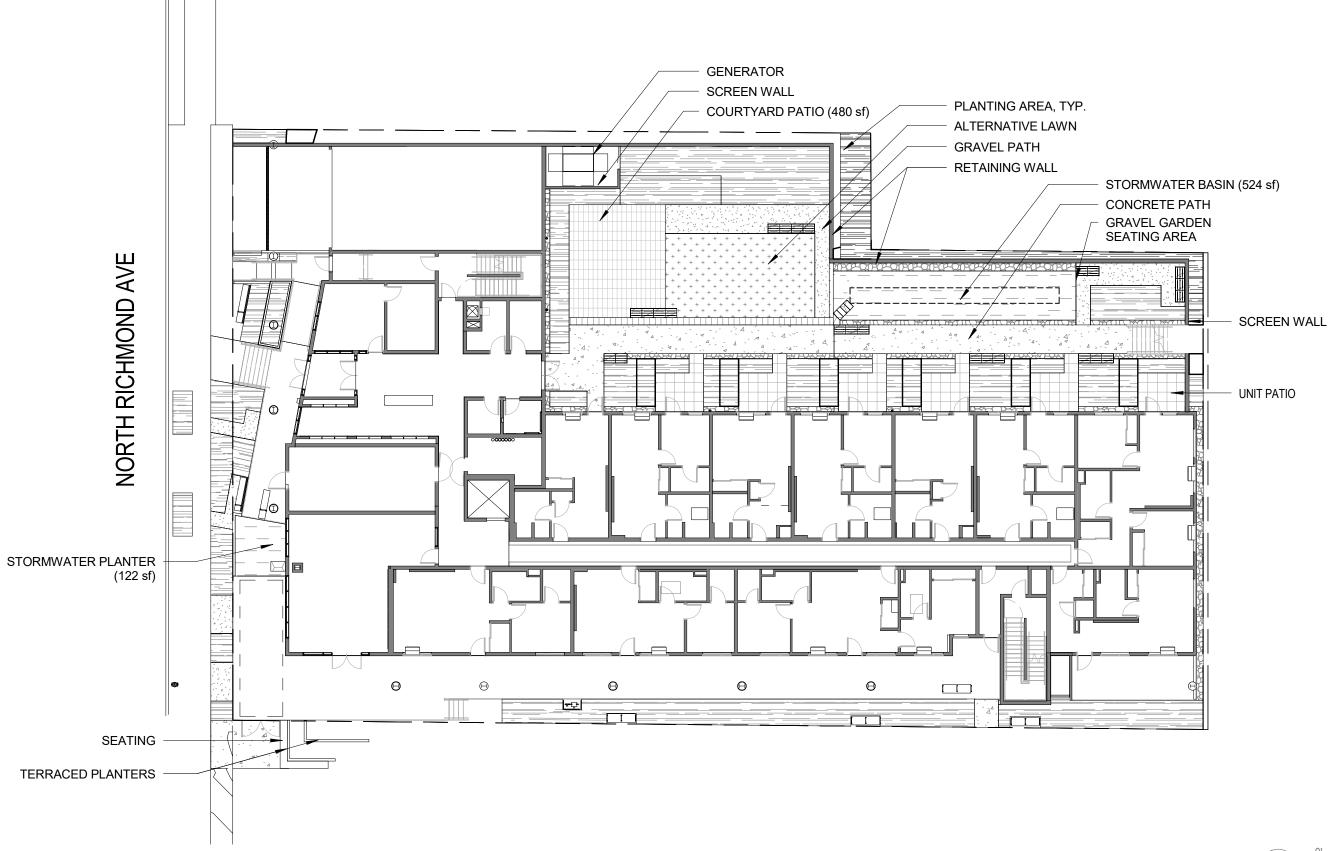
STORMWATER FLOW-THROUGH PLANTER



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ECOROOF

1. AREA CALCULATIONS:

TOTAL ROOF AREA:

ECOROOF AREA: PLANTED ECOROOF: 11,105.49 sf GRAVEL PATHWAYS: 346.11 sf MECHANICAL AREAS: TOTAL ECOROOF: 11,451 sf

ECOROOOF PERCENTAGES: % NON-VEGETATED: 3% % TOTAL ROOF COVERAGE: 80.6%

BASIS OF DESIGN: COLUMBIA GREEN TECHNOLOGIES: EXTENSIVE GROWING MEDIA 2.

14,200 sf

ECOROOF GROWING MEDIA SHALL CONTAIN A 70-85% VOLUME OF EXPANDED 3. MEDIA, 8-12% VOLUME OF COMPOST, AND 15-35% VOLUME OF ORGANIC MATTER.

4. ECOROOF GROWING MEDIA SHALL MEET A MAXIMUM MEDIA DENSITY PER ASTM E 2399, 80 lb/cu ft

5. ECOROOF MAXIMUM MEDIA WATER RETENTION SHALL CONFORM TO ASTM E 2399, 35% TO 65% BY VOLUME

6. ECOROOF ASSEMBLY WILL HAVE A MAXIMUM WEIGHT OF 32 lbs./cu. ft INCLUDING SATURATED GROWING MEDIUM AND PLANTS.

LEGEND - ECOROOF

SYMBOL

"ALL SEASONS" SEDUM PLANT MIX BY COLUMBIA GREEN TECHNOLOGIES. ECOROOF TRAY SYSTEM W/ PREGROWN TILES

BOTANICAL NAME

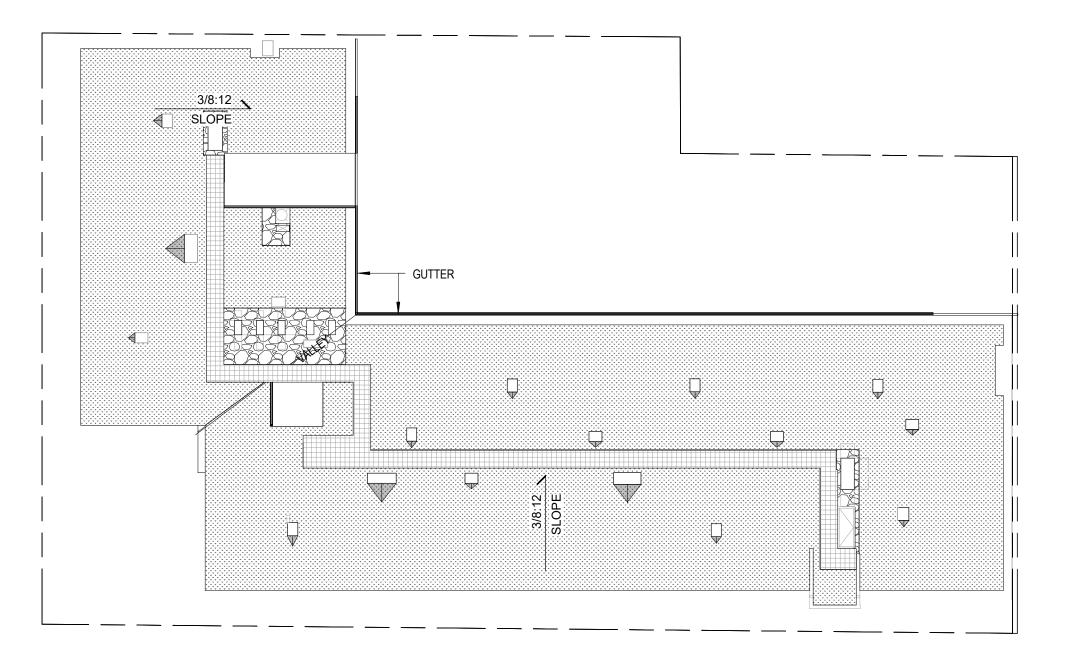
COMMON NAME

SEDUM ALBUM 'CORAL CARPET' SEDUM DISPANICUM 'IMMERGRUNCHEN' SEDUM FLORIFERUM SEDUM MIDDENDORFFIANUM DIFFUSUM SEDUM REFLEXUM 'GREEN SPRUCE' SEDUM SPURIUM 'COCCINEUM' SEDUM SPURIUM 'FULDAALUT' SEDUM SPURIUM 'JOHN CREECH' SEDUM SPURIUM 'ROSEUM' SEDUM STEFCO SEDUM TAKESIMENSIS 'GOLDEN CARPET' SEDUM TETRACTINUM 'CORAL REEF'

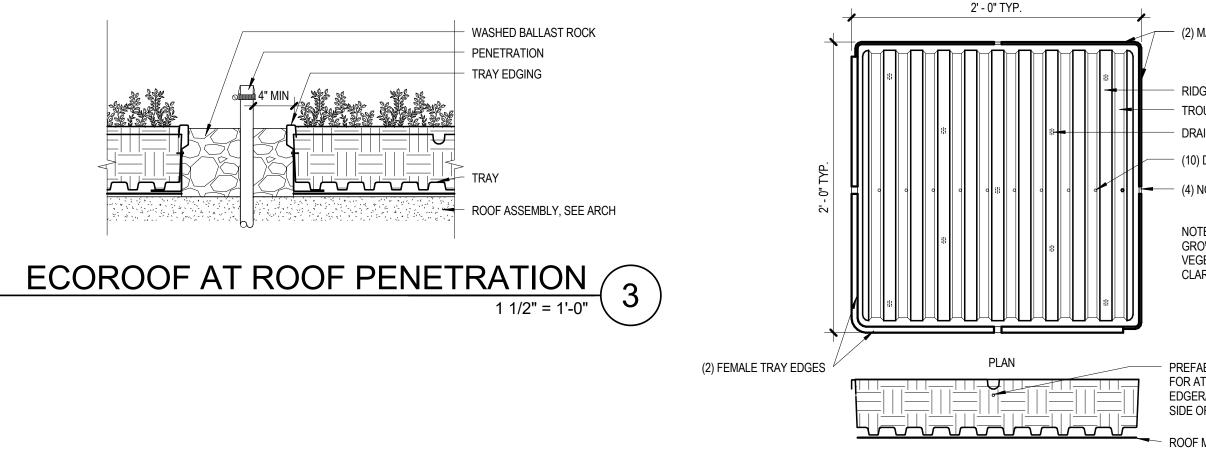
WHITE STONECROP SPANISH STONECROP ORANGE STONECROP CHINESE MOUNTAIN STONECROP SPRUCE STONECROP RED CAUCASIAN STONECROP CAUCASIAN STONECROP JON CREECH CAUCASIAN STONECROP RESEUM CAUCASIAN STONECROP STEFANOV STONECROP GOLDEN CARPTE SEDUM FISH SCALE SEDUM



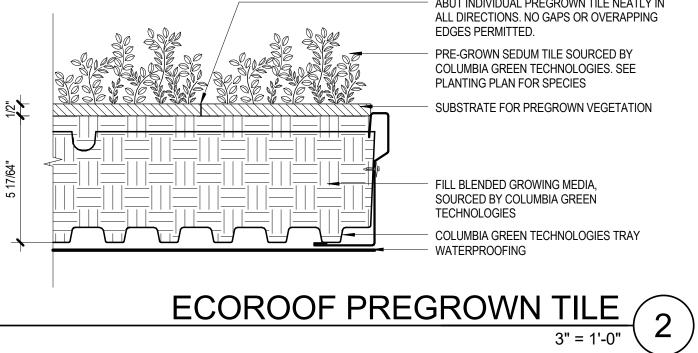
WASHED BALLAST MAINTENANCE PATH







SECTION/ELEVATION



(2) MALE EDGES OF TRAY

RIDGE ABOVE, TYP.

TROUGH FOR STORMWATER DETENTION, TYP. DRAINAGE HOLES FOR CONSISTENT WATER METERING

(10) DRAINAGE HOLES AT BOTTOM OF EACH TROUGH

(4) NOTCHES TO RECEIVE IRRIGATION LINE, ONE EACH SIDE

NOTE: GROWING MEDIA, IRRIGATION, AND VEGETATION NOT SHOWN FOR GRAPHIC CLARITY.

PREFABRICATED HOLE TO RECEIVE PIN FOR ATTACHING TRAYS AND EDGER/FLASHING. HOLES ARE ON EACH SIDE OF TRAY

ROOF MEMBRANE, SEE ARCH

NOTE: THIS SYSTEM IS DESIGNED FOR ROOF PITCHES UP TO 2:12.



ABUT INDIVIDUAL PREGROWN TILE NEATLY IN

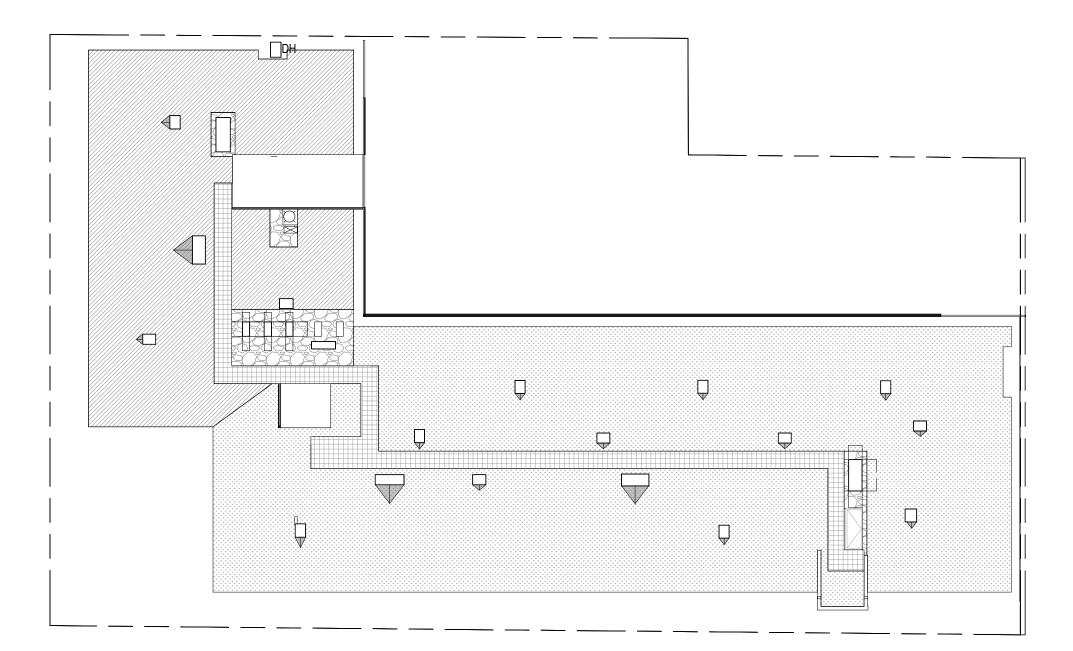
IRRIGATION EQUIPMENT

SYMBOL	COMPONENT	DETAIL
\odot	QUICK COUPLER, LOCATION TBD	2 / C22
С	SMART CONTROLLER, LOCATION TBD	
P.O.C.	POINT OF CONNECTION, LOCATION TBD	
	REMOTE CONTROL VALVE, LOCATION TBD	1 / C22

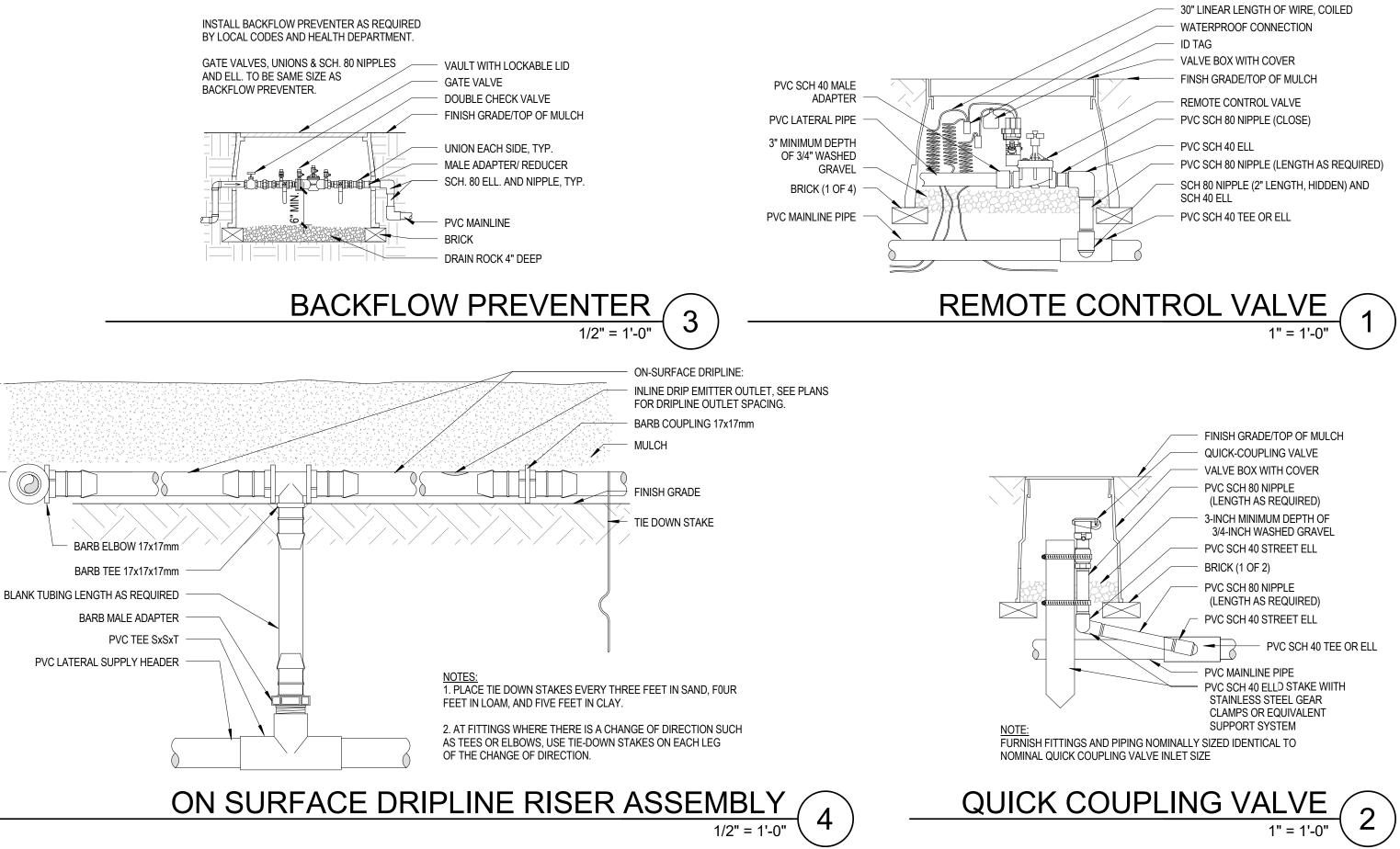
IRRIGATION SCHEDULE

IN-LINE DRIP TUBING

SPRAY IRRIGATION







2

Z

IRRIGATION EQUIPMENT

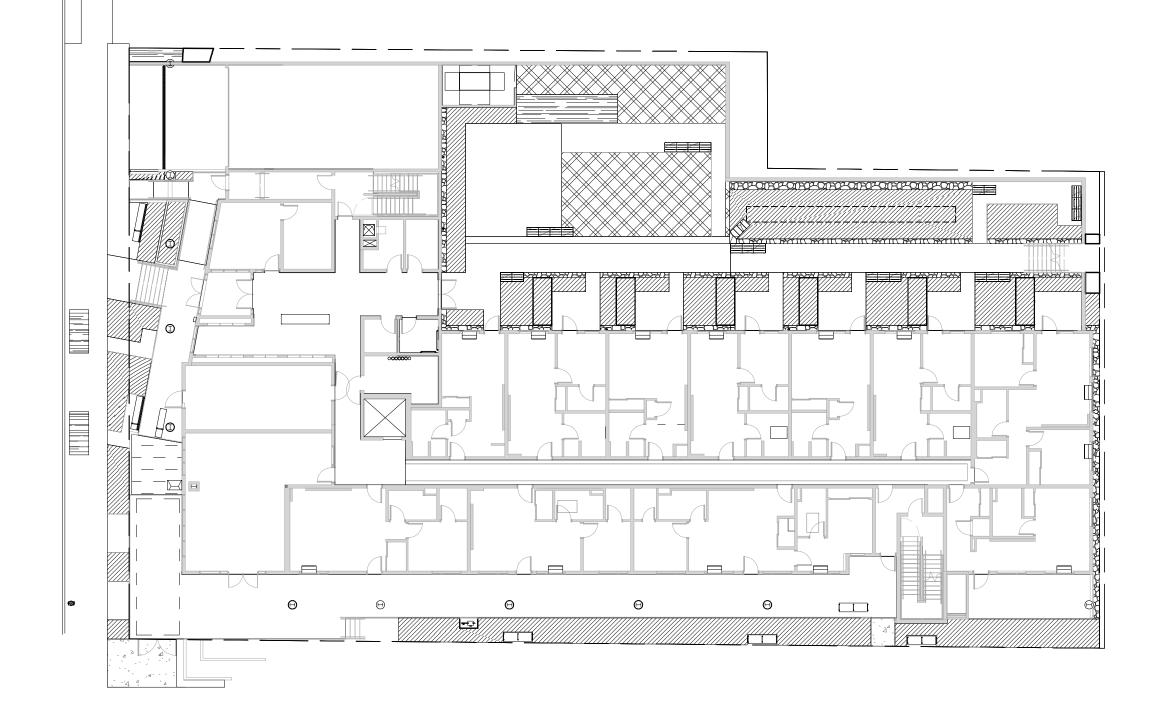
SYMBOL	COMPONENT	DETAIL
Ο	QUICK COUPLER, LOCATION TBD	2 / C22
С	SMART CONTROLLER, LOCATION TBD	
P.O.C.	POINT OF CONNECTION, LOCATION TBD	
	REMOTE CONTROL VALVE, LOCATION TBD	1 / C22

IRRIGATION SCHEDULE



IN-LINE DRIP TUBING

SPRAY IRRIGATION





ECOROOF OPERATIONS + MAINTENANCE PLAN

Ecoroofs are vegetative systems that retain and filter stormwater and provide aesthetic and energy conservation benefits. The Extensive Ecoroof filters stormwater with a plant palette composed primarily of sedum plants. Soil medium, vegetation, irrigation and drains shall be inspected for proper operations throughout the life of the ecoroof. All elements shall be inspected annually. Facilities personnel shall keep a log, recording all inspection dates, observations, and maintenance activities. Work orders and invoices shall be kept on file and made available to City inspector upon request. The following items shall be inspected and maintained as stated:

Soil Substrate / Growing Medium shall sustain healthy plant cover and infiltrate within 48 hours

Growing medium shall be inspected for evidence of erosion from wind, water and settlement. If erosion channels are evident, they shall be stabilized with additional soil substrate/growth medium and covered with additional plants. All depressions as the result of maintenance foot traffic activity, settlement, etc. shall be filled flush with adjacent medium. Plant mortality as a result of foot traffic shall be replaced immediately. Bare soil shall be planted per the planting design. Soil shall drain within 48 hours.

Ecoroof System shall be operated and maintained in accordance with manufacturer's requirements. Drain inlets shall be kept unrestricted

- Inlet pipe shall be cleared when soil substrate, vegetation, debris, litter or other materials clog the drain inlet. Sources of sediment and debris shall be identified and corrected.
- Determine if drain inlet pipe is in good condition and correct as needed. .
- Contact membrane manufacturer if tears or perforations are found in the membrane. •

Vegetation shall be maintained to provide 95% plant cover.

- During the Establishment Period, dead or damaged plants shall be replaced by contractor once per month as needed until expiration of warranty after which the Owner or building facilities shall be responsible for maintenance. During the Long-Term Period, dead plants shall generally be replaced once per year in the fall months.
- Fallen leaves and debris from deciduous plant foliage shall be removed. .
- Nuisance and prohibited vegetation from the Portland Plant List shall be removed when discovered.
- Weeding shall be manual with no herbicides or pesticides used. Weeds shall be removed regularly and not allowed to accumulate.

Irrigation of Extensive Ecoroof

- During the Establishment Period (2 years), the irrigation timer shall be set to assure plant establishment at a rate of .25 inch every 14th day during the months of June and September (warm periods) and .25 inch every seventh day during July and August (hot dry periods).
- During Long-Term Period (after 2 full years), water at a rate of .25 inch every 14th day during the months of July and . August to maintain plant cover. Irrigation at the same rate may be used during the months of May, June, September, and October only as needed. No irrigation is allowed from the beginning of November through the end of April.
- Irrigation watering times shall be modified as needed to accommodate fluctuations in dry and wet periods with the exception that at no time shall the irrigation exceed .5 inches per ten days. Accurate monitoring and assessment of temperature and rainfall shall dictate schedule and watering lengths. Automatic rain shut off valves are to be inspected and any debris removed during irrigation regime.

Spill prevention measures from mechanical systems located on roof shall be exercised when handling substances that can contaminate stormwater

- Release if pollutants shall be corrected as soon as identified.

Training and/or written guidance information

surface.

Access and Safety to the Ecoroof

maintaining perimeter areas that pose a safety concern.

Aesthetics of the Ecoroof shall be maintained as an asset to the property owner and community Evidence of damage or vandalism shall be repaired and accumulation of trash debris shall be removed upon

discovery.

Insects shall not be harbored at the Ecoroof

- . means. Chemical sprays shall not be used.
- . insect or rodent activity abated or ended.

Annual Maintenance Schedule:

Summer: Make necessary repairs. Improve growing medium as needed. Clear drains. Irrigate as described above.

Fall: Replace exposed soil and dead plants. Remove sediment and debris from drains. Provide erosion controls for base soil if necessary.

Winter: Monitor infiltration/flow rates. Clear drains as needed. Spring: Replant exposed soil and dead plants. Remove sediment and debris from drains. All Seasons: Weed as necessary.

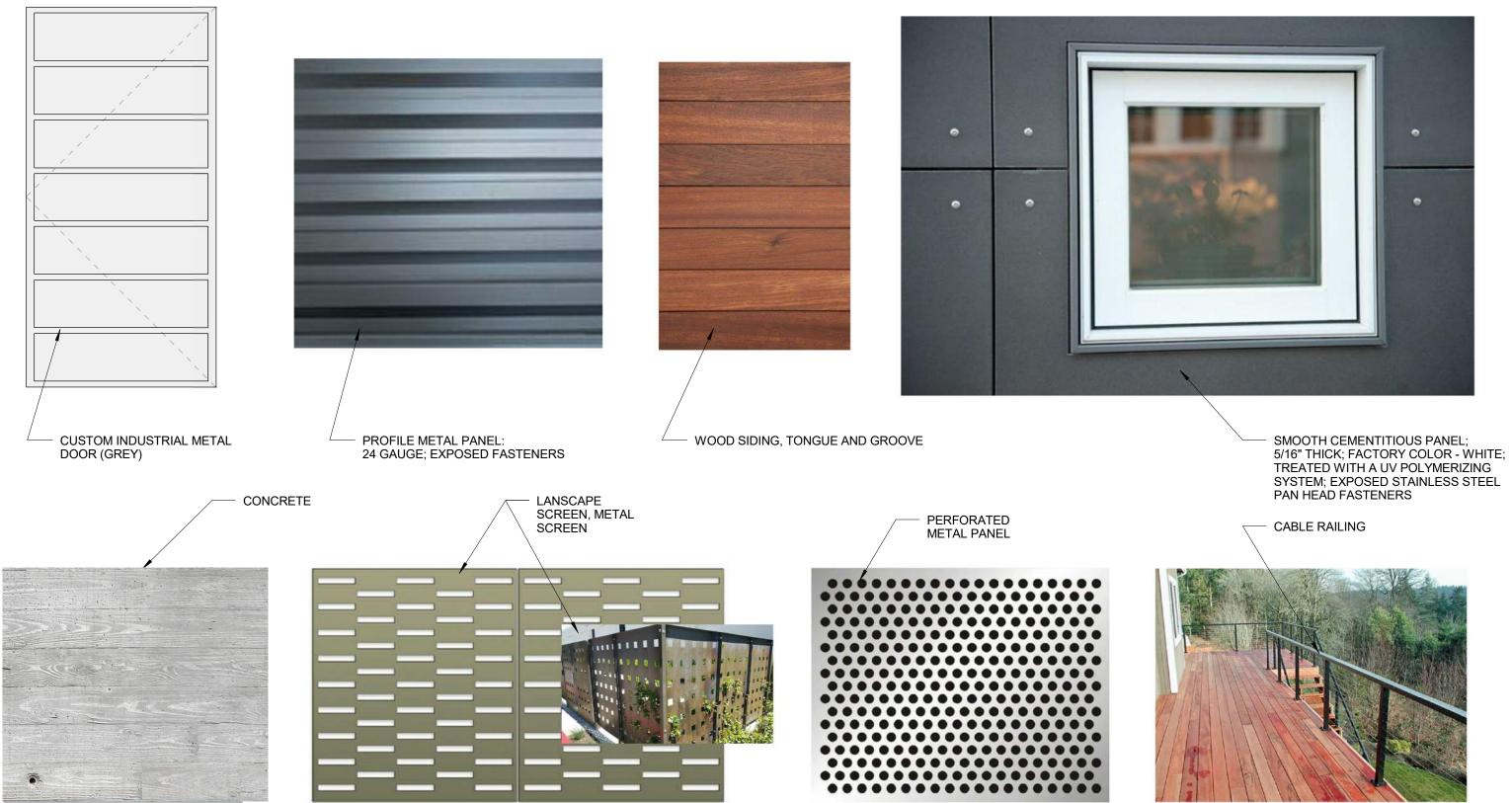
Best management practices shall be implemented to prevent hazardous wastes from contaminating stormwater. Record time, date, weather and site conditions when site activities contaminate stormwater.

A copy of O&M Plan for maintaining Ecoroofs shall be provided to the Owner's maintenance personnel for reference. Building facilities / maintenance personnel shall receive instruction as to needs and regular schedules for properly maintaining the health and vigor of the ecoroof plantings and associated drainage

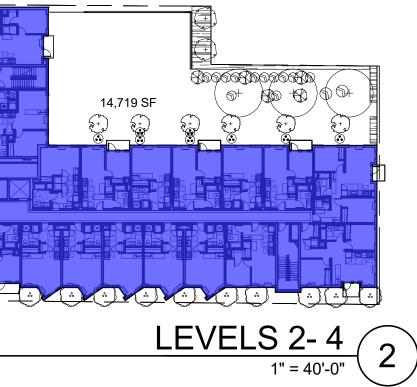
No tenant circulation or egress routes are proposed or allowed on extensive ecoroof areas. Maintenance personnel shall access roof via utility access points and tie into safety points as needed when inspecting or

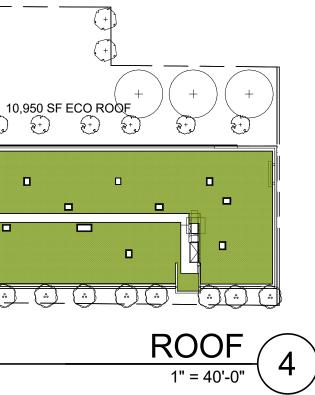
Standing water creating an environment for development of insect larvae shall be eliminated by manual

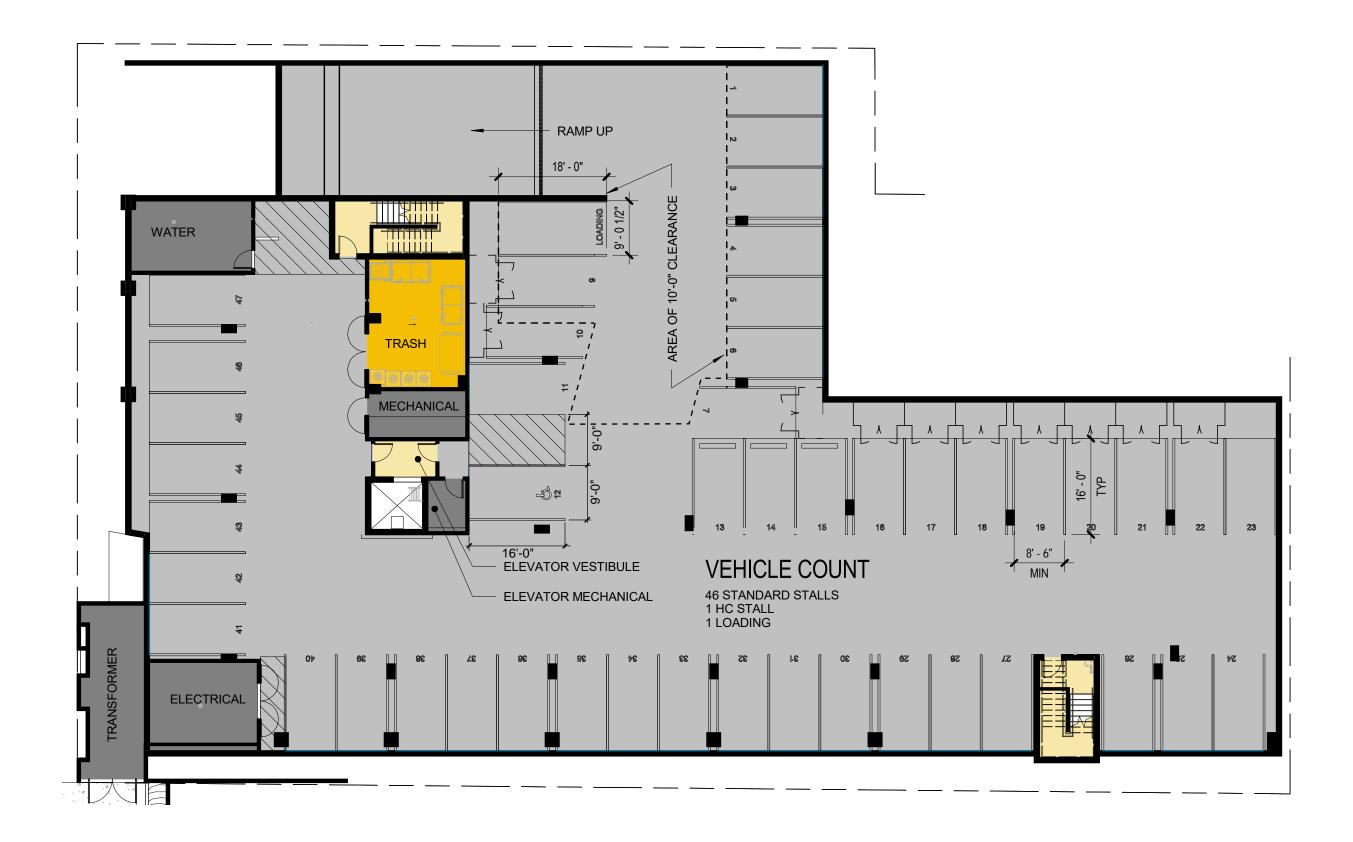
Record time, date, weather, and site conditions when insect or rodent activity is observed. Record when



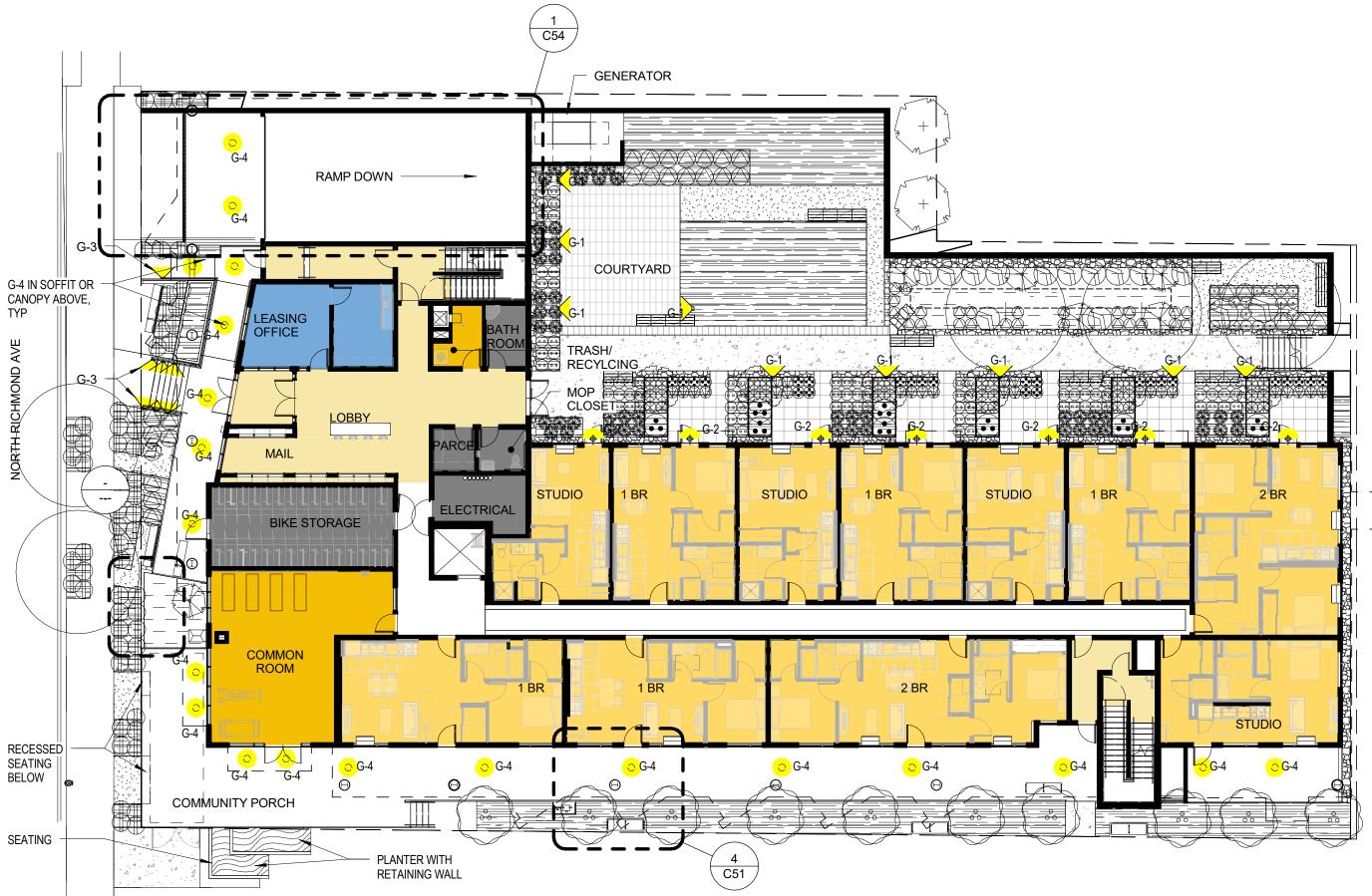
















G-2 WALL SCONCE





G-4 RECESSED DOWNLIGHT

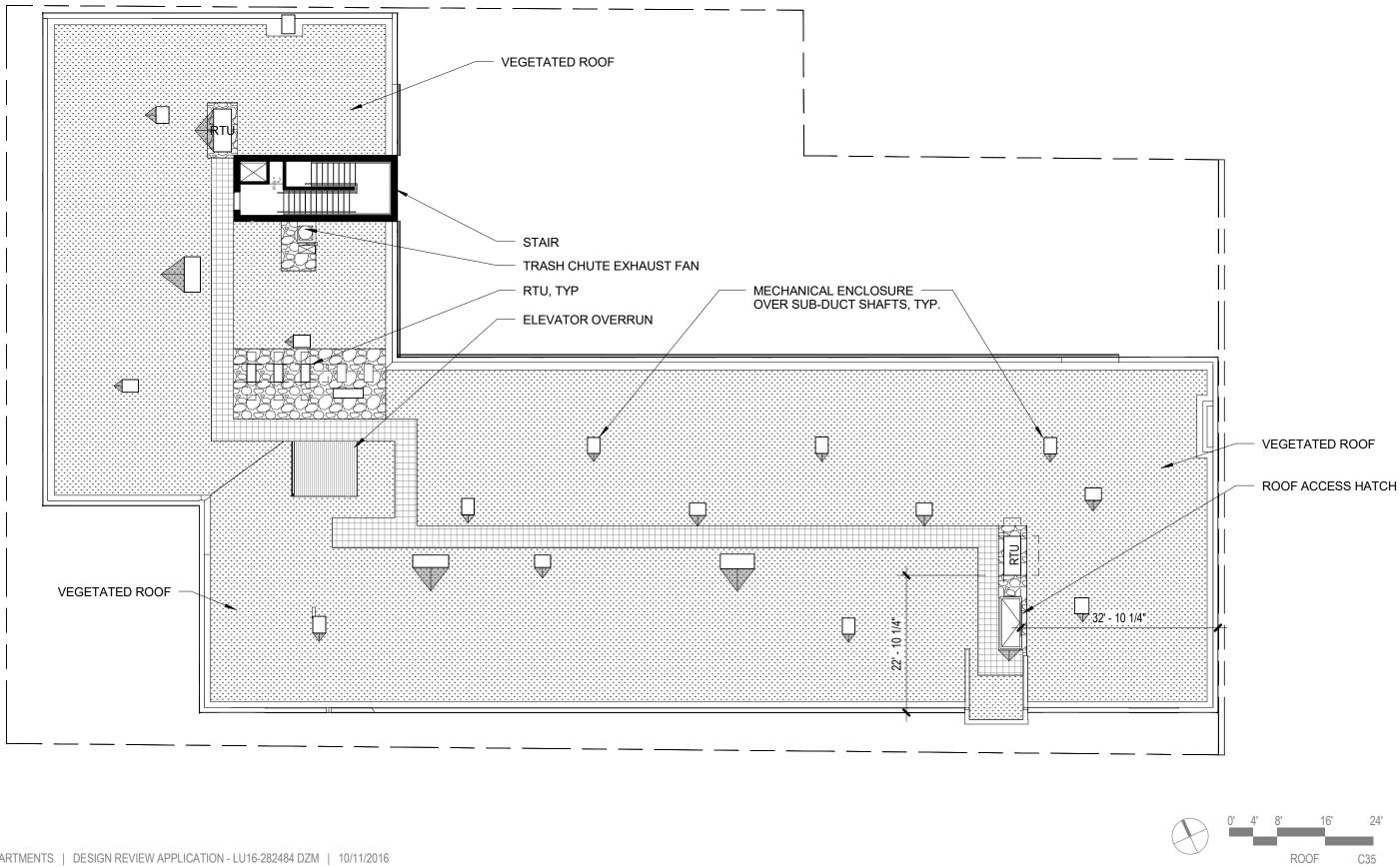


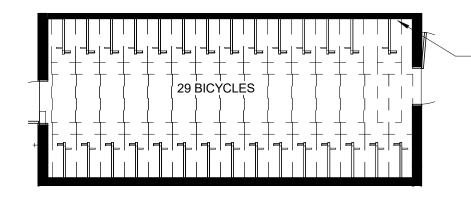












BICYCLE PARKING - LEVEL 1

LONG TERM BICYCLE PARKING REQUIREMENT

RESIDENTIAL : 1.1 SPACES PER UNIT XX UNITS X 1.1 = XXX SPACES REQUIRED 96 UNITS X 1.1 = 106 REQUIRED IN PROJECT **10 ADDITIONAL FOR PARKING OFFSET** 124 PROVIDED





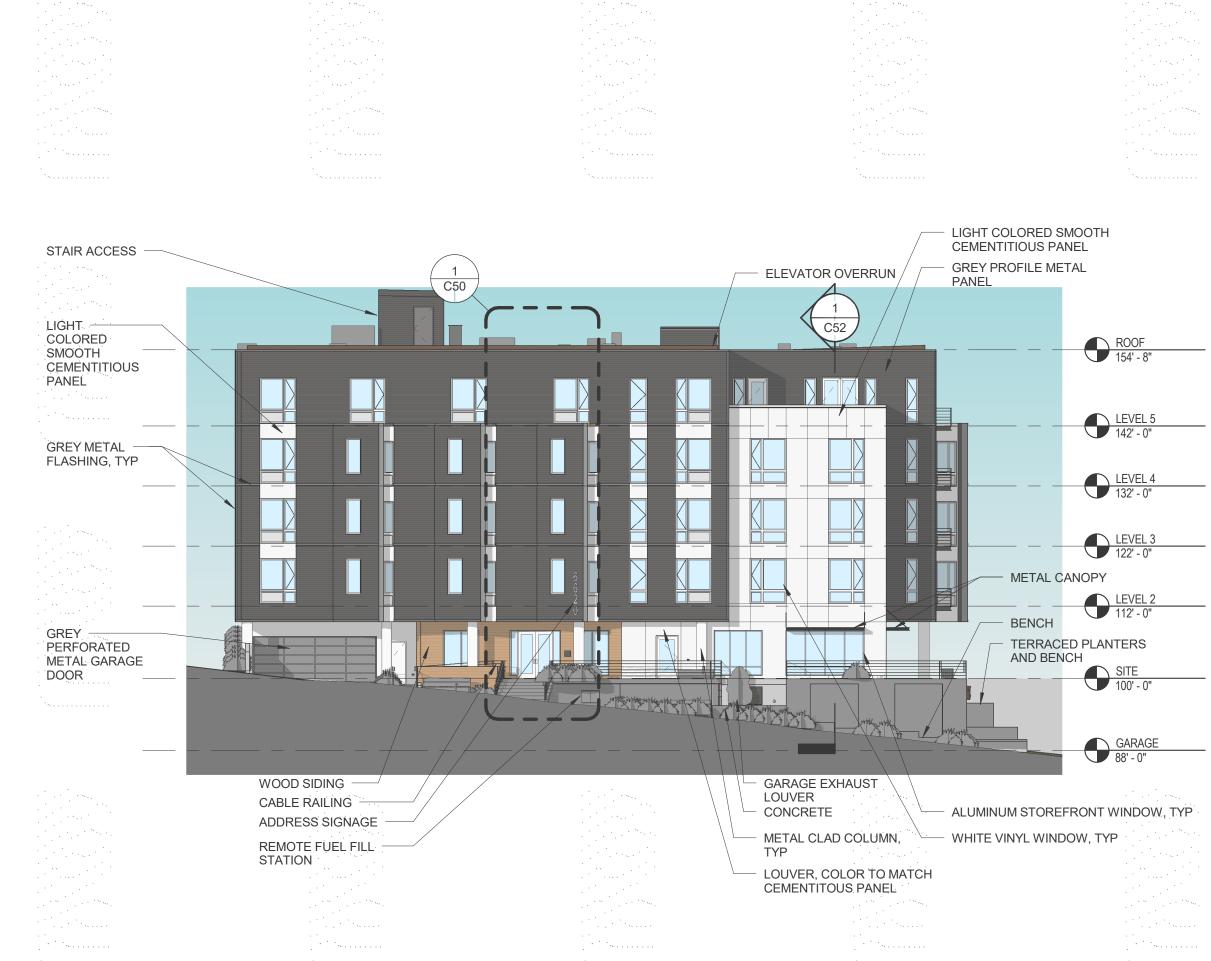
VERTICAL HOOK RACKS



1 1/8" = 1'-0"

WALL MOUNT RACK, TYP





SERA NORTH RICHMOND APARTMENTS | DESIGN REVIEW APPLICATION - LU16-282484 DZM | 10/11/2016

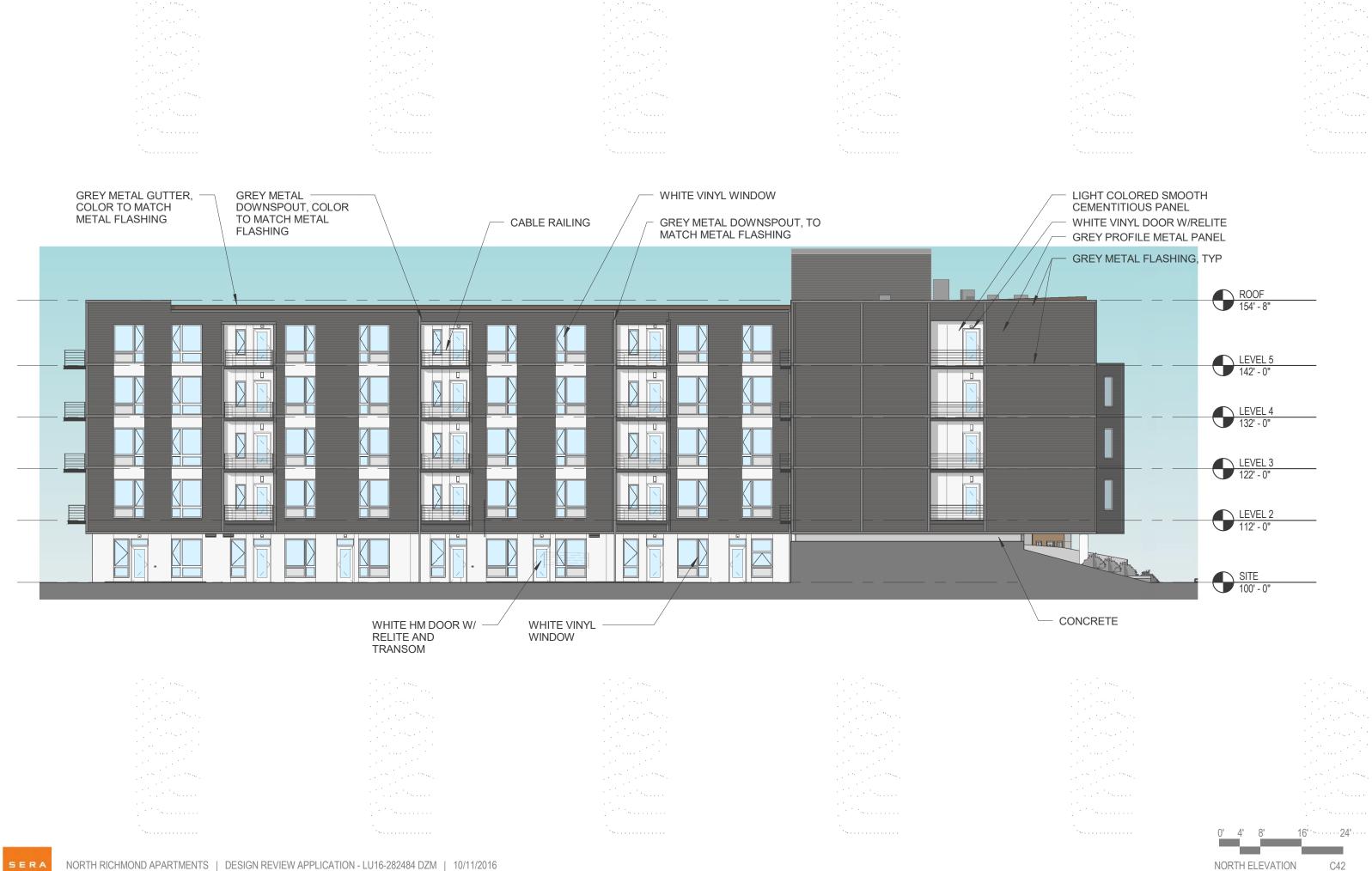






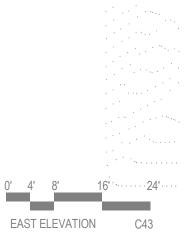
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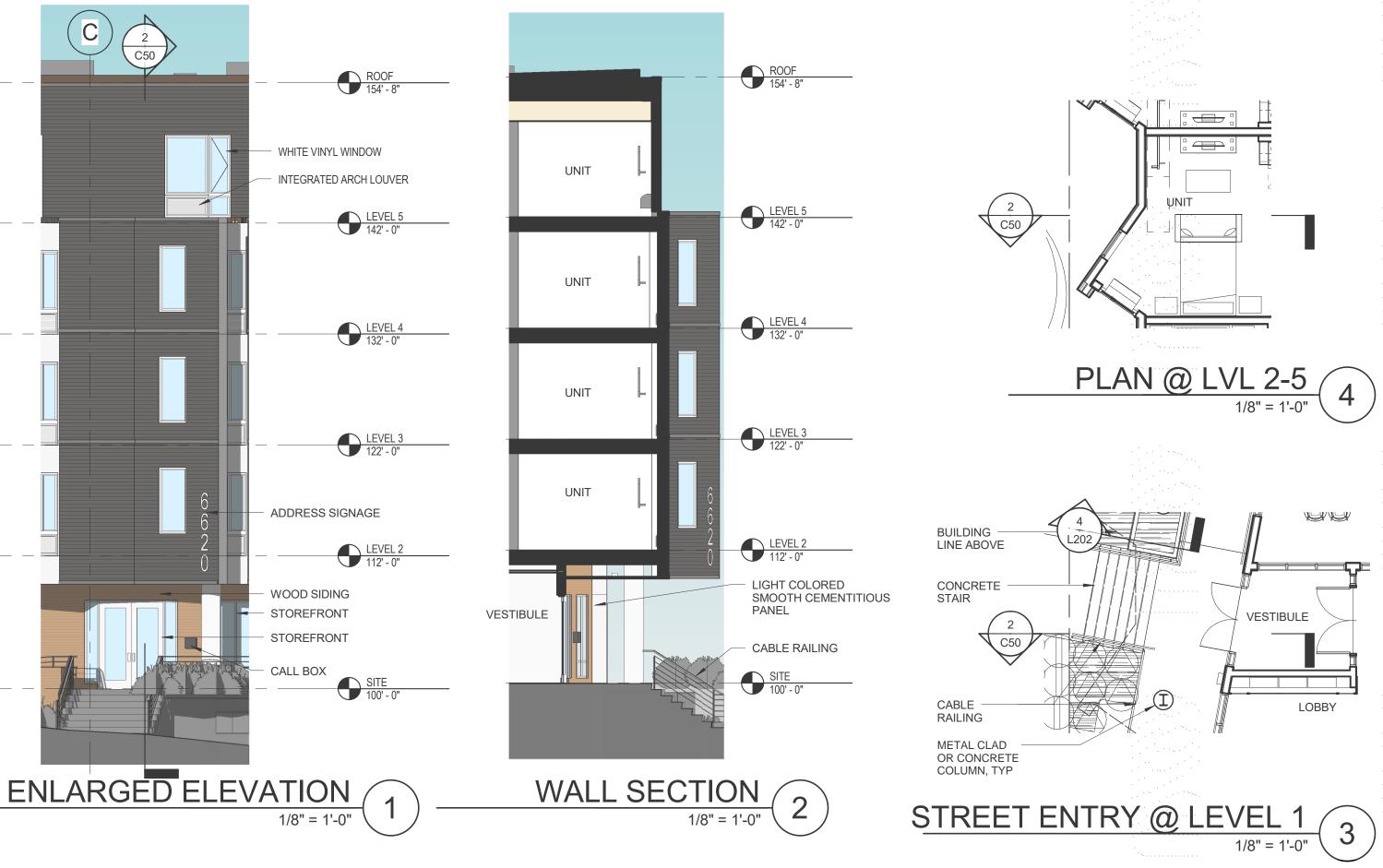








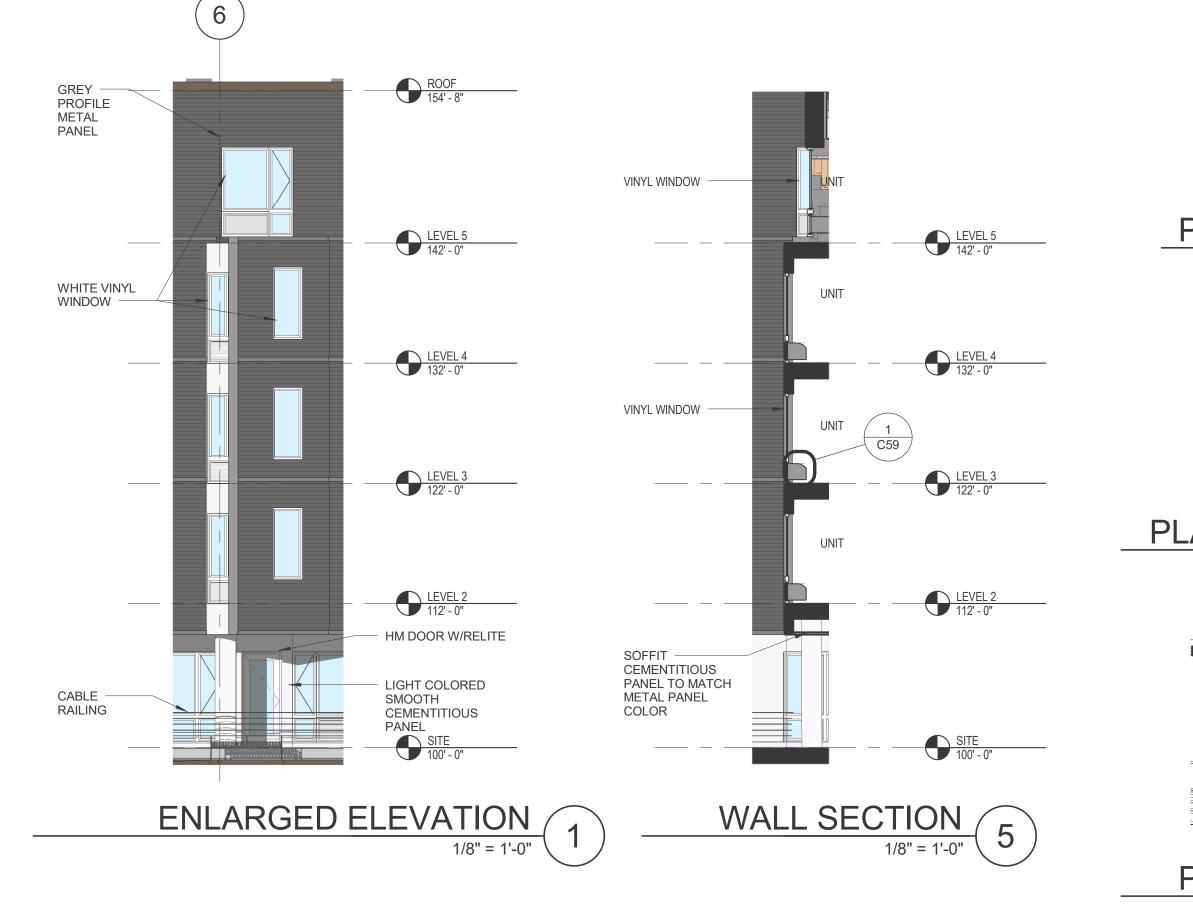
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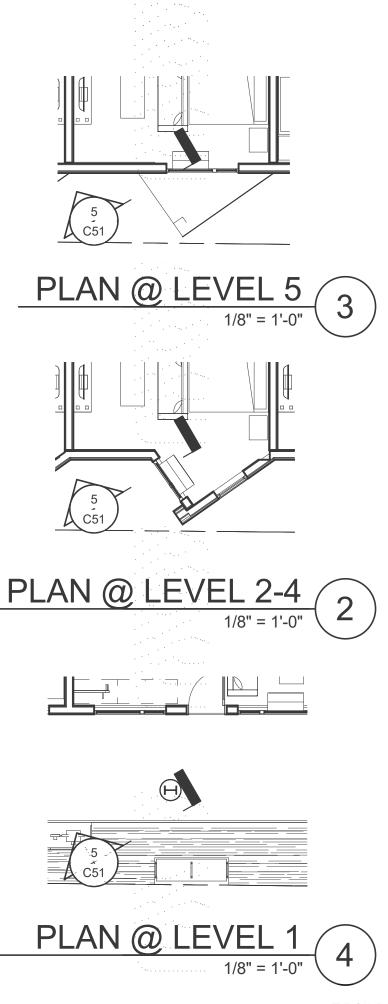


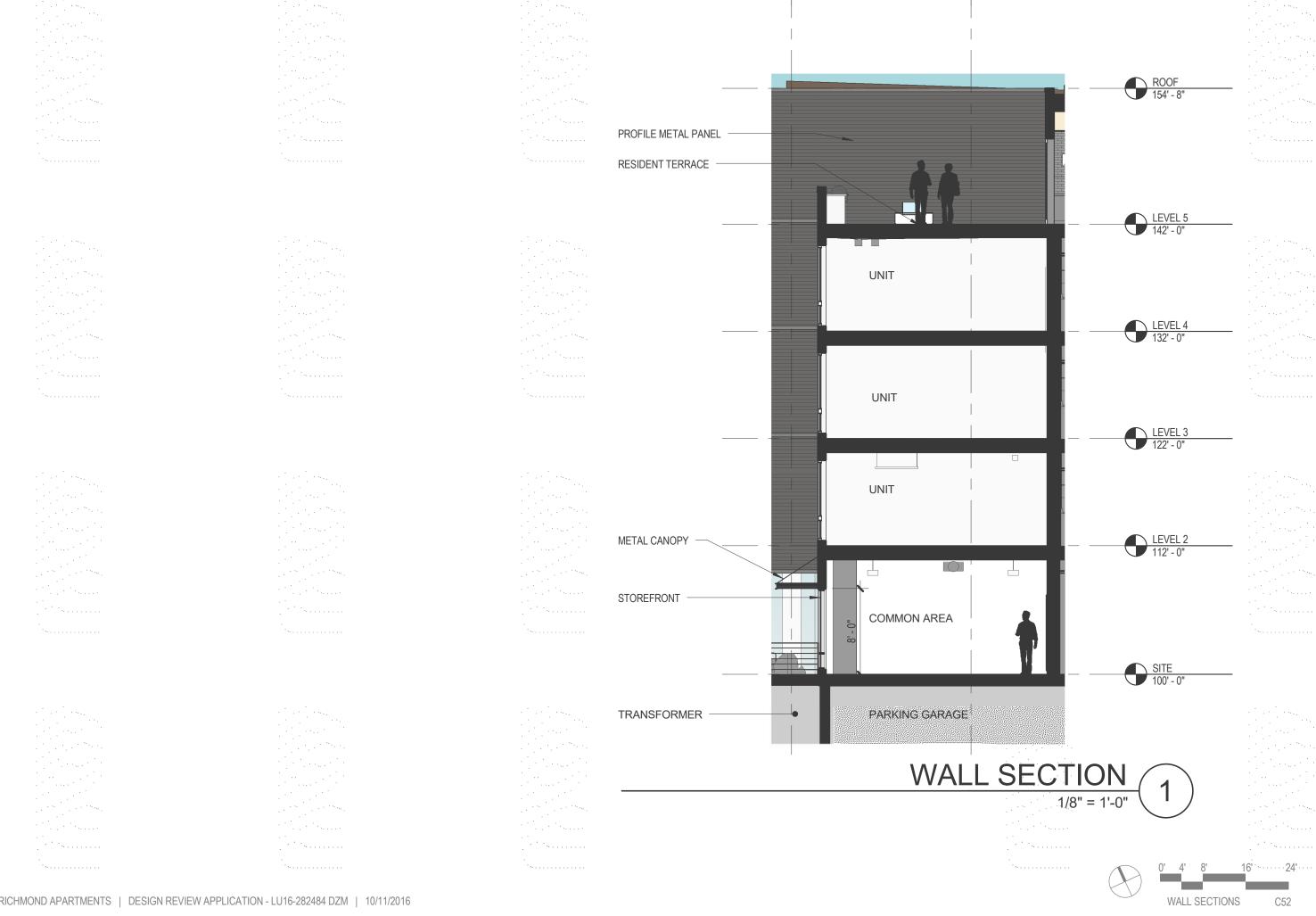


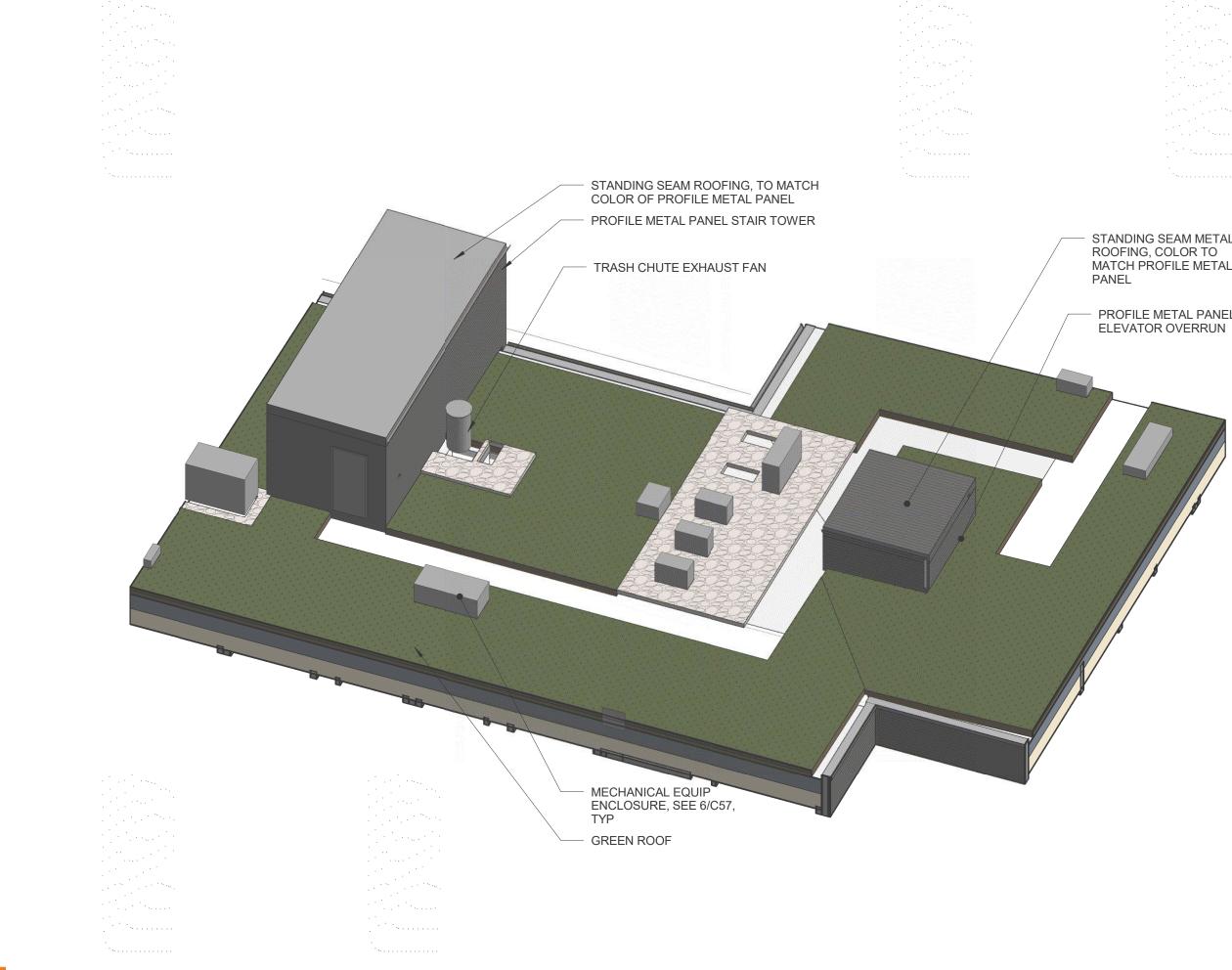
C50













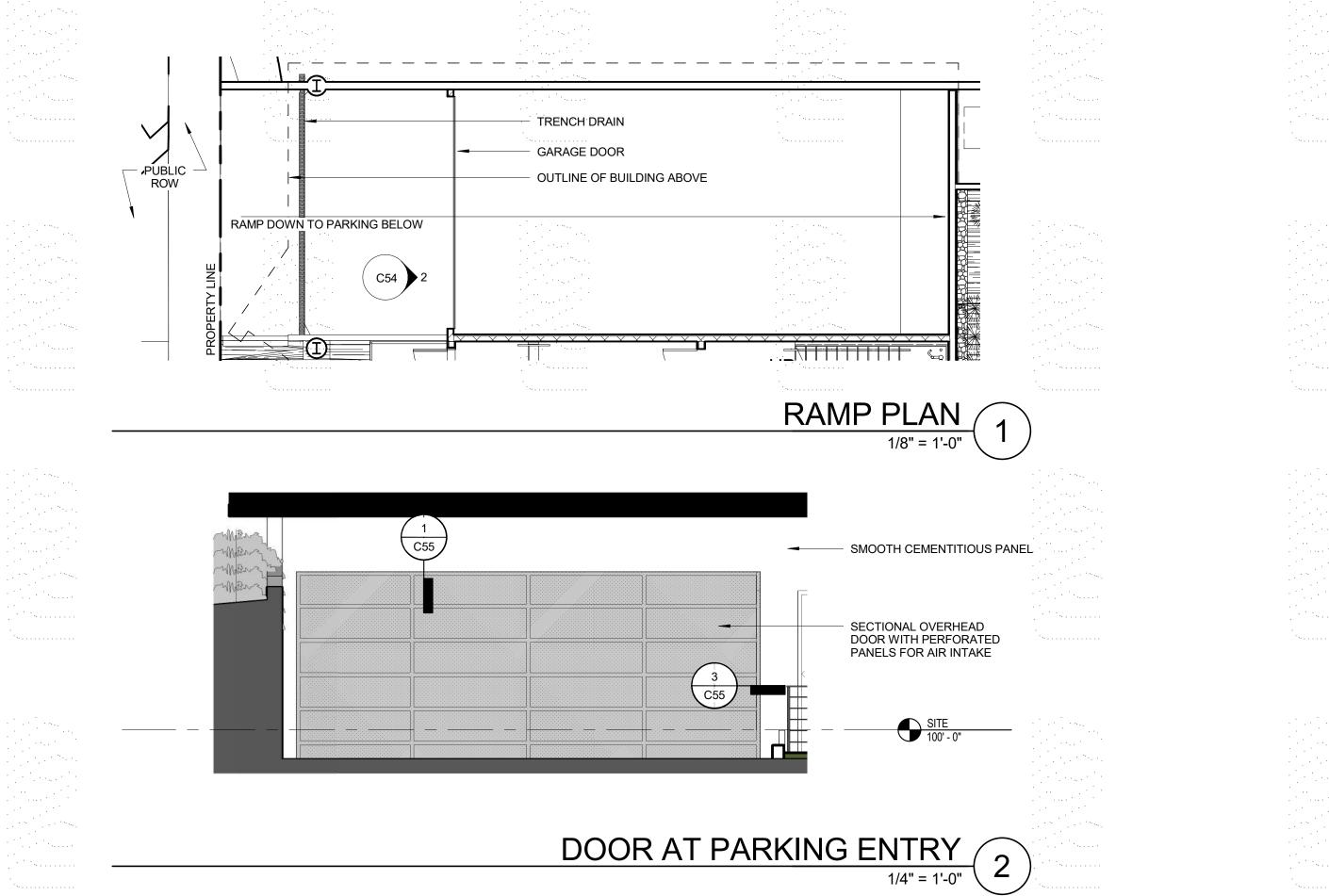
- STANDING SEAM METAL MATCH PROFILE METAL
- PROFILE METAL PANEL

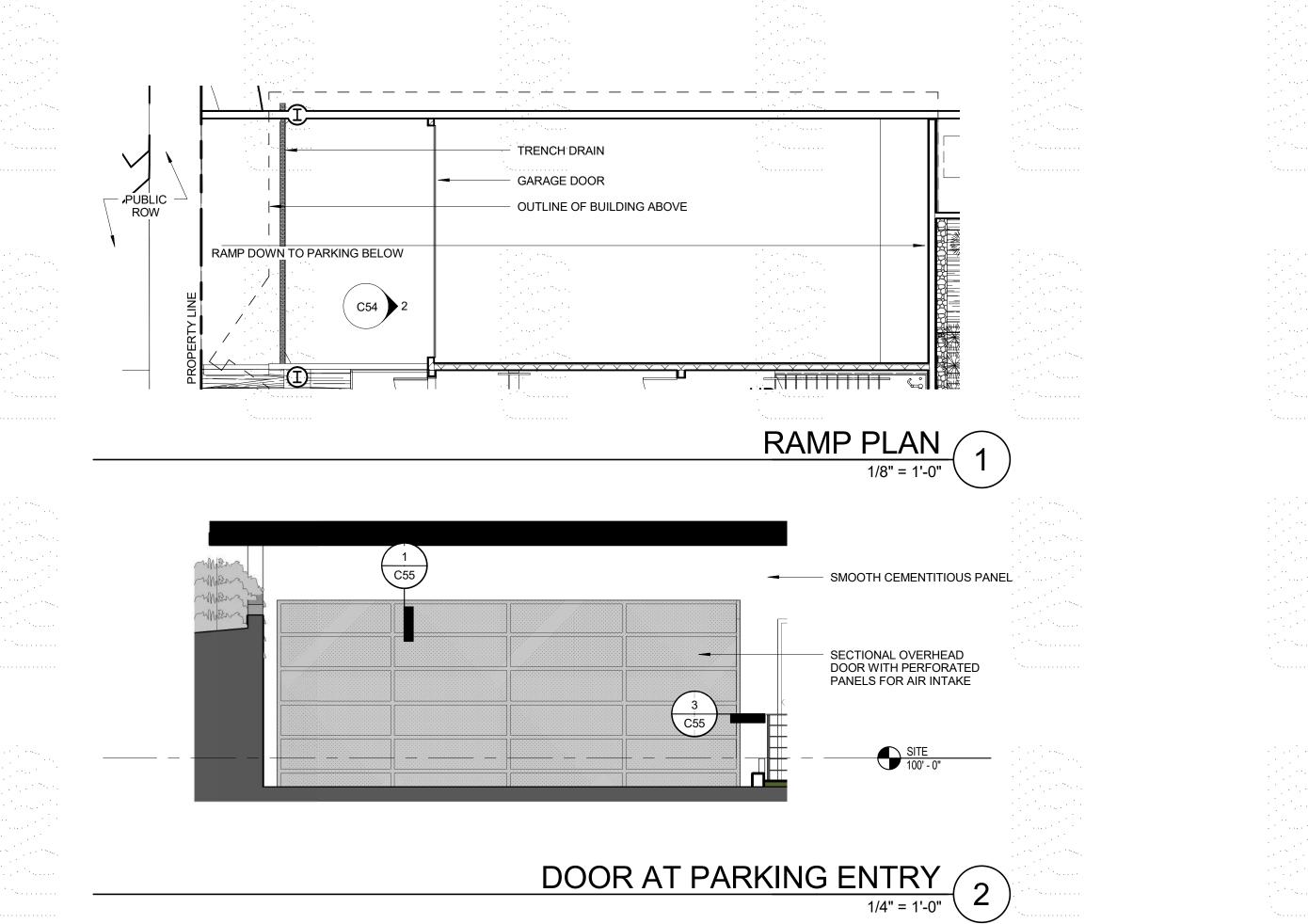


PROFILE METAL PANEL

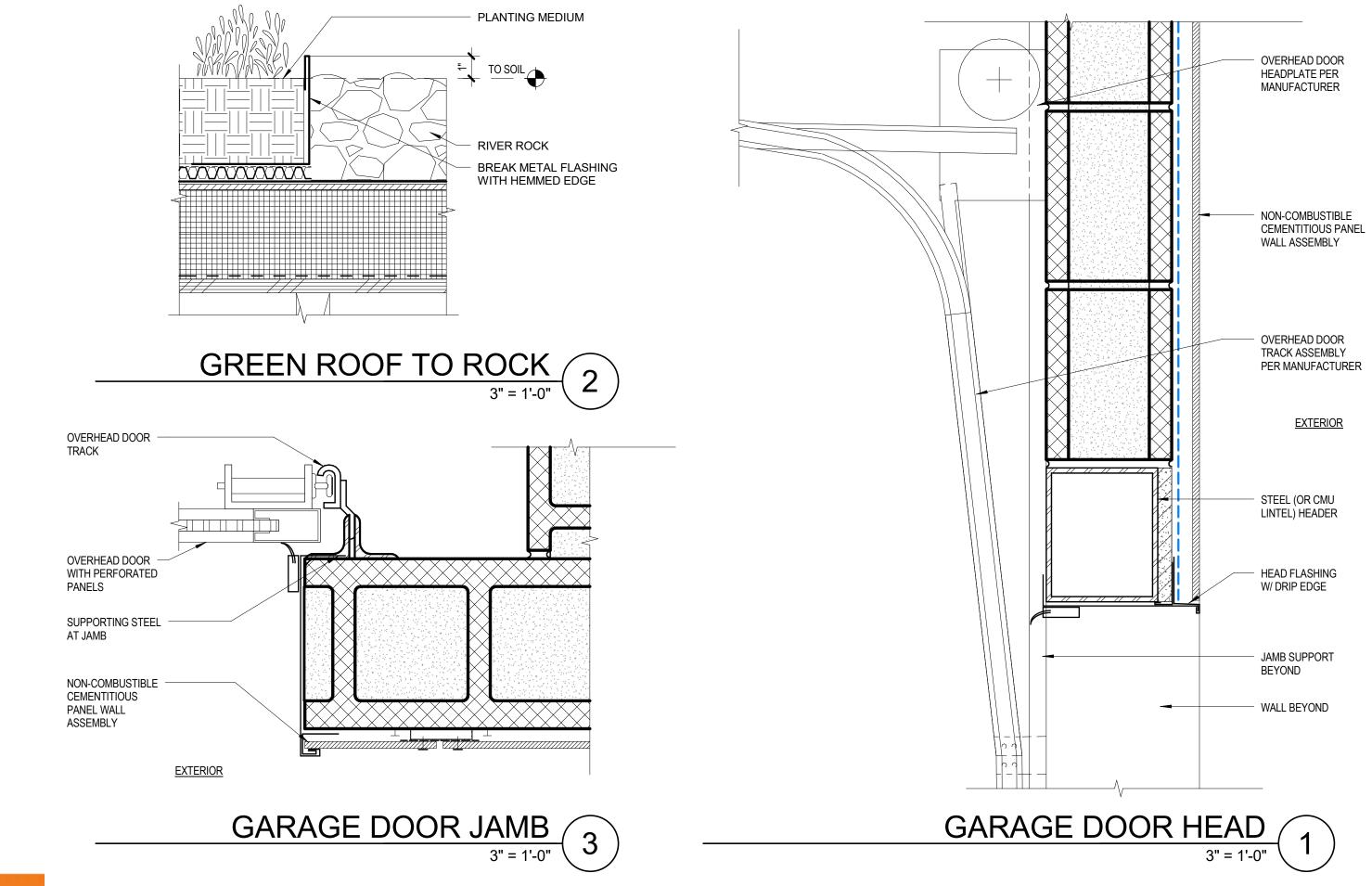


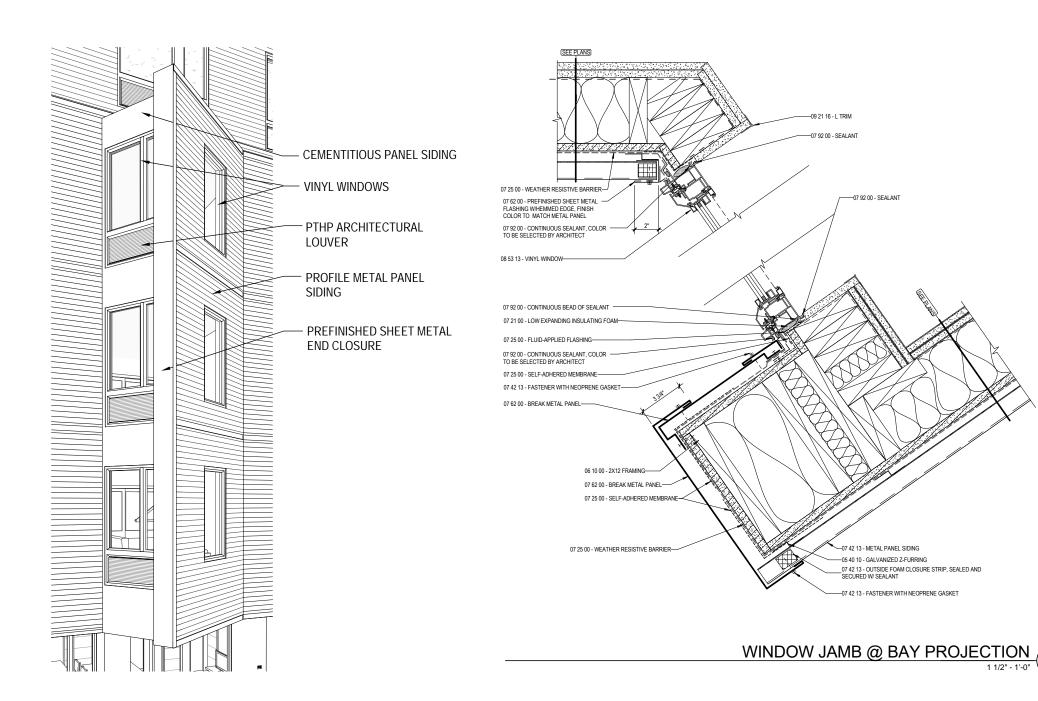
STANDING SEAM METAL ROOFING



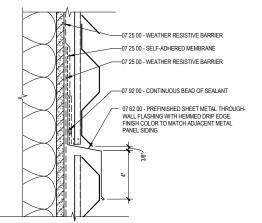


C54

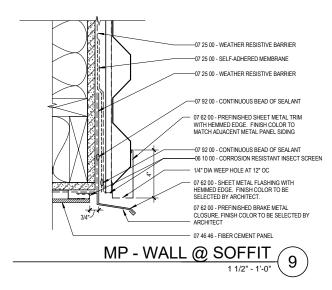


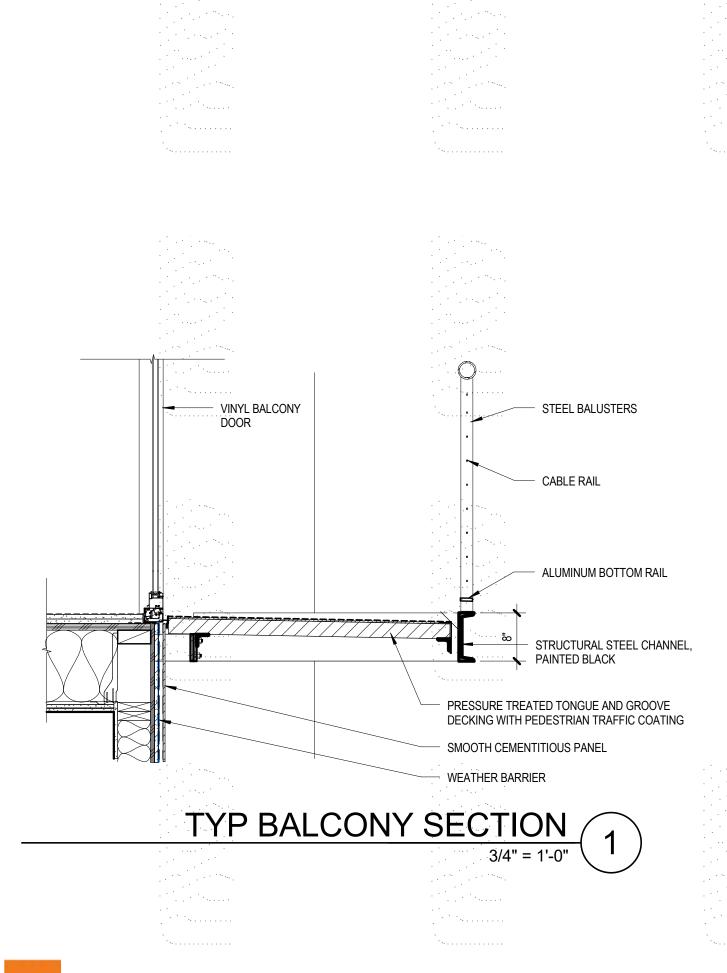


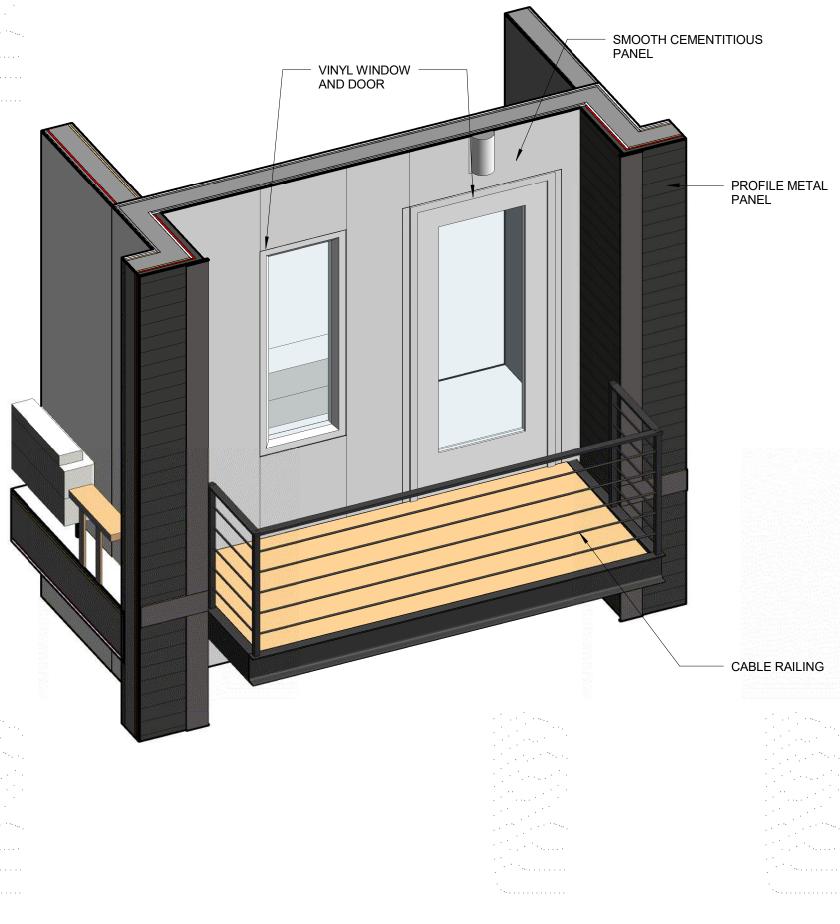
(1)

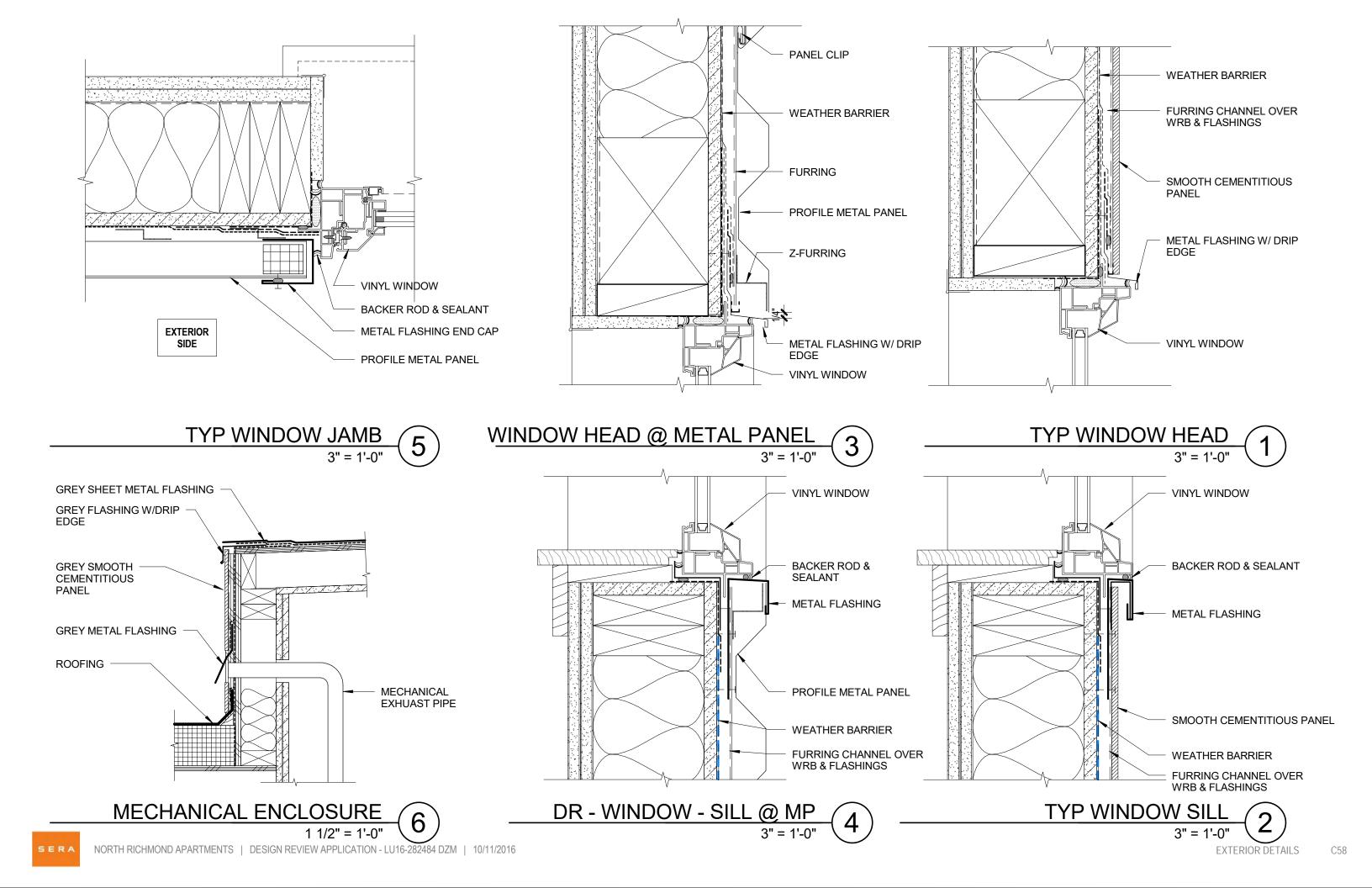


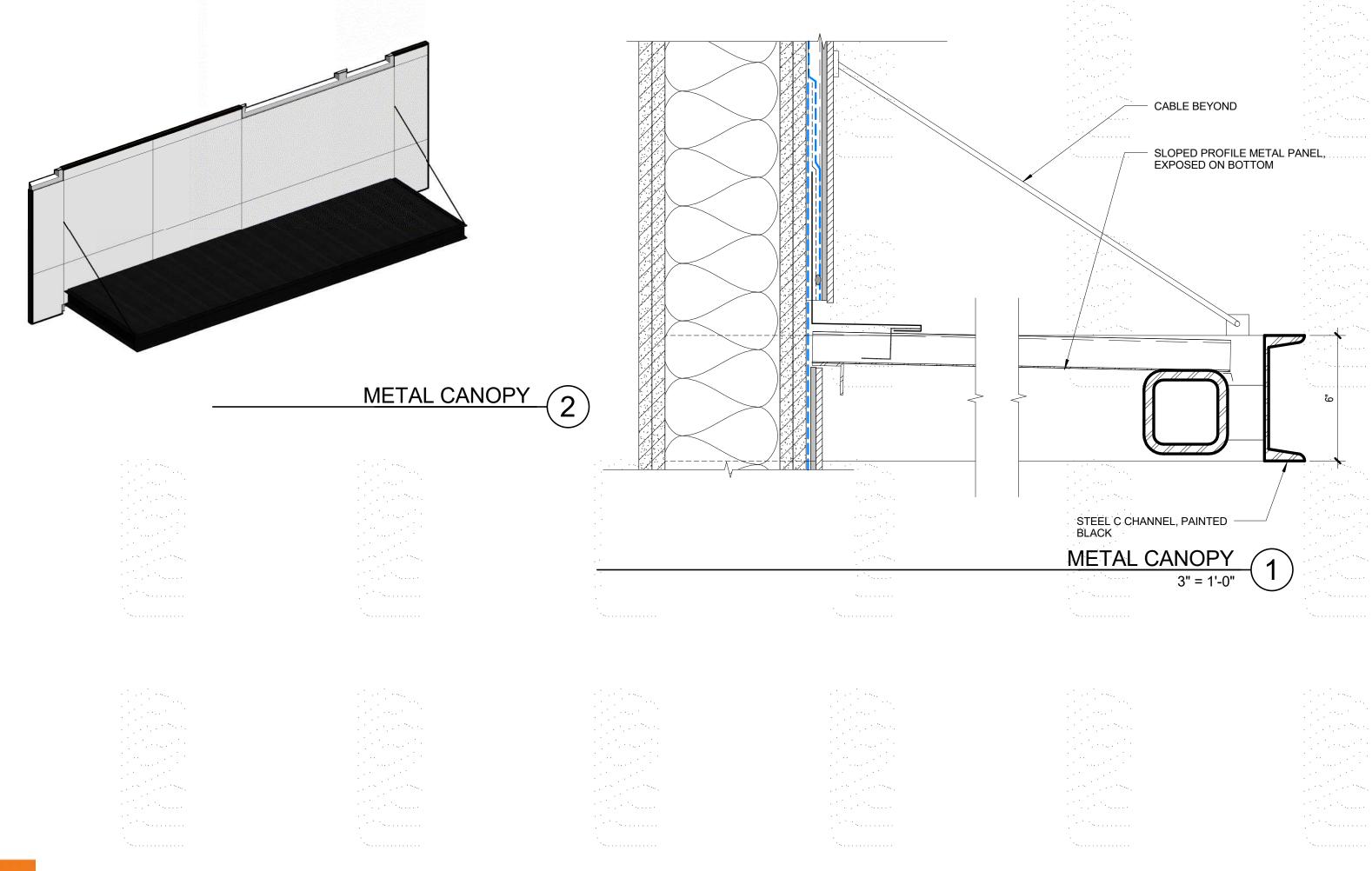






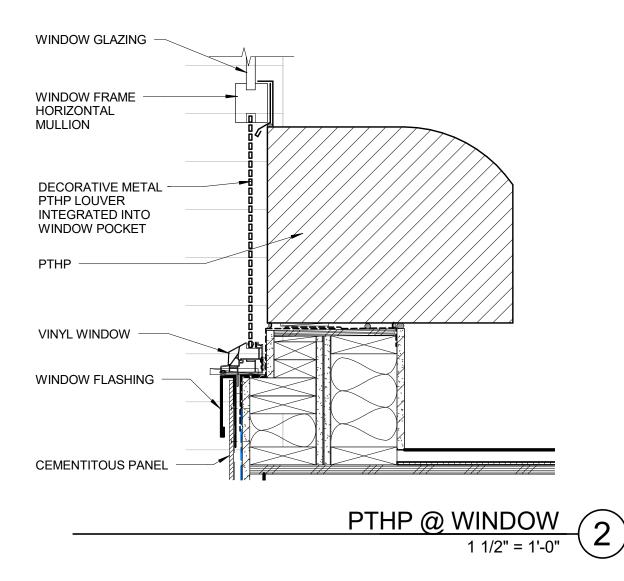


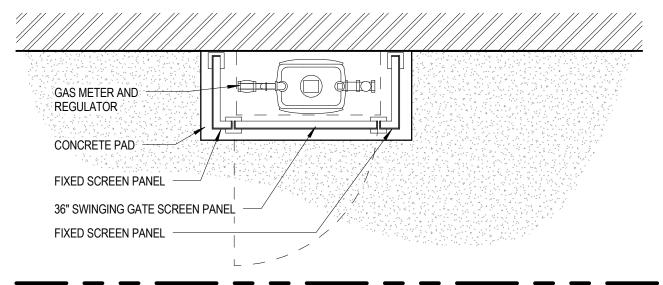




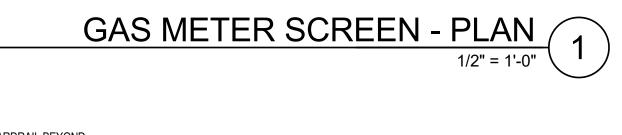
EXTERIOR DETAILS

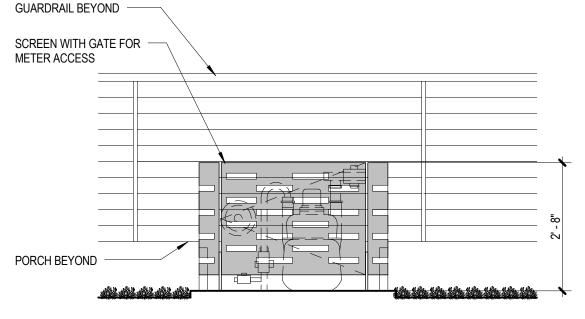
C59





SOUTH PROPERTY LINE





GAS METER SCREEN - ELEVATION