Attachment R P.N2016-00444

BERRY & ASSOCIATES
1733 WOODSIDE ROAD, SUITE 335
REDWOOD CITY, CA 94061

RECEIVED
SEP 28 2017
San Mateo County
Planning and Building Department

1 REV. PER CO. COMMENTS 12/21/16

2 REV PER NEW SITE PLAN 8-24-17

(1)

JOB # 3070

DRAINAGE REPORT – 199 ARBOR LANE MOSS BEACH, CA

1. EXISTING CONDITION – VACANT LAND
THE DRAINAGE AREA INCLUDES UNDEVELOPED LOT (SEE EXHIBIT A)
EXIST AREA = 14,320 SF (0.329 ACRES)

2. TO ACCOMODATE THE PROPOSED HOUSE, DRIVEWAY AND HARDSCAPE FEATURES AND MAINTAIN PRE-CONSTRUCTION RUNOFF LEVELS, THE FOLLOWING SYSTEM IS PROPOSED:

COLLECTION OF ROOF AND SURROUNDING HARDSCAPE IN A TIGHT-LINE SYSTEM CONNECTED TO AN ON-SITE RETENTION FACILITY WITH AN ENERGY REDUCTION BOX AND CLEANOUT, AS WELL AS AN OVERFLOW PIPE

3. THE RATIONAL BEHIND THIS SYSTEM DESIGN IS THAT INCREASED RUNOFF FROM THE PROPOSED DEVELOPMENT (100-YEAR STORM EVENT) OVER THE EXISTING (UNDEVELOPED) RUNOFF (10-YEAR STORM EVENT) WILL BE CAPTURED, STORED, AND

ALLOWED TO INFILTRATE INTO THE SUBGRADE. IN THE EVENT OF INTENSE (GREATER THAN A 100-YEAR STORM) RUNOFF, THE OVERFLOW WILL BUBBLE OUT AND DISSIPATE WITHIN THE FLAT AREA AT THE WEST SIDE OF THE SITE (SEE EXHIBIT C)

RUNOFF WILL BE FURTHER REDUCED WITH A PERVIOUS DRIVEWAY ALLOWING DIRECT INFILTRATION INTO THE SOIL.

4. USING THE RATIONAL METHOD ($Q=CIA$) TO CALCULATE PRE AND POST-CONSTRUCTION RUNOFF:

(a) EXIST. CONDITION (SEE EXHIBIT A)

DRAINAGE AREA, $A = 14,320$ SF
$= 0.329$ ACRES

INTESITY $= I_{10}(F)$; SEE SM Co I-D-F CHART FOR 10-YEAR STORM (EXHIBIT B)

$I_{10} = 2.05$ IN/HR, $F = 1.3$

C_{EXIST} = RUNOFF COEFF.

where, VACANT LAND
$= 0.35$

AND

$$Q_{EXIST} = C_{EXIST}\, I_{10}(F)\, A$$

$$= 0.35(2.05)(1.3)(0.329)$$

$$\boxed{Q_{EXIST} = 0.307 \text{ CFS}}$$

Attachment R

199 ARBOR
(3)

(b) PROPOSED CONDITION (EXHIBIT C)

$A = 14{,}320$ SF (0.329 ACRES)

(SEE EXHIBIT B) $I_{100} = 3.00$ IN/HR, $F = 1.3$

C_{PROP} = RUNOFF COEFF. Where,

PROPOSED ROOF = 2510 SF

PROPOSED HARDSCAPE = 1430 SF

PROPOSED LANDSCAPE = 10,380 SF

$\therefore$

$C_{ROOF} = 0.95(2510/14320) = 0.167$

$C_{HARD} = 0.85(1430/14320) = 0.085$

$C_{LAND} = 0.35(10380/14320) = 0.254$

$C_{PROP} = 0.506$

$\therefore$

$Q_{PROP} = C_{PROP} I_{100} F A$

$= 0.506\,(3.00)(1.3)(0.329)$

$\boxed{Q_{PROP} = 0.649 \text{ CFS}}$

(c) THE CHANGE IN RUNOFF IS

$Q_\Delta = Q_{PROP} - Q_{EXIST}$

$= 0.649 - 0.307$

$\boxed{Q_\Delta = 0.342 \text{ CFS}}$

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(4)

△2 REV. PER CO COMMENTS 12/21/16

△3 REV PER NEW SITE PLAN 3-24-17

5. EXCESS DRAINAGE (QD) WILL BE CAPTURED AND RETAINED IN AN ON-SITE PERFORATED PIPE (48" DIAM.) WITH AN ACCESS CLEANOUT AND A STABILIZED OVERFLOW.

FOR A 100-YEAR STORM OF 15-MINUTE DURATION, THE EXCESS RUNOFF IS

QA x 15 MIN x 60 SEC

△3 ∴ 0.342 x 900 = 307.8 CF

24.5 LF OF 48" PERF. PIPE WILL STORE 308 CF.

∴ OK

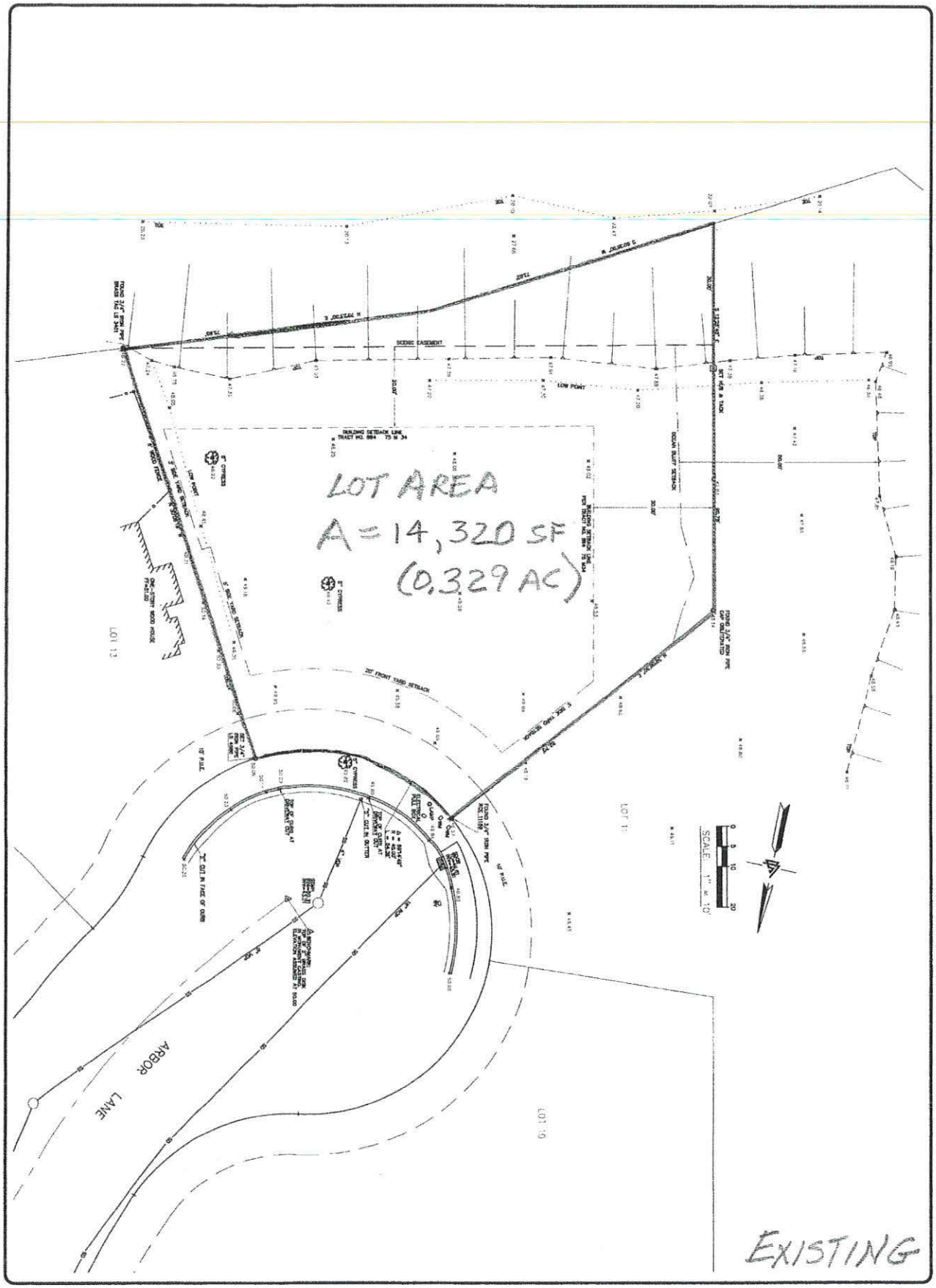
△1 A CONTROLLED (STABILIZED) OVERFLOW FROM THE ENERGY REDUCTION PIPE WILL ALLOW INTENSE STORM RUNOFF TO DISSIPATE WITHIN THE REAR YARD AREA

△2 (SEE EXHIBIT C)

REGISTERED PROFESSIONAL ENGINEER JOHN C. BERRY No. 18720 CIVIL STATE OF CALIFORNIA

JOHN C. BERRY
RCE 18720
EXP. 6-30-17

Attachment R



TOPOGRAPHIC SURVEY

FOR EUGENE BARHAR
199 ARBOR LANE
MOSS BEACH
SAN MATEO COUNTY CALIFORNIA

LEA & BRAZE ENGINEERING, INC.
CIVIL ENGINEERS · LAND SURVEYORS
26229 EDEN LANDING ROAD, SUITE 2
HAYWARD, CALIFORNIA 94545
(510) 887-4086
FAX (510) 887-3019

Date 8-9-1997
Scale 1" = 10'
Drawn By JDR
Job No. 97141
Sheet 1 of 1

EXHIBIT A

Attachment R

RAINFALL RUNOFF DATA

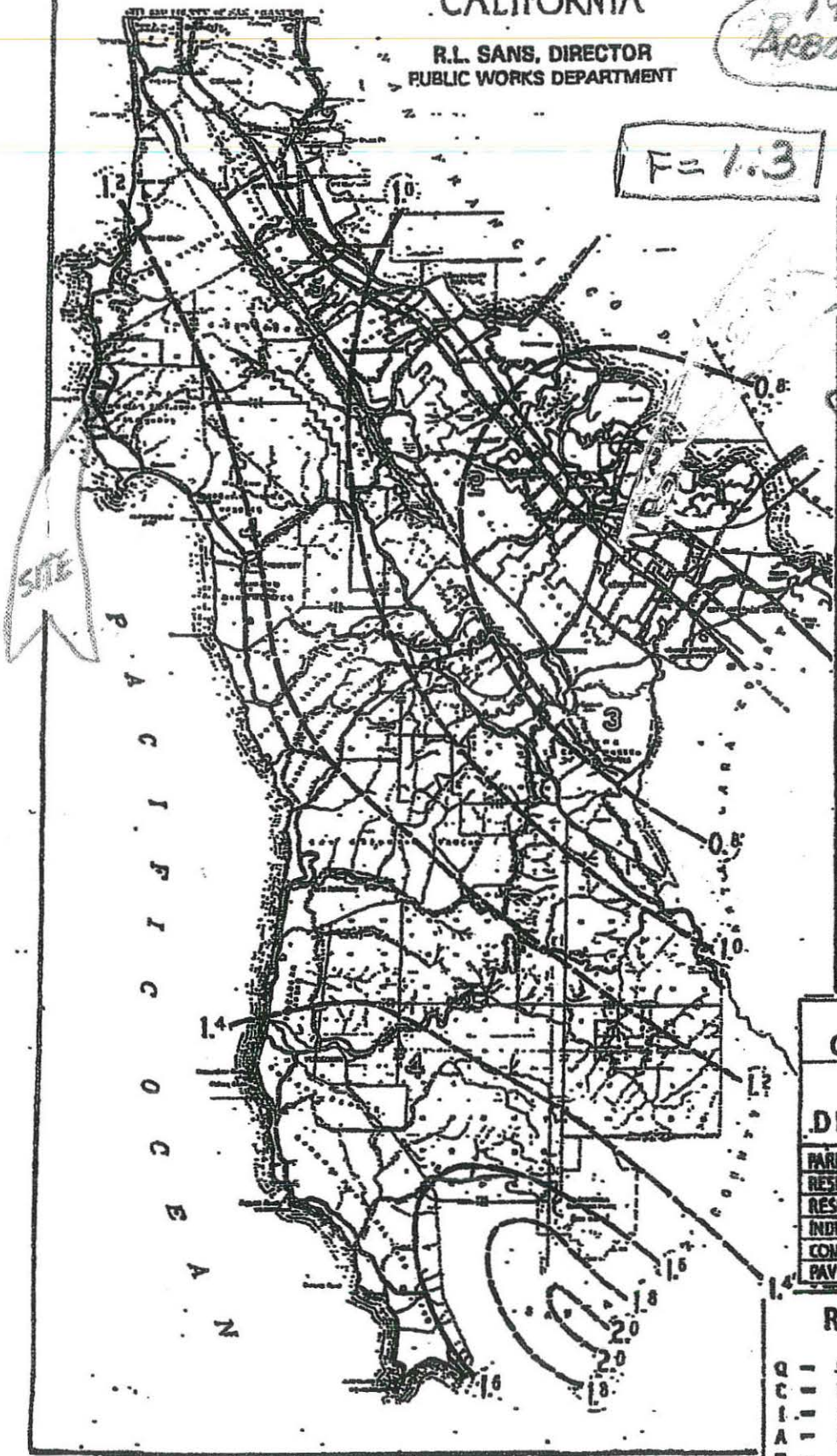
SAN MATEO COUNTY

CALIFORNIA

199 ARBOR LANE

R.L. SANS, DIRECTOR
PUBLIC WORKS DEPARTMENT

F = 1.3



RAINFALL		
TIME OF CONCENTRATION	INTENSITY INCHES PER HOUR	
HRS. MIN.	10 YR.	100 YR
0 — 10	2.45	3.60
0 — 15	2.05	3.00
0 — 20	1.79	2.63
0 — 25	1.50	2.22
0 — 30	1.33	1.95
0 — 35	1.20	1.75
0 — 40	1.10	1.61
0 — 45	1.02	1.49
0 — 50	0.95	1.37
0 — 55	0.90	1.28
1 — 00	0.86	1.21
1 — 15	0.75	1.07
1 — 30	0.67	0.95
1 — 45	0.61	0.87
2 — 00	0.56	0.80
2 — 30	0.49	0.70
3 — 00	0.44	0.63
3 — 30	0.40	0.57
4 — 00	0.37	0.53
4 — 30	0.34	0.49
5 — 00	0.32	0.45
6 — 00	0.29	0.41
7 — 00	0.26	0.38
8 — 00	0.24	0.35
9 — 00	0.23	0.33
10 — 00	0.21	0.30
12 — 00	0.19	0.27
24 — 00	0.13	0.18

RUNOFF COEFFICIENTS	
TYPE OF DEVELOPMENT	COEF.
PARKS AND CEMETERIES	0.30
RESIDENTIAL - ACRES	0.40
RESIDENTIAL - REGULAR	0.50
INDUSTRIAL	0.65
COMMERCIAL	0.75
PAVED AREAS	0.85

RATIONAL FORMULA

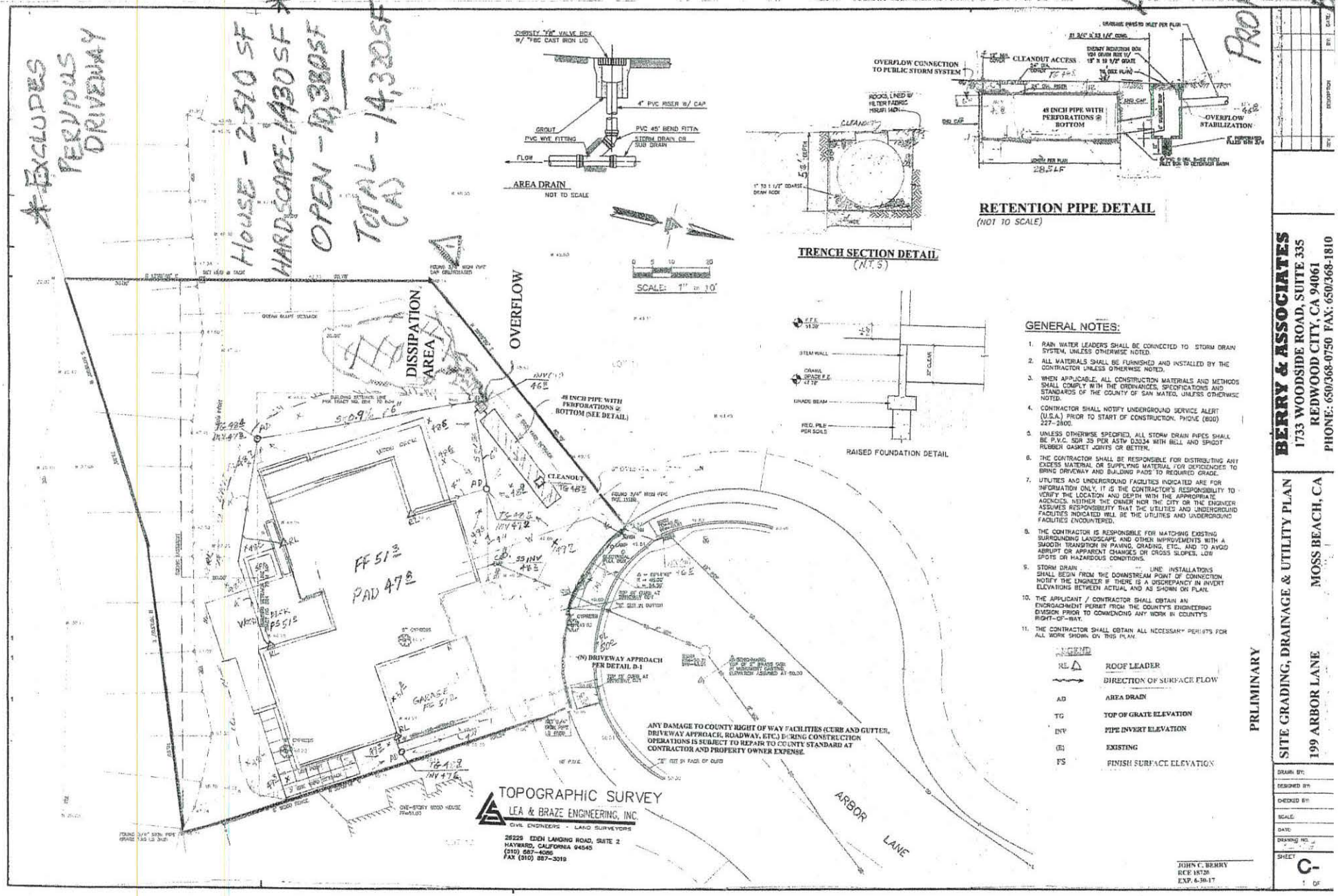
Q = C I A F

Q = RUNOFF - CUBIC FEET PER SECOND
C = RUNOFF COEFFICIENT - PERCENT
I = RAINFALL INTENSITY - INCHES PER HOUR
A = DRAINAGE AREA - ACRES
F = INTENSITY FACTOR (FROM MAP)

Dr. 22-1846

EXHIBIT B

Attachment R



Attachment R

Revised per comments 12/21/16 & site plan 8/24/17

SAN MATEO COUNTYWIDE
Water Pollution
Prevention Program

COUNTY OF SAN MATEO
Planning & Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063
BLD: 650-599-7311/PLN: 363-1825

C.3 and C.6 Development Review Checklist

Municipal Regional Stormwater Permit (MRP)
Stormwater Controls for Development Projects

Applicants: This form should be filled out by the Project Civil Engineer, if one is associated with the project.
Office Use: Planners, please scan to Accela Case and email to Diana, Richard and Camille.

Project Information

I.A Enter Project Data *(For "C.3 Regulated Projects," data will be reported in the municipality's stormwater Annual Report.)*

Project Name: ARBOR RESIDENCE Case Number:

Project Address & Cross St.: 199 ARBOR LANE

Project APN: 037-123-430 Project Watershed: SAN VICENTE

Applicant Name: BERRY AND ASSOCIATES **I.A.4** Slope on Site: %

Applicant Phone: (650) 400-9003 Applicant Email Address: BERRYASSOCIATES@SBCGLOBAL.NET

Development type: (check all that apply)

- ☒ Single Family Residential: A stand-alone home that is not part of a larger project.
- ☐ Single Family Residential: Two or more lot residential development.[1] # of units: _____
- ☐ Multi-Family Residential # of units: _____
- ☐ Commercial
- ☐ Industrial, Manufacturing
- ☐ Mixed-Use # of units: _____
- ☐ Streets, Roads[2], etc.
- ☐ 'Redevelopment' as defined by MRP: creating, adding and/or replacing exterior existing impervious surface on a site where past development has occurred.

I.A.1

- ☐ **'Special land use categories'** as defined by MRP: (1) auto service facilities[3], (2) retail gasoline outlets, (3) restaurants, (4) uncovered parking area (stand-alone or part of a larger project)
- ☐ Institutions: schools, libraries, jails, etc.
- ☐ Parks and trails, camp grounds, other recreational
- ☐ Agricultural, wineries
- ☐ Kennels, Ranches
- ☐ Other, Please specify_____

Project Description[4]: NEW SINGLE-FAMILY RESIDENCE ON VACANT LOT
(Also note any past or future phases of the project.)

I.A.2 Total Area of Site: 0.329 acres

I.A.3 Total Area of land disturbed during construction (include clearing, grading, excavating and stockpile area): 0.22 acres.

I.A.5 Certification:
I certify that the information provided on this form is correct and acknowledge that, should the project exceed the amount of new and/or replaced impervious surface provided in this form, the as-built project may be subject to additional improvements.

☐ Attach Preliminary Calculations ☐ Attach Final Calculations ☒ Attach copy of site plan showing areas (EXHIBITS A&B)

Name of person completing the form: JOHN C. BERRY Title: PROJECT CIVIL ENGR

Signature: John C. Berry Date: 8-24-17

Phone number: (650) 400-9003 Email address: BERRYASSOCIATES@SBCGLOBAL.NET

[1] Common Plans of Development (subdivisions or contiguous, commonly owned lots, for the construction of two or more homes developed within 1 year of each other) are not considered single family projects by the MRP.

[2] Roadway projects creating 10,000 sq.ft. or more of contiguous impervious surface are subject to C.3 requirements if the roadway is new or being widened with additional traffic lanes.

[3] See Standard Industrial Classification (SIC) codes here

[4] Project description examples: 5-story office building, industrial warehouse, residential with five 4-story buildings for 200 condominiums, etc.

I.B Is the project a "C.3 Regulated Project" per MRP Provision C.3.b?

I.B.1 Enter the amount of impervious surface[5] Retained, Replaced and/or Created by the project:

Table I.B.1 Impervious[5] and Pervious Surfaces

Type of Impervious[5] Surface	I.B.1.a Pre-Project Impervious[5] Surface (sq.ft.)	I.B.1.b Existing Impervious[5] Surface to be Retained[6] (sq.ft.)	I.B.1.c Existing Impervious[5] Surface to be Replaced[6] (sq.ft.)	I.B.1.d New Impervious[5] Surface to be Created[6] (sq.ft.)	I.B.1.e Post-Project Impervious[5] Surface (sq.ft.) (=b+c+d)
Roof area(s)	0	0	0	2510	2510
Impervious[5] sidewalks, patios, paths, driveways, streets	0	0	0	1430	1430
Impervious[5] uncovered parking[7]	0	0	0	—	—
Totals of Impervious Surfaces:	0	0	0	3940	3940
I.B.1.f - Total Impervious[5] Surface Replaced and Created *(sum of totals for columns I.B.1.c and I.B.1.d)*:					3940

Type of Pervious Surface	Pre-Project Pervious Surface (sq.ft.)				Post-project Pervious Surface (sq.ft.)
Landscaping	14,320				10,380
Pervious Paving	—			I.B.1.e.1:	
Green Roof	—				
Totals of Pervious Surfaces:					
Total Site Area (Total Impervious[5]+Total Pervious=I.A.2)	14,320				14,320

I.B.2 Please review and attach additional worksheets as required below using the Total Impervious Surface (IS) Replaced and Created in cell I.B.1.f from Table I.B.1 above and other factors:

	Check all that apply:	Check One Yes	Check One No	Attach Worksheet
I.B.2.a	Does this project involve any earthwork? If YES, then Check Yes, and Complete Worksheet A. If NO, then go to I.B.2.b	☒	☐	A
I.B.2.b	Is **I.B.1.f** greater than or equal to 2,500 sq.ft? If YES, then the Project is subject to Provision C.3.i. - complete Worksheets B, C & go to I.B.2.c. If NO, then Stop here - go to I.A.5 and complete Certification or ask municipal staff for Small Project Checklist.	☒	☐	B, C
I.B.2.c	Is the total Existing IS to be Replaced (column **I.B.1.c**) 50 percent or more of the total Pre-Project IS (column **I.B.1.a**)? If YES, site design, source control and treatment requirements apply to the whole site. Continue to I.B.2.d If NO, these requirements apply only to the impervious surface created and/or replaced. Continue to I.B.2.d	☐	☒	
I.B.2.d	Is this project a Special Land Use Category (**I.A.1**) and is **I.B.1.f** greater than or equal to 5,000 sq.ft? If YES, project is a Regulated Project. Fill out Worksheet D. Go to I.B.2.f. If NO, go to I.B.2.e	☐	☒	D
I.B.2.e	Is **I.B.1.f** greater than or equal to 10,000 sq.ft? If YES, project is a C.3 Regulated Project - complete Worksheet D. Then continue to I.B.2.f. If NO, then skip to I.B.2.g.	☐	☒	D
I.B.2.f	Is **I.B.1.f** greater than or equal to 43,560 sq.ft? If YES, project may be subject to Hydromodification Management requirements - complete Worksheet E then continue to I.B.2.g. If NO, then go to I.B.2.g.	☐	☒	E
I.B.2.g	Is **I.A.3** greater than or equal to 1 acre? If YES, check box, obtain coverage under the CA Const. General Permit & submit Notice of Intent to municipality - go to I.B.2.h. If NO, then go to I.B.2.h. For more information see: www.swrcb.ca.gov/water_issues/programs/stormwater/construction.shtml	☐	☒	
I.B.2.h	Is this a Special Project or does it have the potential to be a Special Project? If YES, complete Worksheet F - then continue to I.B.2.i. If NO, go to I.B.2.i.	☐	☒	F
I.B.2.i	Is project a ***High Priority Site***? 1) Sites where the project requires a Grading Permit; 2) Sites with a) Residential new construction or a 50% or greater remodel, or b) Commercial/ Industrial construction of a new building or additions of 3,000 sq. ft. or greater, and with one or both of the following: (1) Sites where development will occur on a slope greater than or equal to 5:1, and/or (2) Sites where development will occur within 100 feet of a creek, wetland, or coastline; 3) Any public or private project involving work within a waterway; and 4) Sites within the ASBS watershed that involve soil disturbance If NO, then go to I.B.2.j	☒	☐	~~G~~
I.B.2.j	For Municipal Staff Use Only: Are you using Alternative Certification for the project review? If YES, then fill out section G-1 on Worksheet G. Fill out other sections of Worksheet G as appropriate. See cell **I.B.1.e.1** above - Is the project installing 3,000 square feet or more of pervious paving? If YES, then fill out section G-3 on Worksheet G. Add to Municipal Inspection Lists (C.3.h)	☐ ☐	☐ ☐	G

[5] Per the MRP, pavement that meets the following definition of pervious pavement is NOT an impervious surface. Pervious pavement is defined as pavement that stores and infiltrates rainfall at a rate equal to immediately surrounding unpaved, landscaped areas, or that stores and infiltrates the rainfall runoff volume described in Provision C.3.

[6] "Retained" means to leave existing impervious surfaces in place, unchanged; "Replaced" means to install new impervious surface where existing impervious surface is removed anywhere on the same property; and "Created" means the amount of new impervious surface being proposed which exceeds the total existing amount of impervious surface at the property.

[7] Uncovered parking includes the top level of a parking structure.

Worksheet A

C6 – Construction Stormwater BMPs

Identify Plan sheet showing the appropriate construction Best Management Practices (BMPs) used on this project:
(Applies to all projects with earthwork)

Yes	Plan Sheet	Best Management Practice (BMP)
☒	EROSION CONTROL	Control and prevent the discharge of all potential pollutants, including pavement cutting wastes, paints, concrete, petroleum products, chemicals, wash water or sediments, rinse water from architectural copper, and non-stormwater discharges to storm drains and watercourses.
☒	EROSION CONTROL	Store, handle, and dispose of construction materials/wastes properly to prevent contact with stormwater.
☒	BMP SHEET	Do not clean, fuel, or maintain vehicles on-site, except in a designated area where wash water is contained and treated.
☒	BMP SHEET	Train and provide instruction to all employees/subcontractors re: construction BMPs.
☒	EROSION CONTROL	Protect all storm drain inlets in vicinity of site using sediment controls such as berms, fiber rolls, or filters.
☐		Limit construction access routes and stabilize designated access points.
☒	BMP	Attach the San Mateo Countywide Water Pollution Prevention Program's construction BMP plan sheet to project plans and require contractor to implement the applicable BMPs on the plan sheet.
☒		Use temporary erosion controls to stabilize all denuded areas until permanent erosion controls are established.
☒		Delineate with field markers clearing limits, easements, setbacks, sensitive or critical areas, buffer zones, trees, and drainage courses.
☒		Provide notes, specifications, or attachments describing the following: ▪ Construction, operation and maintenance of erosion and sediment controls, include inspection frequency; ▪ Methods and schedule for grading, excavation, filling, clearing of vegetation, and storage and disposal of excavated or cleared material; ▪ Specifications for vegetative cover & mulch, include methods and schedules for planting and fertilization; ▪ Provisions for temporary and/or permanent irrigation.
☒		Perform clearing and earth moving activities only during dry weather.
☒		Use sediment controls or filtration to remove sediment when dewatering and obtain all necessary permits.
☒		Trap sediment on-site, using BMPs such as sediment basins or traps, earthen dikes or berms, silt fences, check dams, soil blankets or mats, covers for soil stock piles, etc.
☒		Divert on-site runoff around exposed areas; divert off-site runoff around the site (e.g., swales and dikes).
☒		Protect adjacent properties and undisturbed areas from construction impacts using vegetative buffer strips, sediment barriers or filters, dikes, mulching, or other measures as appropriate.

Worksheet B

C3 - Source Controls

Select appropriate source controls and identify the detail/plan sheet where these elements are shown.

Yes	Detail/Plan Sheet No.	Features that require source control measures	Source Control Measures (Refer to Local Source Control List for detailed requirements)
☒	C-2	Storm Drain	Mark on-site inlets with the words "No Dumping! Flows to Bay" or equivalent.
☐	N/A	Floor Drains	Plumb interior floor drains to sanitary sewer[8] [or prohibit].
☐	N/A	Parking garage	Plumb interior parking garage floor drains to sanitary sewer.[8]
☒	LANDSCAPE PLAN	Landscaping	▪ Retain existing vegetation as practicable. ▪ Select diverse species appropriate to the site. Include plants that are pest- and/or disease-resistant, drought-tolerant, and/or attract beneficial insects. ▪ Minimize use of pesticides and quick-release fertilizers. ▪ Use efficient irrigation system; design to minimize runoff.
☒	ARCHITECT	Pool/Spa/Fountain	Provide connection to the sanitary sewer to facilitate draining.[8]
☐	N/A	Food Service Equipment (non-residential)	Provide sink or other area for equipment cleaning, which is: ▪ Connected to a grease interceptor prior to sanitary sewer discharge.[8] ▪ Large enough for the largest mat or piece of equipment to be cleaned. ▪ Indoors or in an outdoor roofed area designed to prevent stormwater run-on and run-off, and signed to require equipment washing in this area.
☐		Refuse Areas	▪ Provide a roofed and enclosed area for dumpsters, recycling containers, etc., designed to prevent stormwater run-on and runoff. ▪ Connect any drains in or beneath dumpsters, compactors, and tallow bin areas serving food service facilities to the sanitary sewer.[8]
☐		Outdoor Process Activities [9]	Perform process activities either indoors or in roofed outdoor area, designed to prevent stormwater run-on and runoff, and to drain to the sanitary sewer.[8]
☐		Outdoor Equipment/ Materials Storage	▪ Cover the area or design to avoid pollutant contact with stormwater runoff. ▪ Locate area only on paved and contained areas. ▪ Roof storage areas that will contain non-hazardous liquids, drain to sanitary sewer[8], and contain by berms or similar.
☐		Vehicle/ Equipment Cleaning	▪ Roofed, pave and berm wash area to prevent stormwater run-on and runoff, plumb to the sanitary sewer[8], and sign as a designated wash area. ▪ Commercial car wash facilities shall discharge to the sanitary sewer.[8]
☐		Vehicle/ Equipment Repair and Maintenance	▪ Designate repair/maintenance area indoors, or an outdoors area designed to prevent stormwater run-on and runoff and provide secondary containment. Do not install drains in the secondary containment areas. ▪ No floor drains unless pretreated prior to discharge to the sanitary sewer.[8] ▪ Connect containers or sinks used for parts cleaning to the sanitary sewer.[8]
☐		Fuel Dispensing Areas	▪ Fueling areas shall have impermeable surface that is a) minimally graded to prevent ponding and b) separated from the rest of the site by a grade break. ▪ Canopy shall extend at least 10 ft. in each direction from each pump and drain away from fueling area.
☐		Loading Docks	▪ Cover and/or grade to minimize run-on to and runoff from the loading area. ▪ Position downspouts to direct stormwater away from the loading area. ▪ Drain water from loading dock areas to the sanitary sewer.[8] ▪ Install door skirts between the trailers and the building.
☐		Fire Sprinklers	Design for discharge of fire sprinkler test water to landscape or sanitary sewer.[8]
☐		Miscellaneous Drain or Wash Water	▪ Drain condensate of air conditioning units to landscaping. Large air conditioning units may connect to the sanitary sewer.[8] ▪ Roof drains from equipment drain to landscaped area where practicable. ▪ Drain boiler drain lines, roof top equipment, all wash water to sanitary sewer.[8]
☐		Architectural Copper Rinse Water	▪ Drain rinse water to landscaping, discharge to sanitary sewer[8], or collect and dispose properly offsite. See flyer "Requirements for Architectural Copper."

[8] Any connection to the sanitary sewer system is subject to sanitary district approval.

[9] Businesses that may have outdoor process activities/equipment include machine shops, auto repair, industries with pretreatment facilities.

Worksheet C

Low Impact Development – Site Design Measures

Select Appropriate Site Design Measures *(Required for C.3 Regulated Projects; all other projects are encouraged to implement site design measures, which may be required at municipality discretion.) Projects that create and/or replace 2,500 – 10,000 sq.ft. of impervious surface, and stand-alone single family homes that create/replace 2,500 sq.ft. or more of impervious surface, must include* ***one of Site Design Measures a through f*** *(Provision C.3.i requirements).[10] Larger projects must also include applicable Site Design Measures g through i. Consult with municipal staff about requirements for your project.*

Select appropriate site design measures and identify the Plan Sheet where these elements are shown.

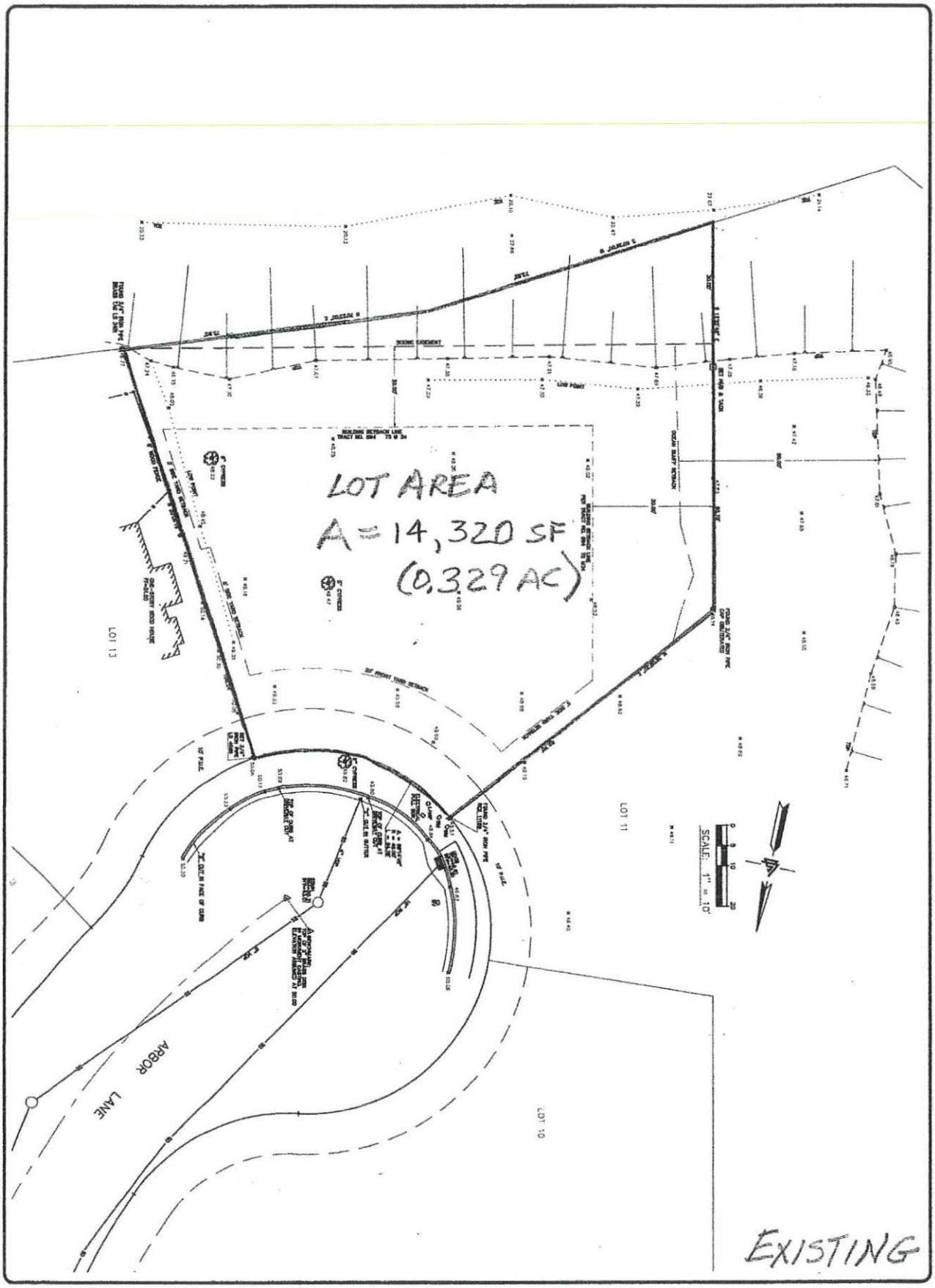
Yes	Plan Sheet Number	
☐		a. Direct roof runoff into cisterns or rain barrels and use rainwater for irrigation or other non-potable use.
☒	C-1 (ON-SITE RETENTION)	b. Direct roof runoff onto vegetated areas.
☐		c. Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas.
☐		d. Direct runoff from driveways and/or uncovered parking lots onto vegetated areas.
☐		e. Construct sidewalks, walkways, and/or patios with pervious or permeable surfaces. Use the specifications in the C3 Technical Guidance (Version 4.1) downloadable at www.flowstobay.org/newdevelopment.
☐		f. Construct bike lanes, driveways, and/or uncovered parking lots with pervious surfaces. Use the specifications in the C3 Technical Guidance (Version 4.1) downloadable at www.flowstobay.org/newdevelopment.
☐		g. Limit disturbance of natural water bodies and drainage systems; minimize compaction of highly permeable soils; protect slopes and channels; and minimize impacts from stormwater and urban runoff on the biological integrity of natural drainage systems and water bodies.
☐		h. Conserve natural areas, including existing trees, other vegetation and soils.
☐		i. Minimize impervious surfaces.

Regulated Projects can also consider the following site design measures to reduce treatment system sizing:

Yes	Plan Sheet Number	
☐		j. Self-treating area (see Section 4.2 of the C.3 Technical Guidance)
☒	C-1	k. Self-retaining area (see Section 4.3 of the C.3 Technical Guidance)
☐		l. Plant or preserve interceptor trees (Section 4.1, C.3 Technical Guidance)

[10] See MRP Provision C.3.a.i.(6) for non-C.3 Regulated Projects, C.3.c.i.(2)(a) for Regulated Projects, C.3.i for projects that create/replace 2,500 to 10,000 sq.ft. of impervious surface and stand-alone single family homes that create/replace 2,500 sq.ft. or more of impervious surface.

Attachment R



TOPOGRAPHIC SURVEY

FOR EUGENE BARHAR
199 ARBOR LANE
MOSS BEACH
SAN MATEO COUNTY CALIFORNIA

LEA & BRAZE ENGINEERING, INC.
CIVIL ENGINEERS • LAND SURVEYORS
25229 EDEN LANDING ROAD, SUITE 2
HAYWARD, CALIFORNIA 94545
(510) 887-4086
FAX (510) 887-3019

Date 5-9-1997
Scale 1" = 10'
Drawn By JR
Job No. 97141
Sheet 1 of 1

EXHIBIT A

Attachment R