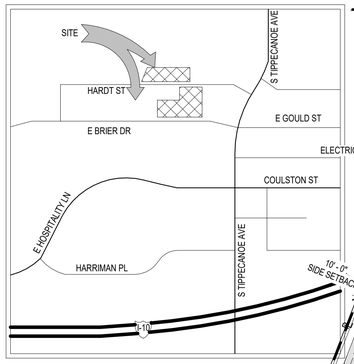

VICINITY MAP n.t.s.

OVERALL SITE PLAN

PROJECT SCOPE

5 NEW FREESTANDING TILT-UP SHELL BUILDINGS

NORTH

NOT A PART

NOT A PART

NOT A PART

NOT A PART

NOT A PART

NOT A PART

NOT A PART

NOT A PART

NOT A PART

HARDT STREET

HARDT STREET

BRIER STREET

BRIER STREET

FIRST FLOOR BUILDING A 16514 SF

PROPOSED B, F-1, M, S-1 OCCUPANCY

43 PARKING PROVIDED INCLUDING PARKING EASEMENT FOR 8 CARS ON THE ADJACENT LOT 31

FIRST FLOOR BUILDING B 16300 SF

PROPOSED B, F-1, M, S-1 OCCUPANCY

43 PARKING PROVIDED NOT INCLUDING PARKING EASEMENT ON ADJACENT LOT 31 FOR BUILDING A

FIRST FLOOR BUILDING C 17048 SF

PROPOSED B, F-1, M, S-1 OCCUPANCY

46 PARKING PROVIDED

BUILDING D1 13759 SF

PROPOSED B, F-1, M, S-1 OCCUPANCY

BUILDING D2 13759 SF

PROPOSED B, F-1, M, S-1 OCCUPANCY

LOT 29 LOT 30 LOT 31 LOT 32 LOT 25 LOT 24 LOT 17 LOT 18

TRUCK WELL (LOADING SPACE)

"LONG TERM" BICYCLE PARKING TRASH/ RECYCLE ENCLOSURE

BICYCLE PARKING

TRASH/ RECYCLE ENCLOSURE

"LONG TERM" BICYCLE PARKING

ELECTRICAL CABINET

150' FIRE I ANE MARK FIRE LANES PER FIRE DEPARTMENT REQUIREMENTS

FIRE LANE MARK FIRE LANES PER FIRE DEPARTMENT REQUIREMENTS

GRADE LEVEL DOORS

LOADING SPACE

TRANSFORMER

SCREENING WALL

STUB CONDUIT FOR FUTURE CHARGING STATION PER CALGREEN 5.106.5.3

10' - 0" SIDE SETBACK

10' - 0" REAR SETBACK

10' - 0" FRONT SETBACK

15' - 0" SEWER EASEMENT

5' - 0" UTILITY EASEMENT

3' - 0" OVERHANG

NEW DRIVEWAY

PLANTED

ENTRY

BASIN

KENNETH D. SMITH ARCHITECT & ASSOCIATES, INC.

500 FESLER ST. SUITE 102
EL CAJON - CA - 92020
PH / 619 444 2182
Fax / 619 442 2699

LICENSED ARCHITECT
KENNETH DUANE SMITH
No. C25315
Ren. 2/28/19
STATE OF CALIFORNIA

DATE: 5-20-19
JOB NO: Project Number
DRAWN BY: Author
CHECKED BY: Checker

Revision Schedule

#	Date	Description

project: New Shell Buildings
Hardt & Brier Business Park
SAN BERNARDINO, CA

DD0.2

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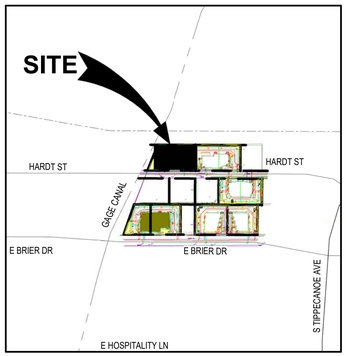


VICINITY MAP

1" = 500'-0"

OWNER

OAK PROPERTIES
1000 PIONEER WAY
EL CAJON, CA. 92020
Tel:(619) 440 7424
Fax:(619) 440 8914
Email:-
CONTACT:GREGG HAMANN

LEGAL DESCRIPTION

PARCELS 29 & 30 OF PARCEL MAP NO. 5464
FILED IN SAN BERNARDING COUNTY

APN: 0281-311-17 & 08

ADDRESS: HARDT STREET

USE: SHELL

ZONE: TOD CR-3

SITE INFORMATION

SITE AREA:	54,315 SF	1.25 ACRES
PROPOSED BUILDING COVERAGE:	16,514 SF	30.4 %
PROPOSED LANDSCAPE AREA:	15,030 SF	27.67 %
PROPOSED PAVING AREA:	22,771 SF	41.92 %

TYPE OF DEVELOPMENT: SHELL

PARKING TABULATION

PARKING PROVIDED:
- 37 STANDARD SPACES PROVIDED
- 0 COMPACT SPACES PROVIDED
- 1 VAN ACCESSIBLE SPACES PROVIDED
- 1 ACCESSIBLE SPACES PROVIDED
- 4 CLEAN AIR VEHICLE SPACES PROVIDED (8% of AUTO SPACES MIN.)
  - 2 FUTURE E.V. CHARGING STATIONS

43 TOTAL AUTOMOBILE SPACES PROVIDED

- 2 SHORT TERM BICYCLE SPACES w/ PERMANENTLY ANCHORED RACKS (5% of VISITOR AUTO SPACES MIN.
- 1 LONG TERM BICYCLE SPACE IN LOCKABLE, PERMANENTLY ANCHORED LOCKER (5% of TENANT/EMPLOYEE AUTO SPACES MIN.)

SITE LEGEND

- W W - EXISTING WATER SERVICE LINE
- S S - EXISTING SEWER SERVICE LATERAL
- F F - EXISTING FIRE (WATER) SERVICE LINE
- I I - EXISTING IRRIGATION (WATER) SERVICE LINE
- E E - EXISTING ELECTRICAL SERVICE LINE
- G G - EXISTING GAS SERVICE LINE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING POLE MOUNTED LIGHT STANDARD
- PROPOSED POLE MOUNTED LIGHT STANDARD
- POST INDICATOR VALVE
- POST INDICATOR VALVE FIRE DEPARTMENT POINT OF CONNECTION
- FIRE DEPARTMENT POINT OF CONNECTION
- REDUCED PRESSURE DETECTION ASSEMBLY (RPDA) or DOUBLE CHECK VALVE ASSEMBLY (DCVA) PER JURISDICTION
- 1 NUMBER OF PARKING
- HANDICAP PARKING SYMBOL

ACCESSIBLE PATH OF TRAVEL

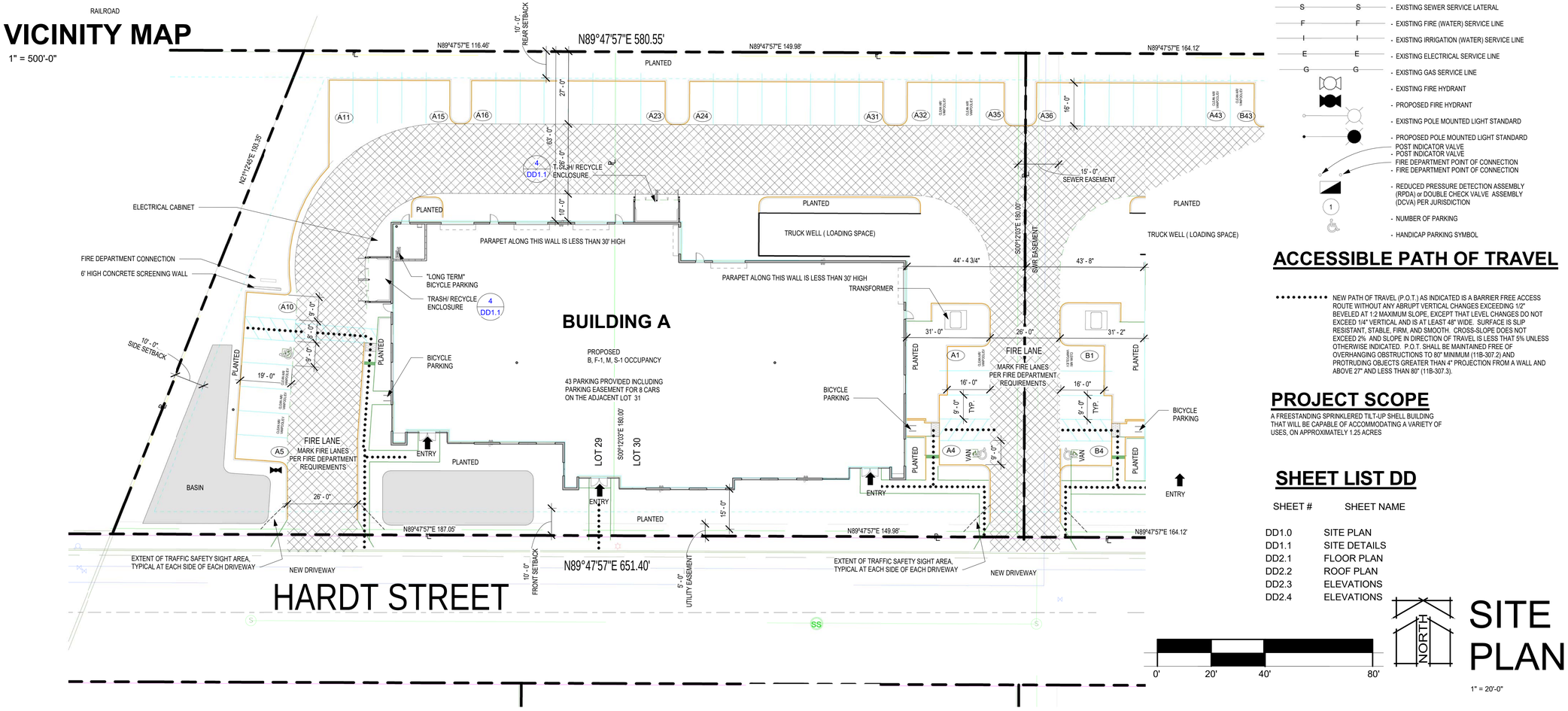
NEW PATH OF TRAVEL (P.O.T.) AS INDICATED IS A BARRIER FREE ACCESS ROUTE WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING 1/2" BEVELED AT 1:2 MAXIMUM SLOPE, EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/4" VERTICAL AND IS AT LEAST 48" WIDE. SURFACE IS SLIP RESISTANT, STABLE, FIRM, AND SMOOTH. CROSS-SLOPE DOES NOT EXCEED 2% AND SLOPE IN DIRECTION OF TRAVEL IS LESS THAT 5% UNLESS OTHERWISE INDICATED. P.O.T. SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM (11B-307.2) AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM A WALL AND ABOVE 27" AND LESS THAN 80" (11B-307.3).

PROJECT SCOPE

A FREESTANDING SPRINKLERED TILT-UP SHELL BUILDING THAT WILL BE CAPABLE OF ACCOMMODATING A VARIETY OF USES, ON APPROXIMATELY 1.25 ACRES

SHEET LIST DD

SHEET #	SHEET NAME
DD1.0	SITE PLAN
DD1.1	SITE DETAILS
DD2.1	FLOOR PLAN
DD2.2	ROOF PLAN
DD2.3	ELEVATIONS
DD2.4	ELEVATIONS



SITE PLAN

1" = 20'-0"

KENNETH D. SMITH
ARCHITECT
& ASSOCIATES, INC.

500 FESLER ST. SUITE 102
EL CAJON - CA - 92020
PH / 619 444 2182
Fax / 619 442 2699

LICENSED ARCHITECT
KENNETH DUANE SMITH
No. C25315
Ren. 2/28/19
STATE OF CALIFORNIA

DATE: 9/31/2021
JOB NO: 18017
DRAWN BY: Ken
CHECKED BY: Checker

Revision Schedule		
#	Date	Description

project:
NEW SHELL BUILDING 'A'
Hardt & Brier Business Park
LOTS 29 & 30
SAN BERNARDINO, CA

DD1.0

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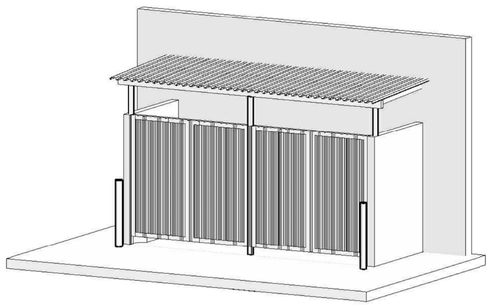

1
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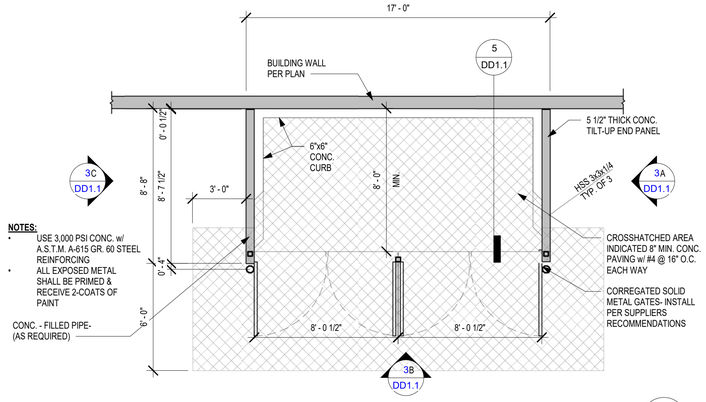
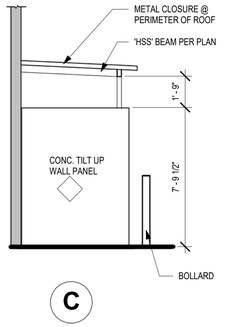
1/4" = 1'-0"

3D JPEG VIEW



4
DD1.1
1/4" = 1'-0"

FLOOR PLAN



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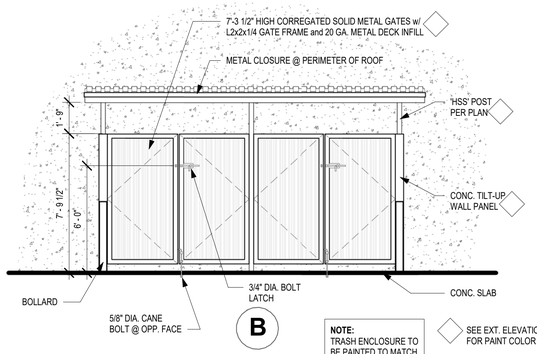
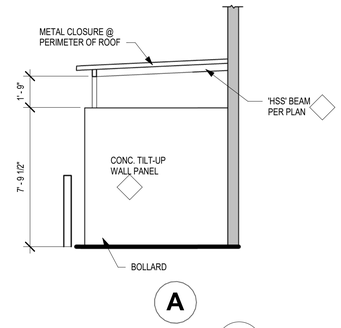


B

NOTE:
TRASH ENCLOSURE TO BE PAINTED TO MATCH MAIN BUILDING COLOR

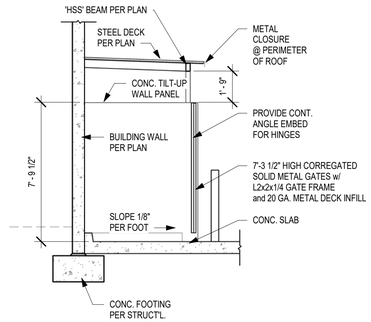
SEE EXT. ELEVATIONS FOR PAINT COLOR LEGEND



A

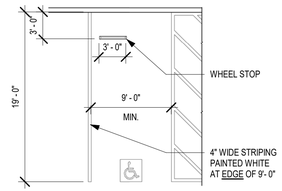
3
DD1.1
1/4" = 1'-0"

ELEVATIONS

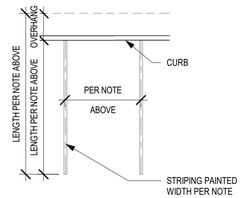


5
DD1.1
1/4" = 1'-0"

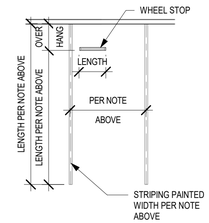
SECTION



ACCESSIBLE STALL STRIPING



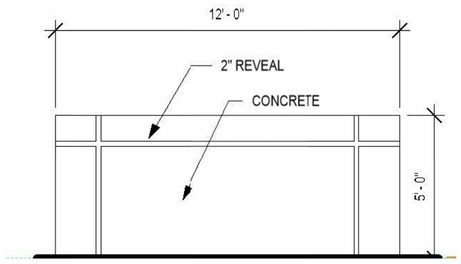
TYPICAL STALL w/ OVERHANG



TYPICAL STALL STRIPING

6
DD1.1
1/8" = 1'-0"

PARKING



TYPICAL SCREENING WALL

NOT TO SCALE

KENNETH D. SMITH ARCHITECT & ASSOCIATES, INC.
500 FESLER ST. SUITE 102
EL CAJON - CA - 92020
PH / 619 444 2182
Fax / 619 442 2699

LICENSED ARCHITECT
KENNETH DUANE SMITH
No. C25315
Ren. 2/28/19
STATE OF CALIFORNIA

DATE: 9/31/2021
JOB NO: 18017
DRAWN BY: Author
CHECKED BY: Checker

Revision Schedule

#	Date	Description

project:
NEW SHELL BUILDING 'A'
Hardt & Brier Business Park
LOTS 29 & 30
SAN BERNARDINO, CA

DD1.1

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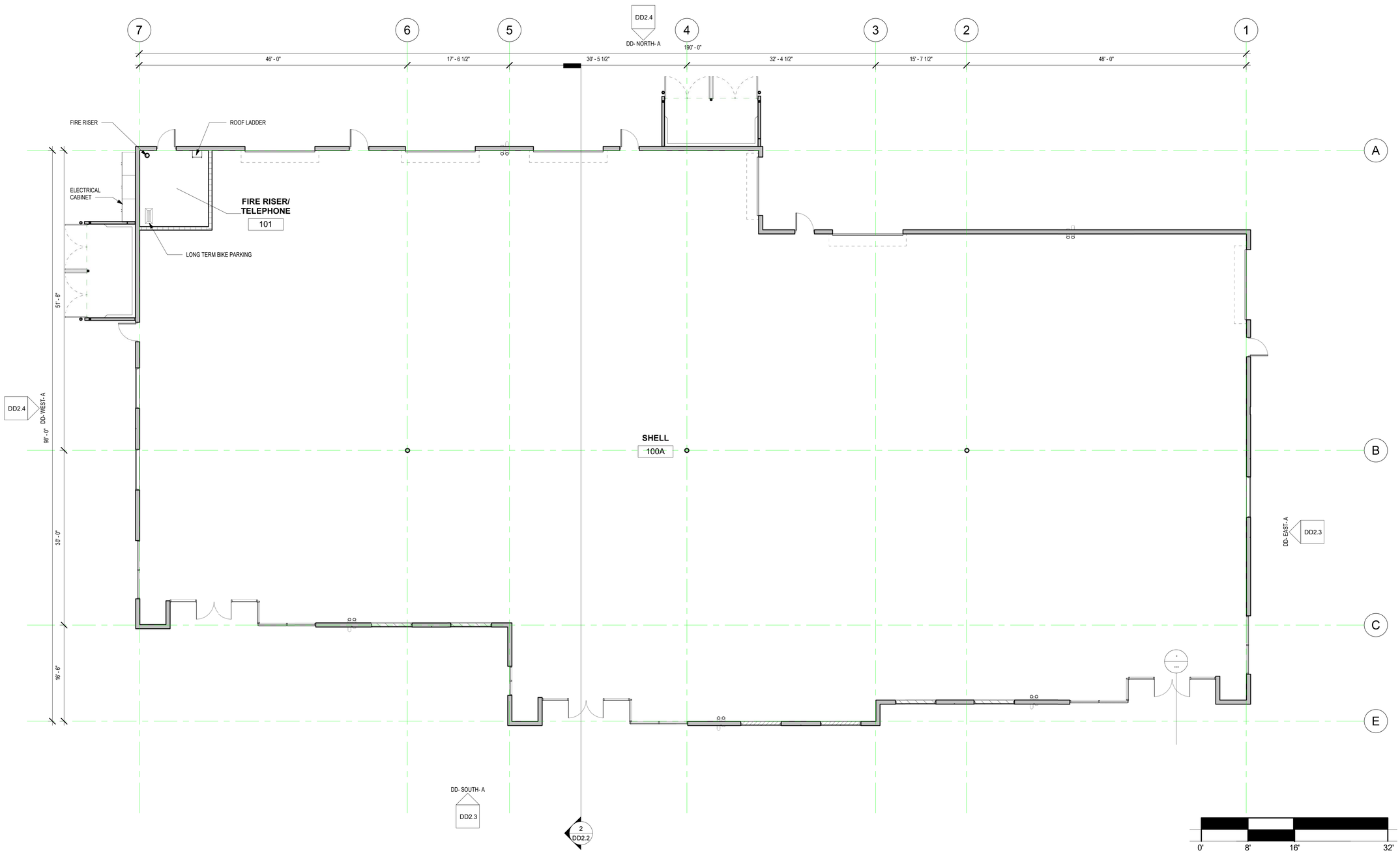

SQUARE FOOTAGE

Name	Area
Area	Not Placed
Not Placed	0 SF
BUILDING A	16,514 SF
01 FIRST FLOOR	16,514 SF

NORTH

FIRST FLOOR PLAN

1/8" = 1'-0"

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LICENSED ARCHITECT
KENNETH DUANE SMITH
No. C25315
Ren. 2/28/19
STATE OF CALIFORNIA

DATE: 9/31/2021
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DRAWN BY: Ken
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Revision Schedule		
#	Date	Description

project:
NEW SHELL BUILDING 'A'
Hardt & Brier Business Park
LOTS 29 & 30
SAN BERNARDINO, CA

DD2.1

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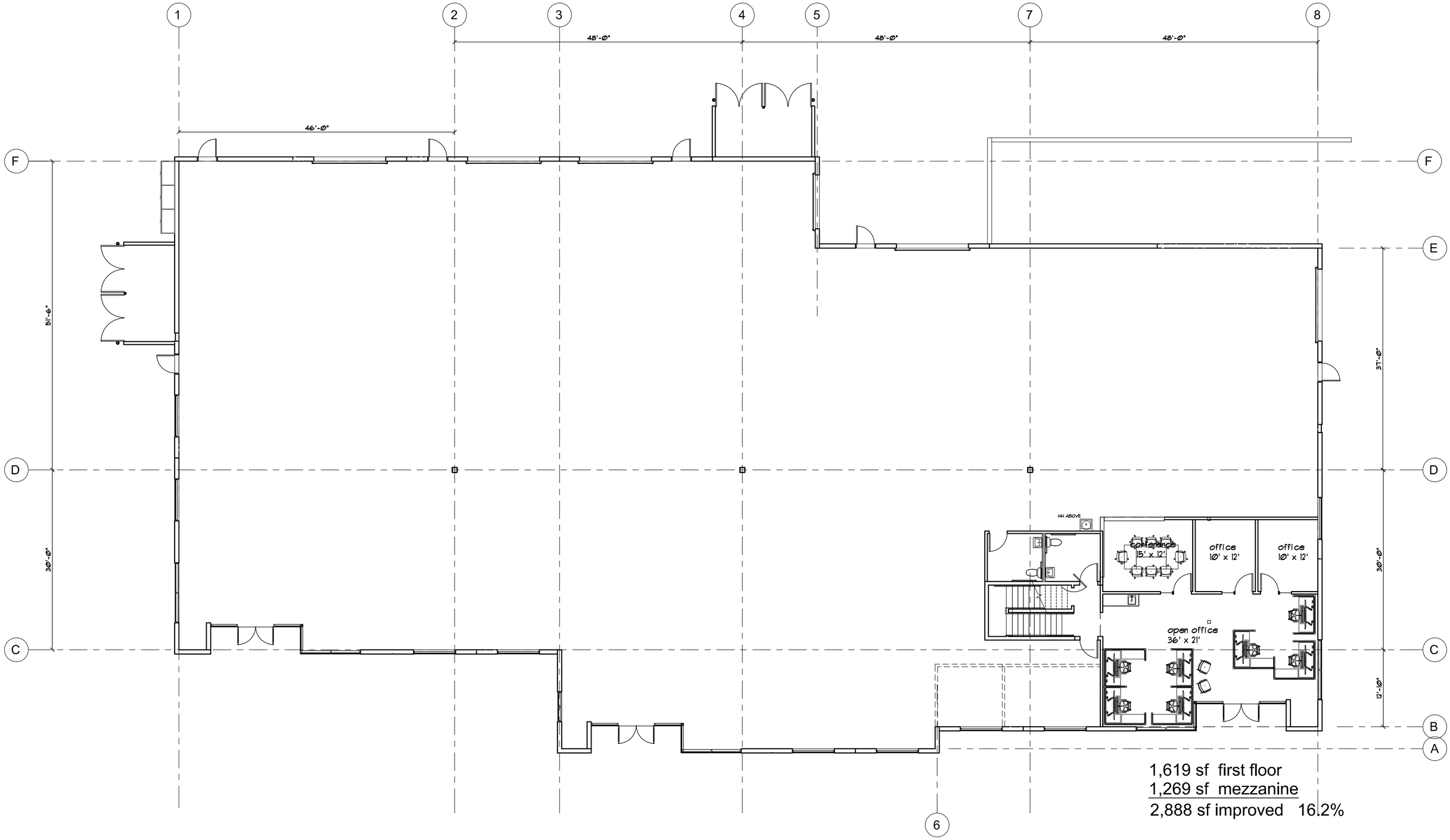


1,619 sf first floor
1,269 sf mezzanine
2,888 sf improved 16.2%

16,514 sf + 1,269 mezz. = 17,833 sf

FLOOR PLAN A

SCALE: 3/32" = 1'-0"

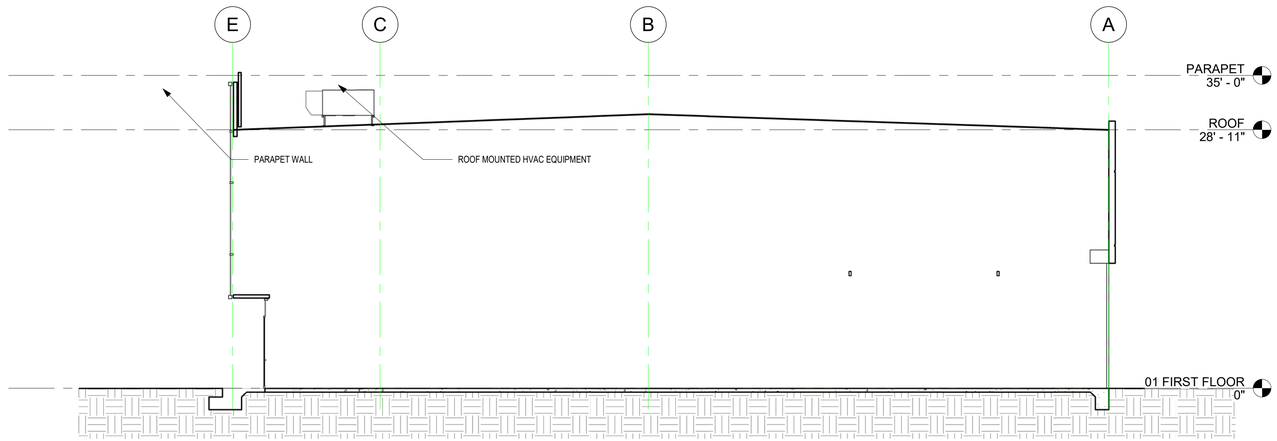
HAMANN COMPANIES
1000 PIONEER WAY
EL CAJON, CA 92020
619.440.7424
FAX 619.440-8914

HAMANN COMPANIES
LICENSE # 373142

MARCH 18, 2023

Hardt & Brier Business Park

San Bernardino California



Section 1

1/8" = 1'-0"

0' 8' 16' 32'

0' 10' 20' 40'

NOTE:
ROOFTOP EQUIPMENT SHOWEN IS CONCEPTIAL.
ACTUAL PLACMENT WILL VARY.

NORTH

ROOF PLAN

1" = 10'-0"

KENNETH D. SMITH
ARCHITECT
& ASSOCIATES, INC.

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LICENSED ARCHITECT
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No. C25315
Ren. 2/28/19
STATE OF CALIFORNIA

DATE: 9/31/2021
JOB NO: 18017
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Revision Schedule

#	Date	Description

project:
NEW SHELL BUILDING 'A'
Hardt & Brier Business Park
LOTS 29 & 30
SAN BERNARDINO, CA

DD2.2

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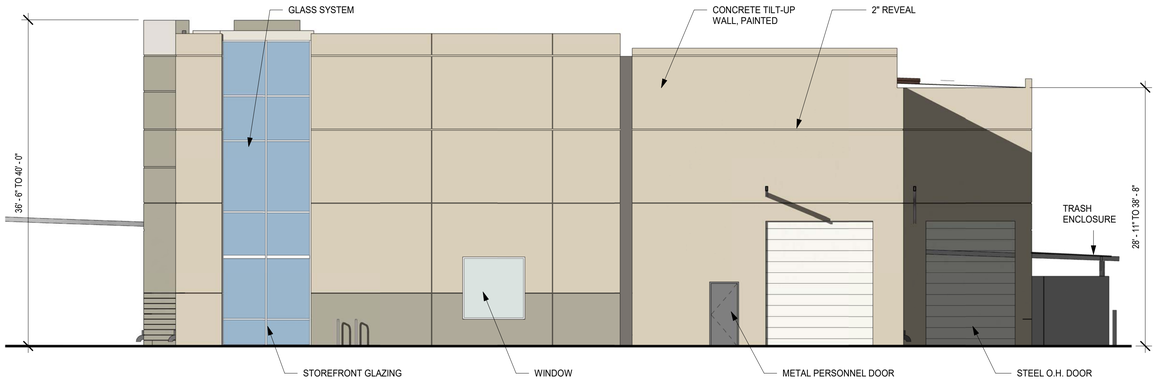
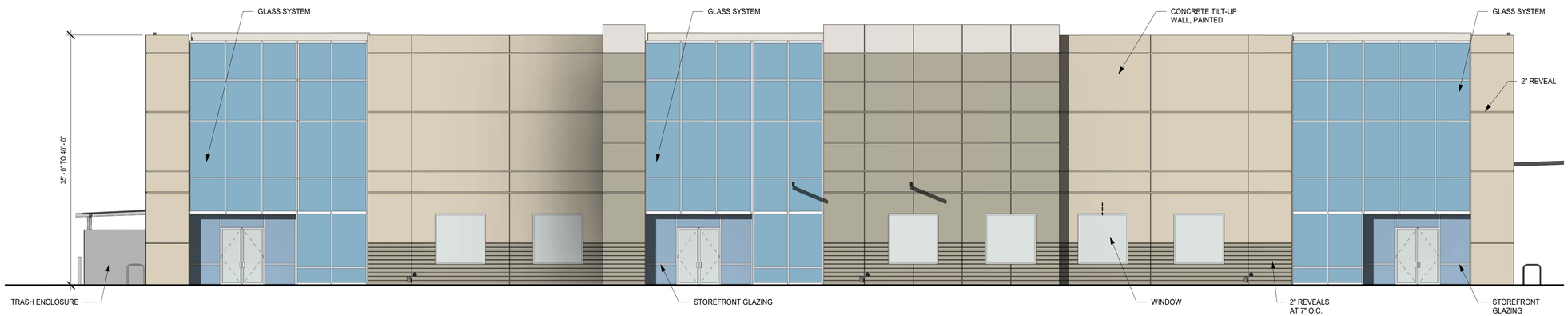


DD- EAST- A

1/8" = 1'-0"



DD- SOUTH- A

1/8" = 1'-0"

EXTERIOR PAINT :

COLORS SHALL BE SHERWIN-WILLIAMS PAINT TO MATCH NUMBERS BELOW.

A	SW 6203 SPARE WHITE	
B	SW 7667 ZIRCON	
C	SW 7669 SUMMIT GRAY	

KENNETH D. SMITH
ARCHITECT
& ASSOCIATES, INC.

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LICENSED ARCHITECT
KENNETH DUANE SMITH
No. C25315
Ren. 2/28/19
STATE OF CALIFORNIA

DATE: 9/31/2021
JOB NO: 18017
DRAWN BY: Ken
CHECKED BY: Checker

Revision Schedule		
#	Date	Description

project:
NEW SHELL BUILDING 'A'
Hardt & Brier Business Park
LOTS 29 & 30
SAN BERNARDINO, CA

DD2.3

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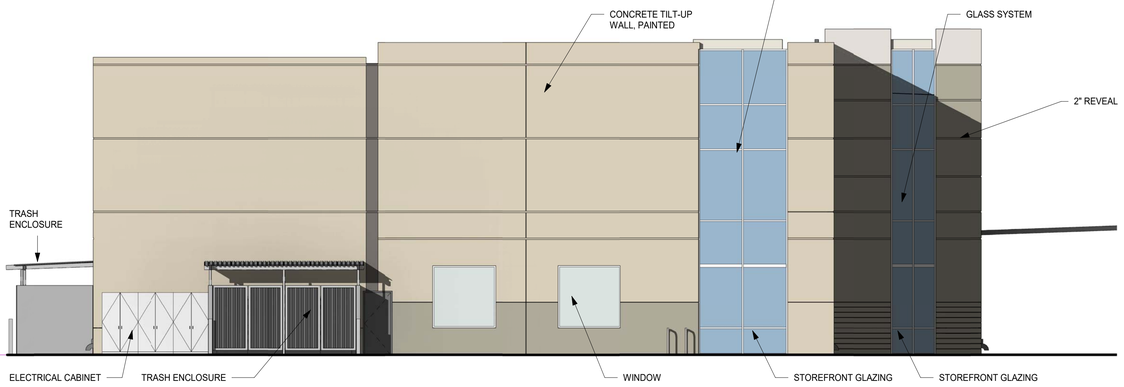


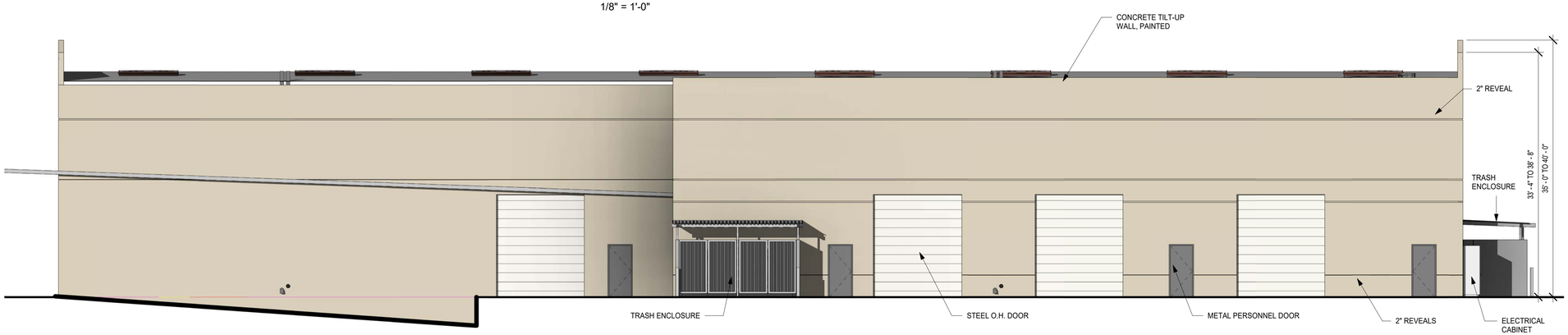
DD- WEST- A

1/8" = 1'-0"

EXTERIOR PAINT :

COLORS SHALL BE SHERWIN-WILLIAMS PAINT TO MATCH NUMBERS BELOW.

A	SW 6203 SPARE WHITE	
B	SW 7667 ZIRCON	
C	SW 7669 SUMMIT GRAY	



DD- NORTH- A

1/8" = 1'-0"

KENNETH D. SMITH
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LICENSED ARCHITECT
KENNETH DUANE SMITH
No. C25315
Ren. 2/28/19
STATE OF CALIFORNIA

DATE: 9/31/2021
JOB NO: 18017
DRAWN BY: Author
CHECKED BY: Checker

Revision Schedule		
#	Date	Description

project:
NEW SHELL BUILDING 'A'
Hardt & Brier Business Park
LOTS 29 & 30
SAN BERNARDINO, CA

DD2.4

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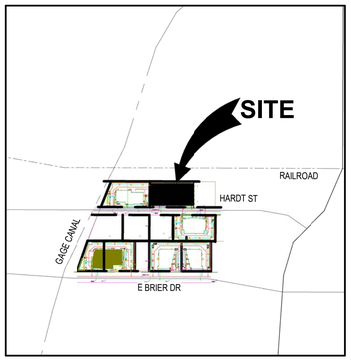


VICINITY MAP

1" = 500'-0"

OWNER

OAK PROPERTIES
1000 PIONEER WAY
EL CAJON, CA. 92020
Tel:(619) 440 7424
Fax:(619) 440 8914
Email:-
CONTACT:GREGG HAMANN

LEGAL DESCRIPTION

PARCELS 31 & 32 OF PARCEL MAP NO. 5464
FILED IN SAN BERNARDING COUNTY

APN: 0281-311-07 & 06

ADDRESS: HARDT STREET

USE: SHELL

ZONE: TOD CR-3

SITE INFORMATION

SITE AREA:	56,564 SF	1.30 ACRES
PROPOSED BUILDING COVERAGE:	16,300 SF	28.82 %
PROPOSED LANDSCAPE AREA:	13,356 SF	23.61 %
PROPOSED PAVING AREA:	26,908 SF	47.57 %

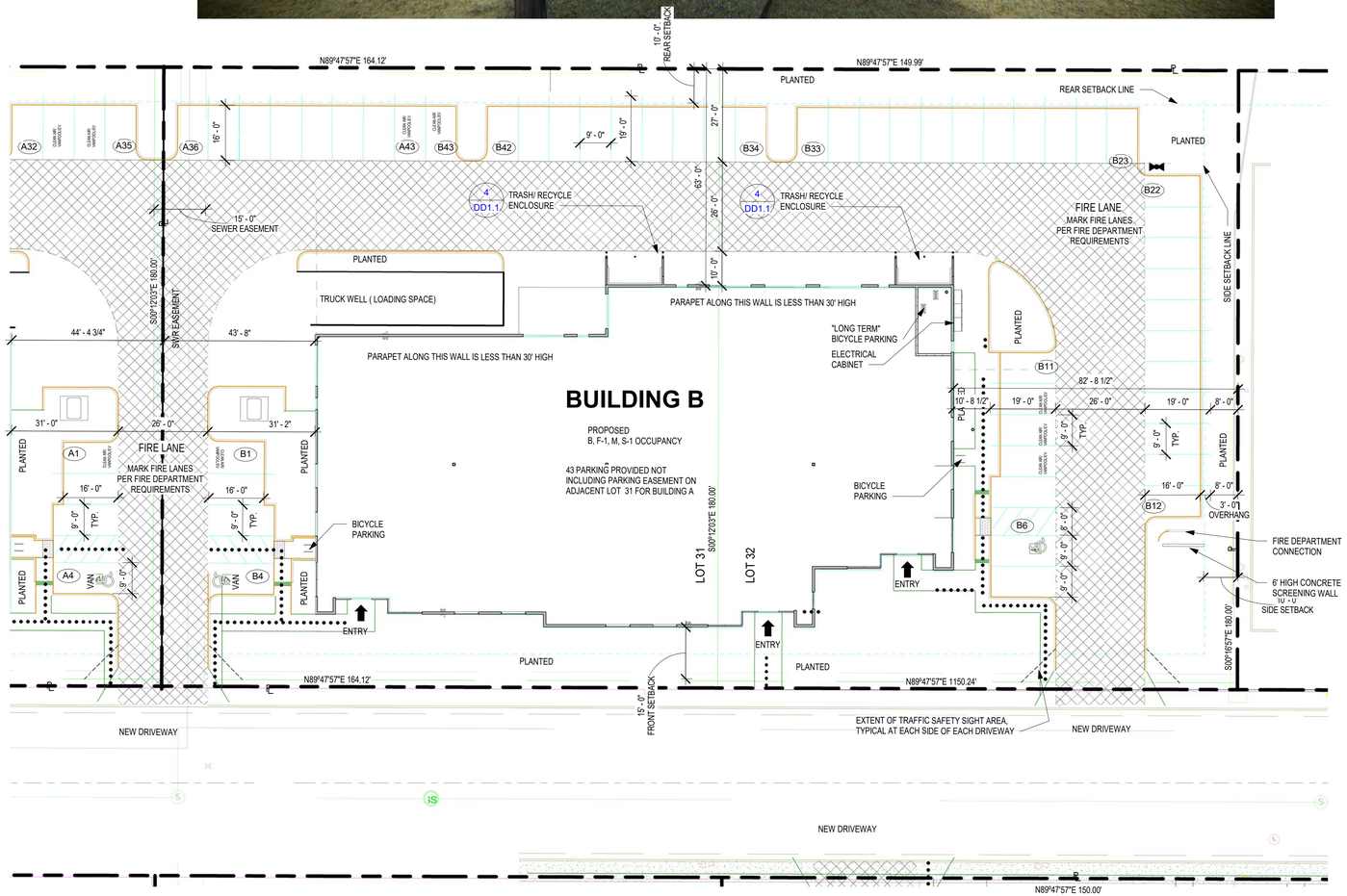
TYPE OF DEVELOPMENT: SHELL

PARKING TABULATION

PARKING PROVIDED:
- 37 STANDARD SPACES PROVIDED
- 0 COMPACT SPACES PROVIDED
- 1 VAN ACCESSIBLE SPACES PROVIDED
- 1 ACCESSIBLE SPACES PROVIDED
- 4 CLEAN AIR VEHICLE SPACES PROVIDED (8% of AUTO SPACES MIN.)
  - 2 FUTURE E.V. CHARGING STATIONS

43 TOTAL AUTOMOBILE SPACES PROVIDED

2 SHORT TERM BICYCLE SPACES w/ PERMANENTLY ANCHORED RACKS (5% of VISITOR AUTO SPACES MIN.
1 LONG TERM BICYCLE SPACE IN LOCKABLE, PERMANENTLY ANCHORED LOCKER (5% of TENANT/EMPLOYEE AUTO SPACES MIN.)



SITE LEGEND

- W W - EXISTING WATER SERVICE LINE
- S S - EXISTING SEWER SERVICE LATERAL
- F F - EXISTING FIRE (WATER) SERVICE LINE
- I I - EXISTING IRRIGATION (WATER) SERVICE LINE
- E E - EXISTING ELECTRICAL SERVICE LINE
- G G - EXISTING GAS SERVICE LINE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING POLE MOUNTED LIGHT STANDARD
- PROPOSED POLE MOUNTED LIGHT STANDARD
- POST INDICATOR VALVE
- POST INDICATOR VALVE
- FIRE DEPARTMENT POINT OF CONNECTION
- FIRE DEPARTMENT POINT OF CONNECTION
- REDUCED PRESSURE DETECTION ASSEMBLY (RPDA) or DOUBLE CHECK VALVE ASSEMBLY (DCVA) PER JURISDICTION
- 1 NUMBER OF PARKING
- HANDICAP PARKING SYMBOL

ACCESSIBLE PATH OF TRAVEL

NEW PATH OF TRAVEL (P.O.T.) AS INDICATED IS A BARRIER FREE ACCESS ROUTE WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING 1/2" BEVELED AT 1:2 MAXIMUM SLOPE. EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/4" VERTICAL AND IS AT LEAST 48" WIDE. SURFACE IS SLIP RESISTANT, STABLE, FIRM, AND SMOOTH. CROSS-SLOPE DOES NOT EXCEED 2% AND SLOPE IN DIRECTION OF TRAVEL IS LESS THAT 5% UNLESS OTHERWISE INDICATED. P.O.T. SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM (11B-307.2) AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM A WALL AND ABOVE 27" AND LESS THAN 80" (11B-307.3).

PROJECT SCOPE

A FREESTANDING SPRINKLERED TILT-UP SHELL BUILDING THAT WILL BE CAPABLE OF ACCOMMODATING A VARIETY OF USES, ON APPROXIMATELY 1.30 ACRES

DD SHEET LIST

SHEET #	SHEET NAME
DD1.0	SITE
DD1.1	SITE DETAILS
DD2.1	FLOOR PLAN
DD2.2	ROOF PLAN
DD2.3	ELEVATIONS
DD2.4	ELEVATIONS

SITE PLAN

1" = 20'-0"

KENNETH D. SMITH
ARCHITECT
& ASSOCIATES, INC.
500 FESLER ST. SUITE 102
EL CAJON - CA - 92020
PH / 619 444 2182
Fax / 619 442 2699

LICENSED ARCHITECT
KENNETH DUANE SMITH
No. C25315
Ren. 2/28/19
STATE OF CALIFORNIA

DATE: 5-20-19
JOB NO: Project Number
DRAWN BY: Author
CHECKED BY: Checker

Revision Schedule		
#	Date	Description

project:
NEW SHELL BUILDING 'B'
Hardt & Brier Business Park
LOTS 31 & 32
SAN BERNARDINO, CA

DD1.0

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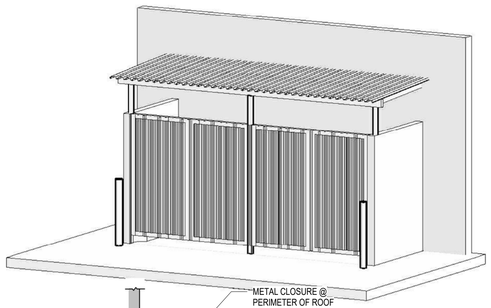
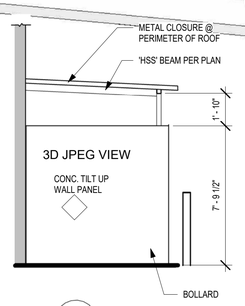
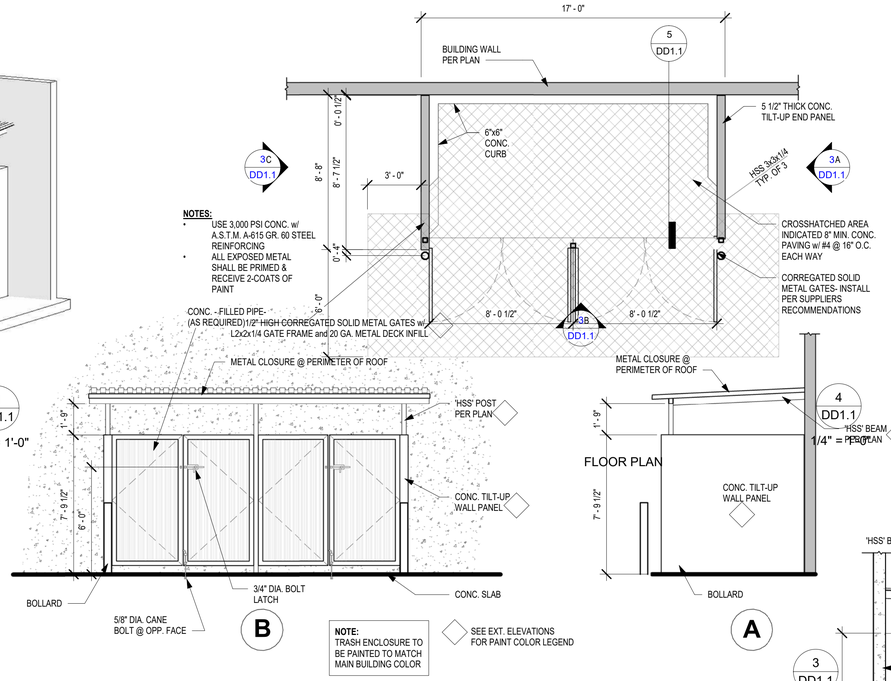




C

1 DD1.1
1/4" = 1'-0"



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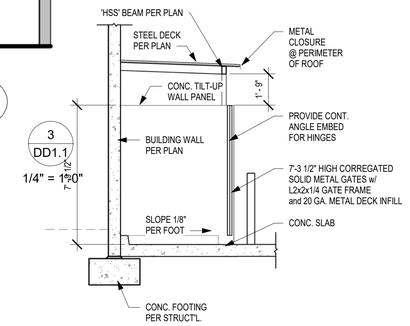
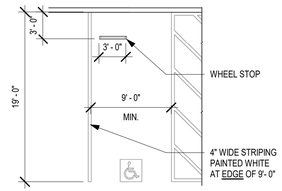
A



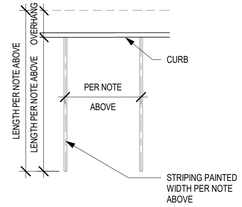
3 DD1.1
1/4" = 1'-0"

SECTION

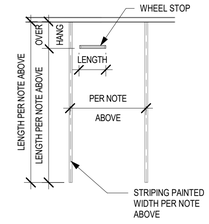
ELEVATIONS



ACCESSIBLE STALL STRIPING



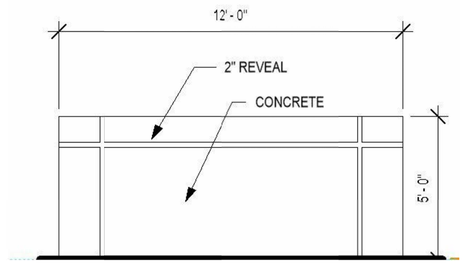
TYPICAL STALL w/ OVERHANG



TYPICAL STALL STRIPING

6 DD1.1
1/8" = 1'-0"

PARKING



TYPICAL SCREENI NG WALL

NOT TO SCALE

KENNETH D. SMITH ARCHITECT & ASSOCIATES, INC.
500 FESLER ST. SUITE 102
EL CAJON - CA - 92020
PH / 619 444 2182
Fax / 619 442 2699

LICENSED ARCHITECT
KENNETH DUANE SMITH
No. C25315
Ren. 2/28/19
STATE OF CALIFORNIA

DATE: 5-20-19
JOB NO: Project Number
DRAWN BY: Author
CHECKED BY: Checker

Revision Schedule

#	Date	Description

project:
NEW SHELL BUILDING 'B'
Hardt & Brier Business Park
LOTS 31 & 32
SAN BERNARDINO, CA

DD1.1

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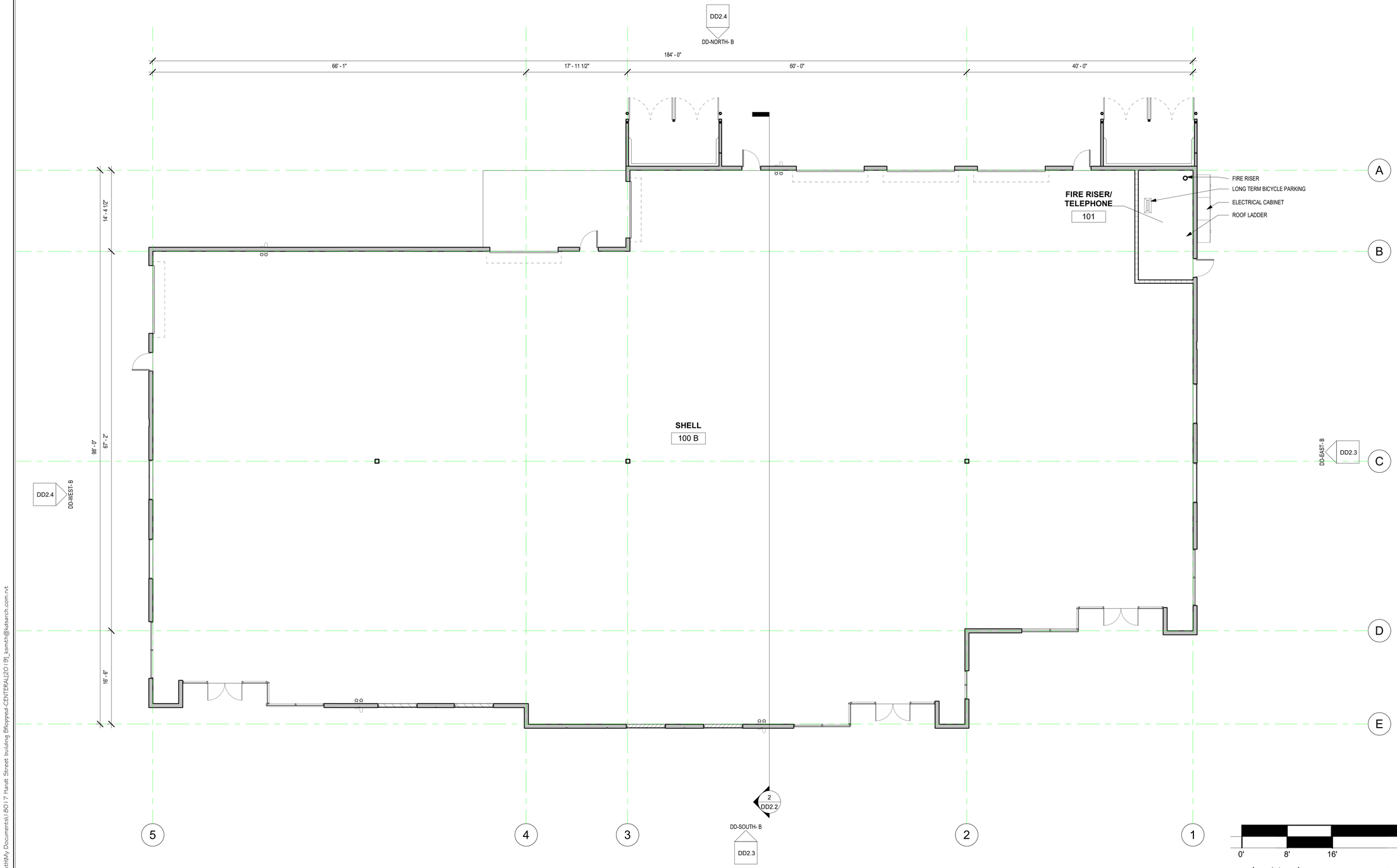

SQUARE FOOTAGE	
Name	**Area**
BUILDING B	16,300 SF
01 FIRST FLOOR	16,300 SF

0' 8' 16' 32'

NORTH

FIRST FLOOR PLAN

1/8" = 1'-0"

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DD2.1

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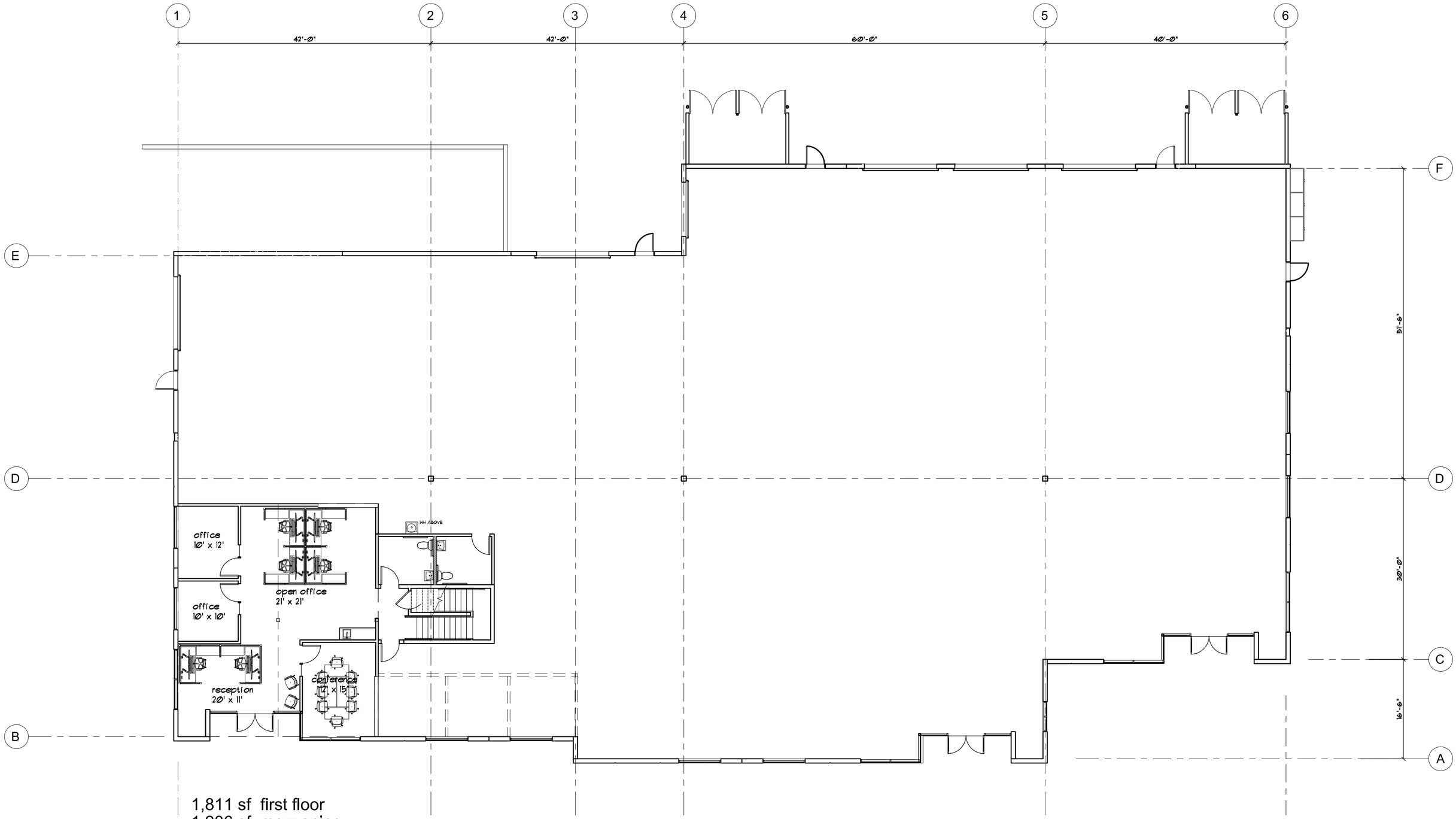


1,811 sf first floor
1,286 sf mezzanine
3,097 sf improved 17.6%

16,300 sf + 1,286 mezz. = 17,586 sf

FLOOR PLAN B

SCALE: 3/32" = 1'-0"

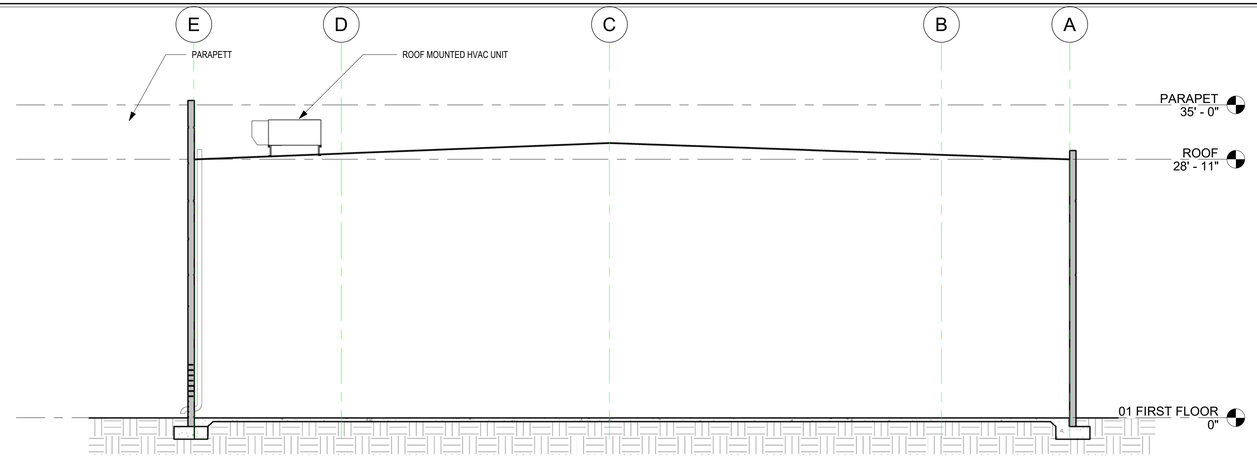
HAMANN COMPANIES
1000 PIONEER WAY
EL CAJON, CA 92020
619.440.7424
FAX 619.440-8914

HAMANN COMPANIES
LICENSE # 373142

MARCH 18, 2023

Hardt & Brier Business Park

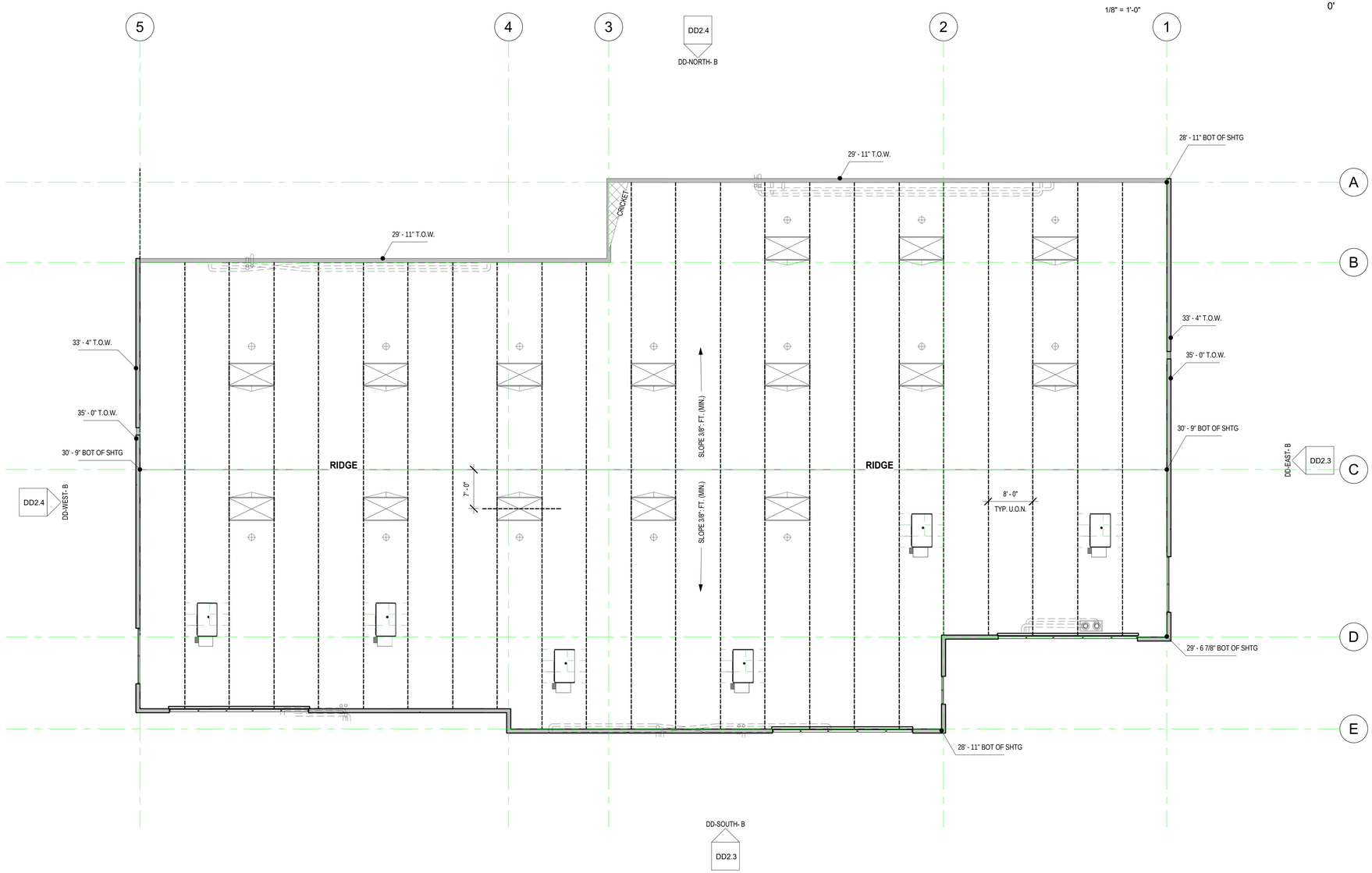
San Bernardino California



Section 1

1/8" = 1'-0"

0' 8' 16' 32'



0' 10' 20' 40'

NOTE:
ROOFTOP EQUIPMENT SHOWEN IS CONCEPTIAL.
ACTUAL PLACMENT WILL VARY.

NORTH

ROOF PLAN

1" = 10'-0"

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Hardt & Brier Business Park
LOTS 31 & 32
SAN BERNARDINO, CA

DD2.2

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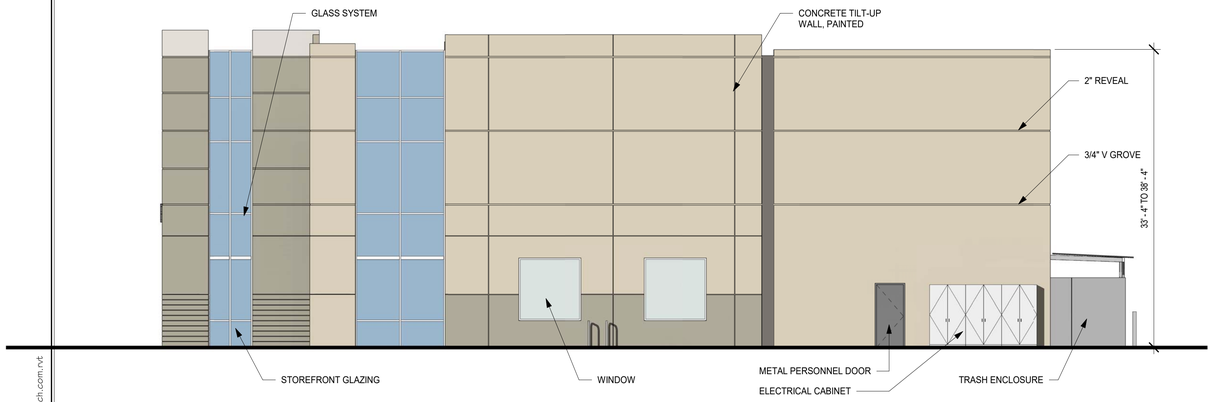


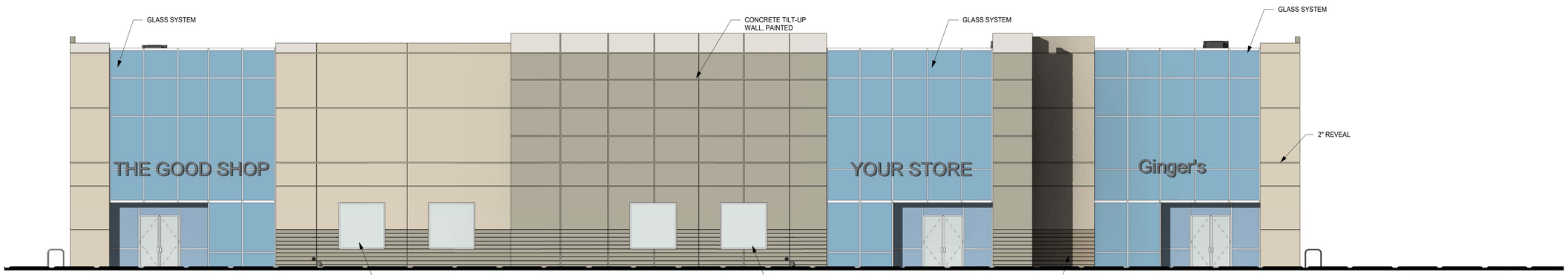
DD-EAST- B

1/8" = 1'-0"

EXTERIOR PAINT :

COLORS SHALL BE SHERWIN-WILLIAMS PAINT TO MATCH NUMBERS BELOW.

A	SW 6203 SPARE WHITE	
B	SW 7667 ZIRCON	
C	SW 7669 SUMMIT GRAY	



DD-SOUTH- B

1/8" = 1'-0"

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No. C25315
Ren. 2/28/19
STATE OF CALIFORNIA

DATE: 5-20-19
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Revision Schedule

#	Date	Description

project:
NEW SHELL BUILDING 'B'
Hardt & Brier Business Park
LOTS 31 & 32
SAN BERNARDINO, CA

DD2.3

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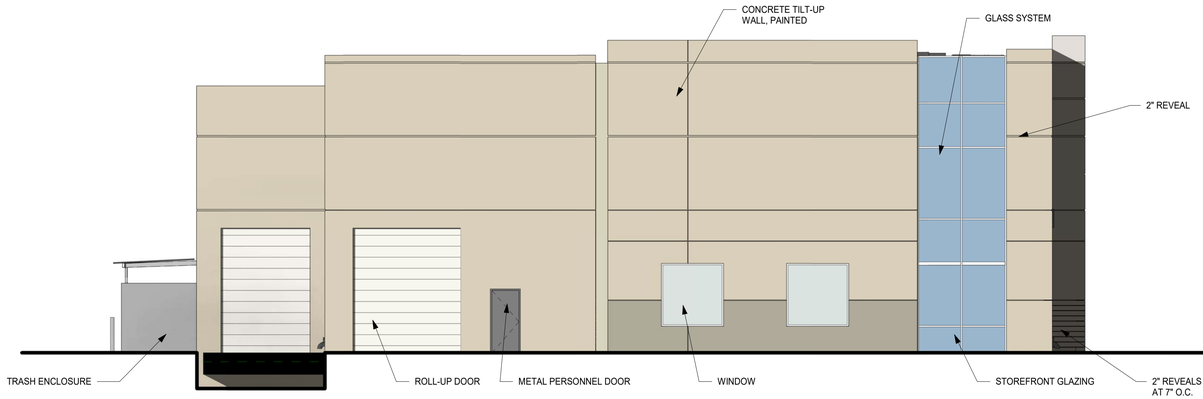
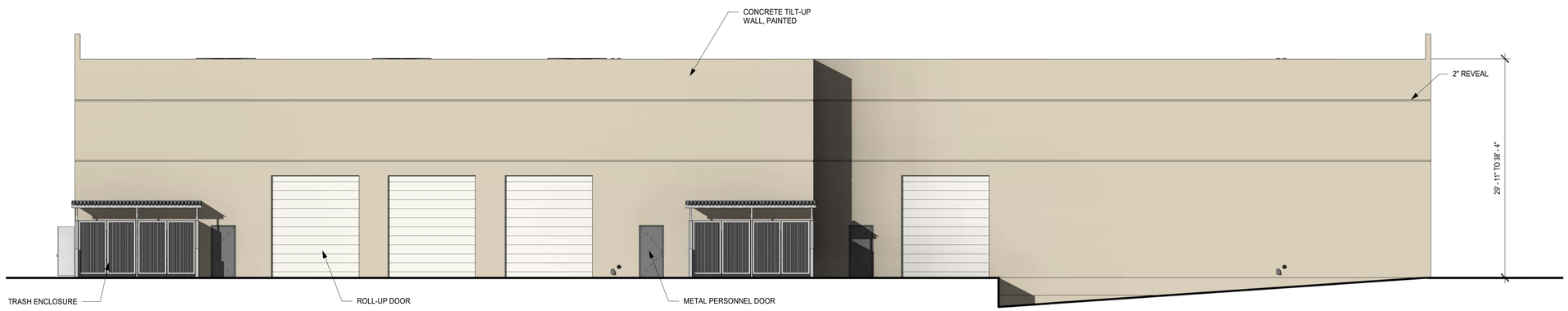


DD-WEST- B

1/8" = 1'-0"



DD-NORTH- B

1/8" = 1'-0"

EXTERIOR PAINT :

COLORS SHALL BE SHERWIN-WILLIAMS PAINT TO MATCH NUMBERS BELOW.

- A SW 6203 SPARE WHITE
- B SW 7667 ZIRCON
- C SW 7669 SUMMIT GRAY

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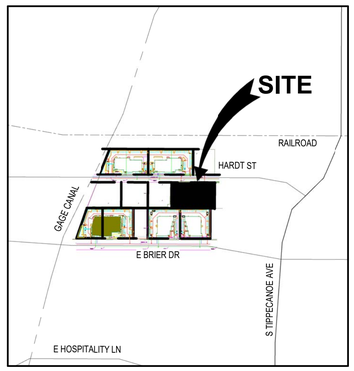
project:
NEW SHELL BUILDING 'B'
Hardt & Brier Business Park
LOTS 31 & 32
SAN BERNARDINO, CA

DD2.4

7/22/2022 1:55:59 PM D:\Users\Ken Smith\My Documents\1801 7 Hardt Street building B\topped-CENTERAL(2019)_ksmith@kdsarch.com.rvt

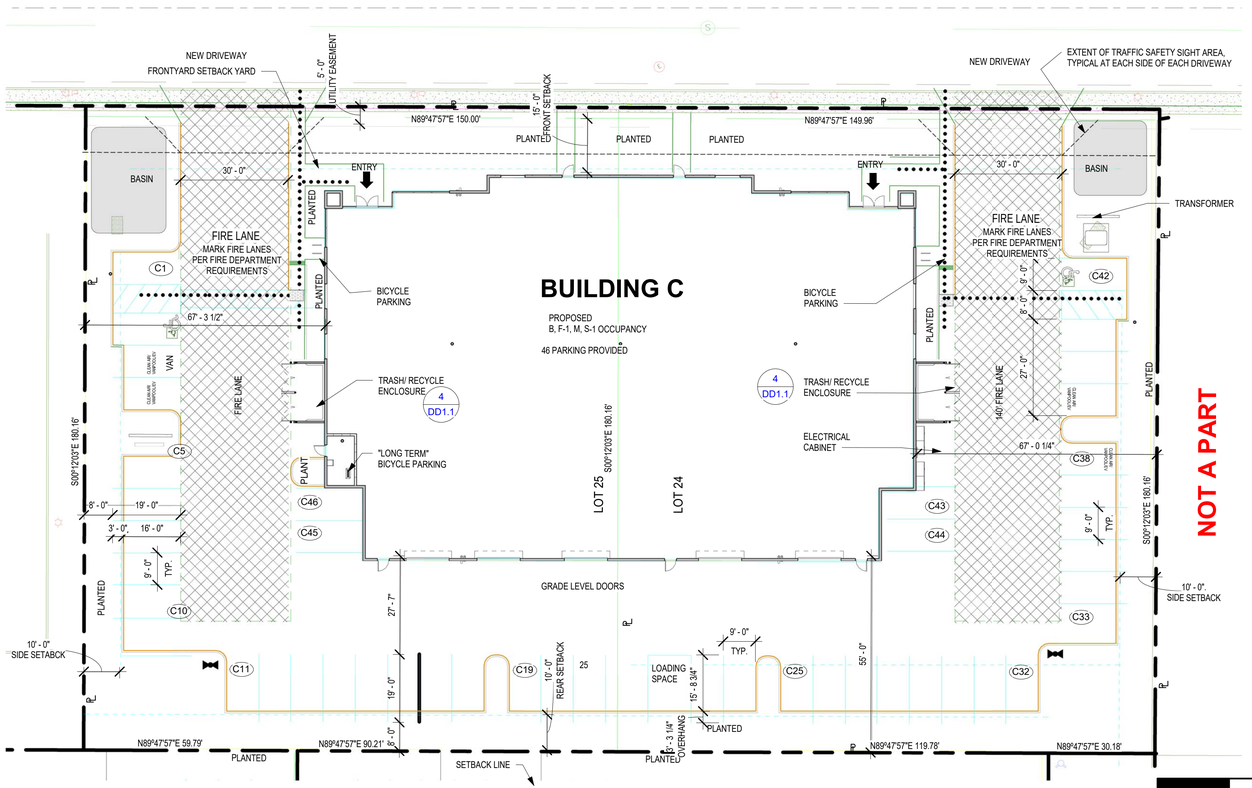
NEW DRIVEWAY

HARDT STREET



VICINITY MAP

1" = 500'-0"



0' 20' 40' 80'

1" = 20'-0"

OWNER

OAK PROPERTIES
1000 PIONEER WAY
EL CAJON, CA. 92020
Tel:(619) 440 7424
Fax:(619) 440 8914
Email:-
CONTACT:GREGG HAMANN

LEGAL DESCRIPTION

PARCELS 24 & 25 OF PARCEL MAP NO. 5464
FILED IN SAN BERNARDING COUNTY

APN: 0281-311-11 & 12

ADDRESS: HARDT STREET

USE: SHELL

ZONE: TOD CR-3

SITE INFORMATION

SITE AREA:	54,041 SF	1.24 ACRES
PROPOSED BUILDING COVERAGE:	17,048 SF	31.55 %
PROPOSED LANDSCAPE AREA:	13,367 SF	24.73 %
PROPOSED PAVING AREA:	23,626 SF	43.72 %

TYPE OF DEVELOPMENT: SHELL

PARKING TABULATION

PARKING PROVIDED:
- 40 STANDARD SPACES PROVIDED
- 0 COMPACT SPACES PROVIDED
- 1 VAN ACCESSIBLE SPACES PROVIDED
- 1 ACCESSIBLE SPACES PROVIDED
- 4 CLEAN AIR VEHICLE SPACES PROVIDED (8% of AUTO SPACES MIN.)
  - 2 FUTURE E.V. CHARGING STATIONS

46 TOTAL AUTOMOBILE SPACES PROVIDED

- 2 SHORT TERM BICYCLE SPACES w/ PERMANENTLY ANCHORED RACKS (5% of VISITOR AUTO SPACES MIN.
- 1 LONG TERM BICYCLE SPACE IN LOCKABLE, PERMANENTLY ANCHORED LOCKER (5% of TENANT/EMPLOYEE AUTO SPACES MIN.)

SITE LEGEND

- W W - EXISTING WATER SERVICE LINE
- S S - EXISTING SEWER SERVICE LATERAL
- F F - EXISTING FIRE (WATER) SERVICE LINE
- I I - EXISTING IRRIGATION (WATER) SERVICE LINE
- E E - EXISTING ELECTRICAL SERVICE LINE
- G G - EXISTING GAS SERVICE LINE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING POLE MOUNTED LIGHT STANDARD
- PROPOSED POLE MOUNTED LIGHT STANDARD
- POST INDICATOR VALVE
- POST INDICATOR VALVE
- FIRE DEPARTMENT POINT OF CONNECTION
- FIRE DEPARTMENT POINT OF CONNECTION
- REDUCED PRESSURE DETECTION ASSEMBLY (RPDA) or DOUBLE CHECK VALVE ASSEMBLY (DCVA) PER JURISDICTION
- 1 NUMBER OF PARKING
- HANDICAP PARKING SYMBOL

ACCESSIBLE PATH OF TRAVEL

NEW PATH OF TRAVEL (P.O.T.) AS INDICATED IS A BARRIER FREE ACCESS ROUTE WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING 1/2" BEVELED AT 1:2 MAXIMUM SLOPE, EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/4" VERTICAL AND IS AT LEAST 48" WIDE. SURFACE IS SLIP RESISTANT, STABLE, FIRM, AND SMOOTH. CROSS-SLOPE DOES NOT EXCEED 2% AND SLOPE IN DIRECTION OF TRAVEL IS LESS THAT 5% UNLESS OTHERWISE INDICATED. P.O.T. SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM (11B-307.2) AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM A WALL AND ABOVE 27" AND LESS THAN 80" (11B-307.3).

PROJECT SCOPE

A FREESTANDING SPRINKLERED TILT-UP SHELL BUILDING THAT WILL BE CAPABLE OF ACCOMMODATIING A VARIETY OF USES, ON APPROXIMATELY 1.24 ACRES

SHEET LIST DD

SHEET #	SHEET NAME
DD1.0	SITE
DD1.1	SITE DETAILS
DD2.1	FLOOR PLAN
DD2.2	ROOF PLAN
DD2.3	ELEVATIONS
DD2.4	ELEVATIONS

NORTH

SITE PLAN

KENNETH D. SMITH
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#	Date	Description

project:
NEW SHELL BUIODING 'C'
Hardt & Brier Business Park
LOTS 24 & 25
SAN BERNARDINO, CA

DD1.0

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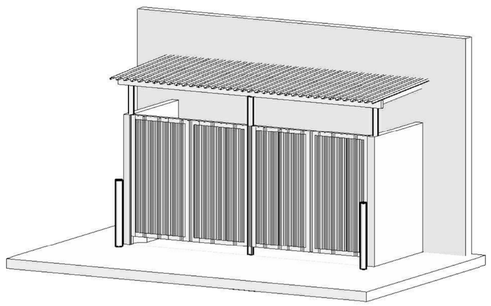
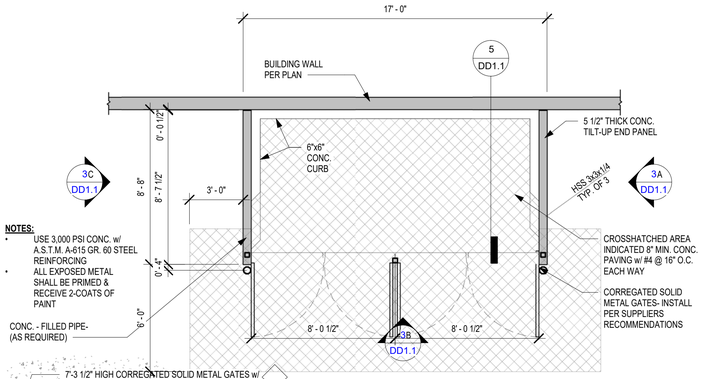
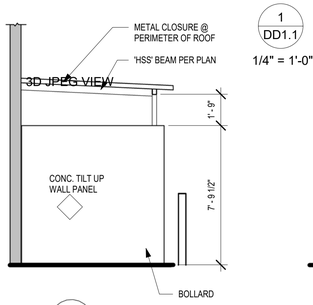
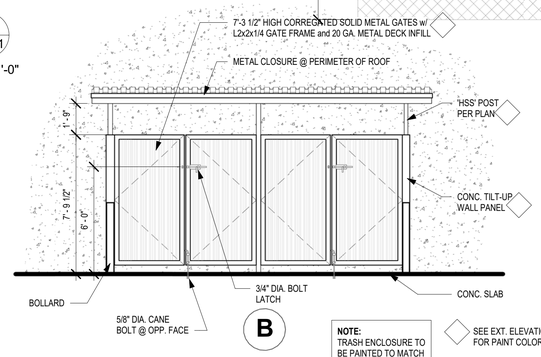




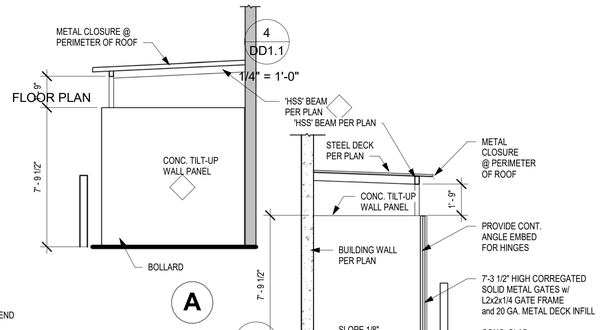


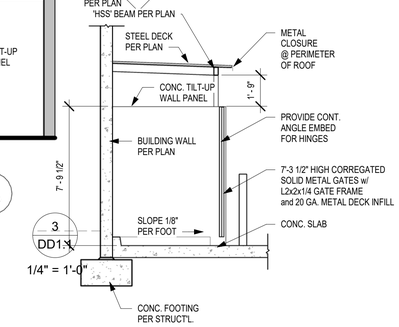
1
DD1.1
1/4" = 1'-0"



NOTE:
TRASH ENCLOSURE TO BE PAINTED TO MATCH MAIN BUILDING COLOR

SEE EXT. ELEVATIONS FOR PAINT COLOR LEGEND

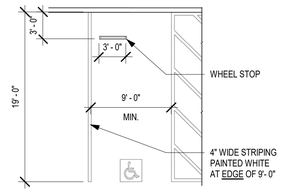




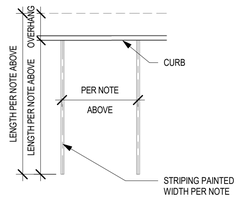
ELEVATIONS

SECTION

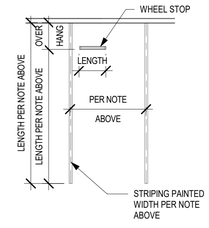
5
DD1.1
1/4" = 1'-0"



ACCESSIBLE STALL STRIPING



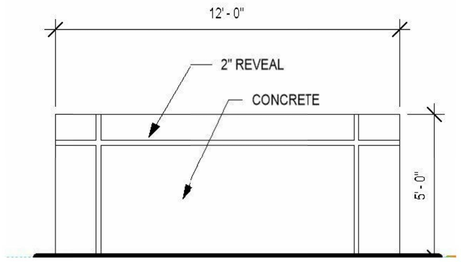
TYPICAL STALL w/ OVERHANG



TYPICAL STALL STRIPING

6
DD1.1
1/8" = 1'-0"

PARKING



TYPICAL SCREENING WALL

NOT TO SCALE

KENNETH D. SMITH ARCHITECT & ASSOCIATES, INC.

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CHECKED BY: Checker

Revision Schedule		
#	Date	Description

project:
NEW SHELL BUIODING 'C'
Hardt & Brier Business Park
LOTS 24 & 25
SAN BERNARDINO, CA

DD1.1

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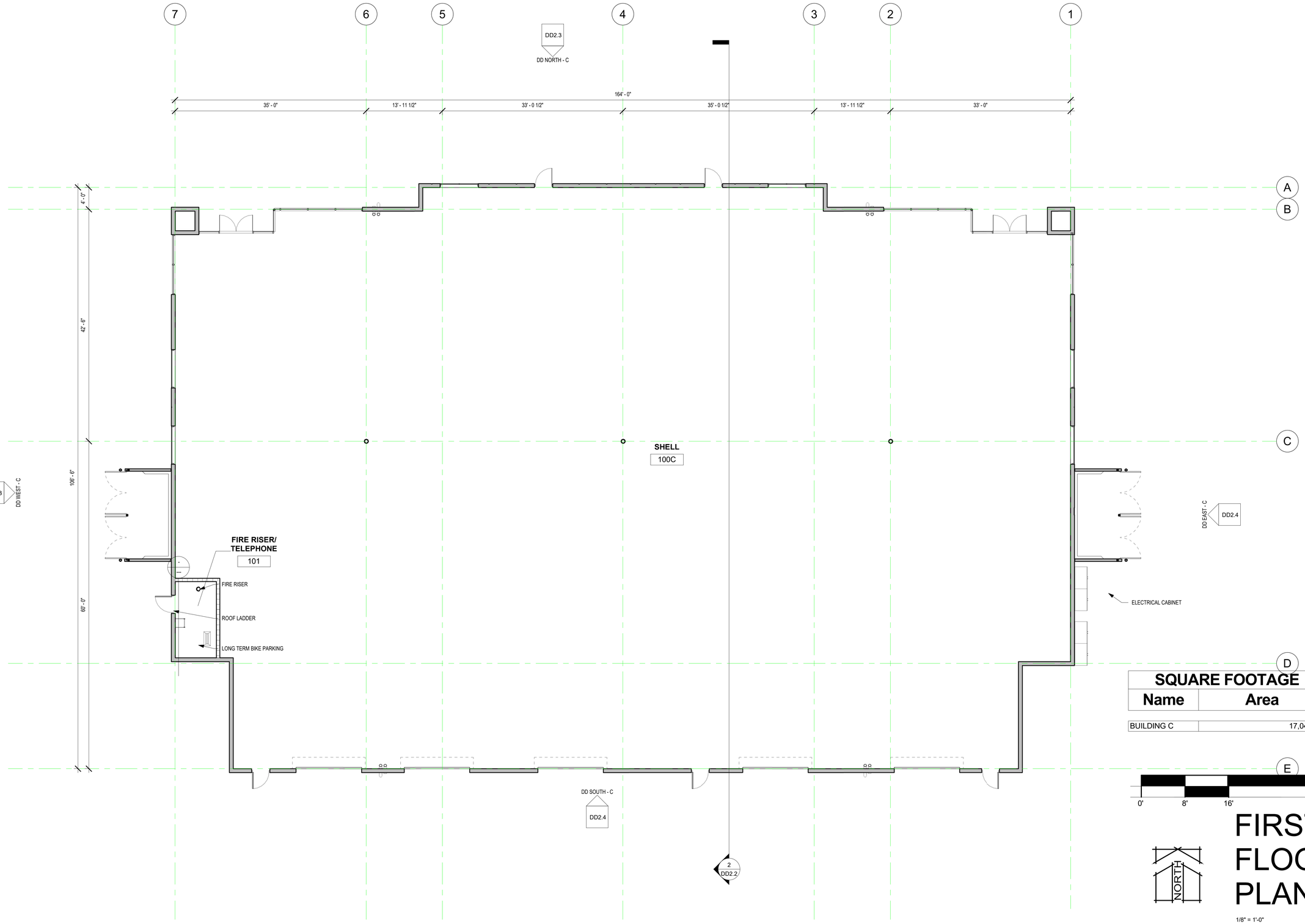

SQUARE FOOTAGE	
Name	**Area**
BUILDING C	17,048 SF

FIRST FLOOR PLAN

1/8" = 1'-0"

KENNETH D. SMITH
ARCHITECT
& ASSOCIATES, INC.

500 FESLER ST. SUITE 102
EL CAJON - CA - 92020
PH / 619 444 2182
Fax / 619 442 2699

LICENSED ARCHITECT
KENNETH DUANE SMITH
No. C25315
Ren. 2/28/19
STATE OF CALIFORNIA

DATE: 5-20-19
JOB NO: Project Number
DRAWN BY: Author
CHECKED BY: Checker

Revision Schedule		
#	Date	Description

project:
NEW SHELL BUIODING 'C'
Hardt & Brier Business Park
LOTS 24 & 25
SAN BERNARDINO, CA

DD2.1

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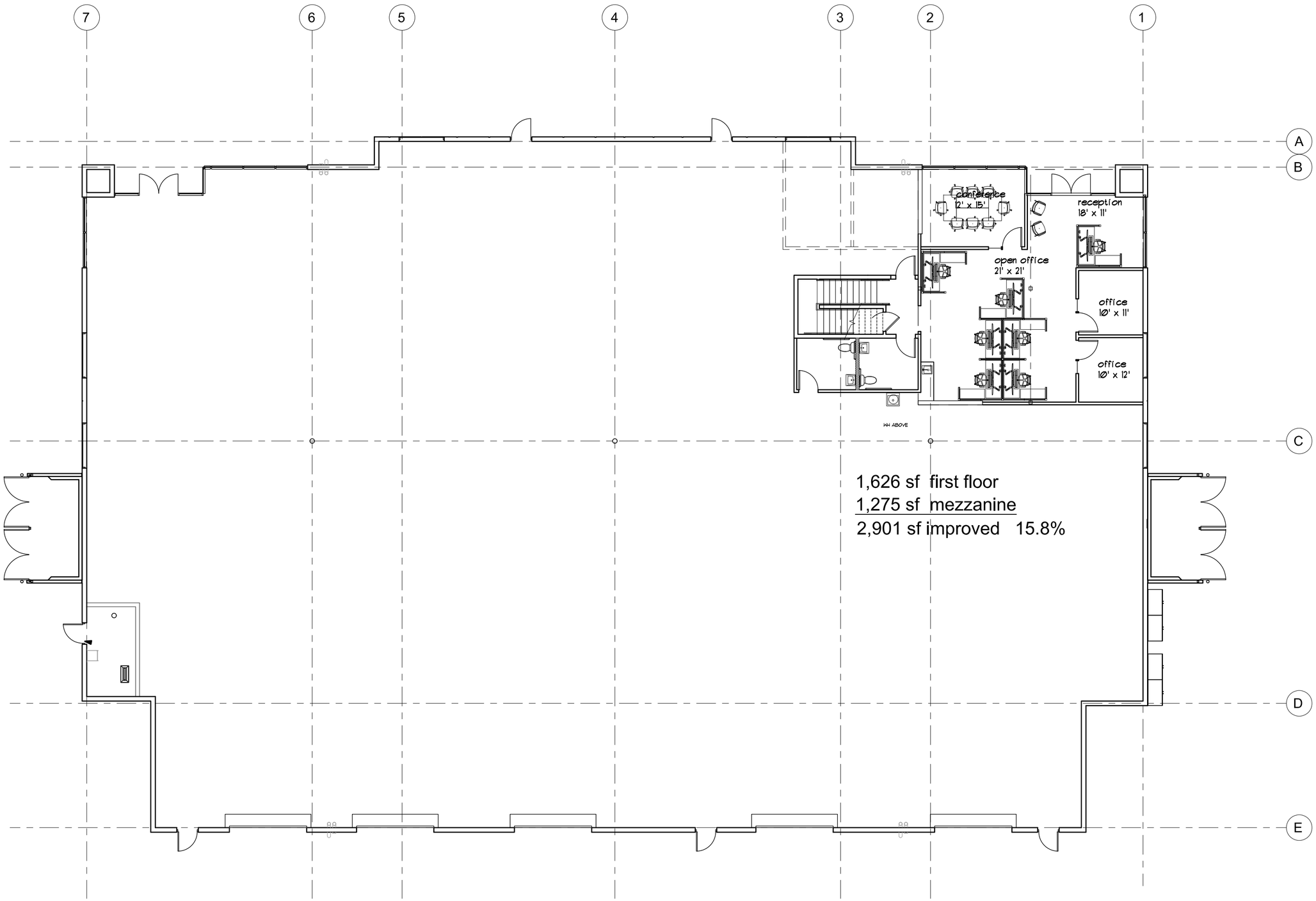


17,048 sf + 1,275 mezz. = 18,323 sf

FLOOR PLAN C

SCALE: 3/32" = 1'-0"

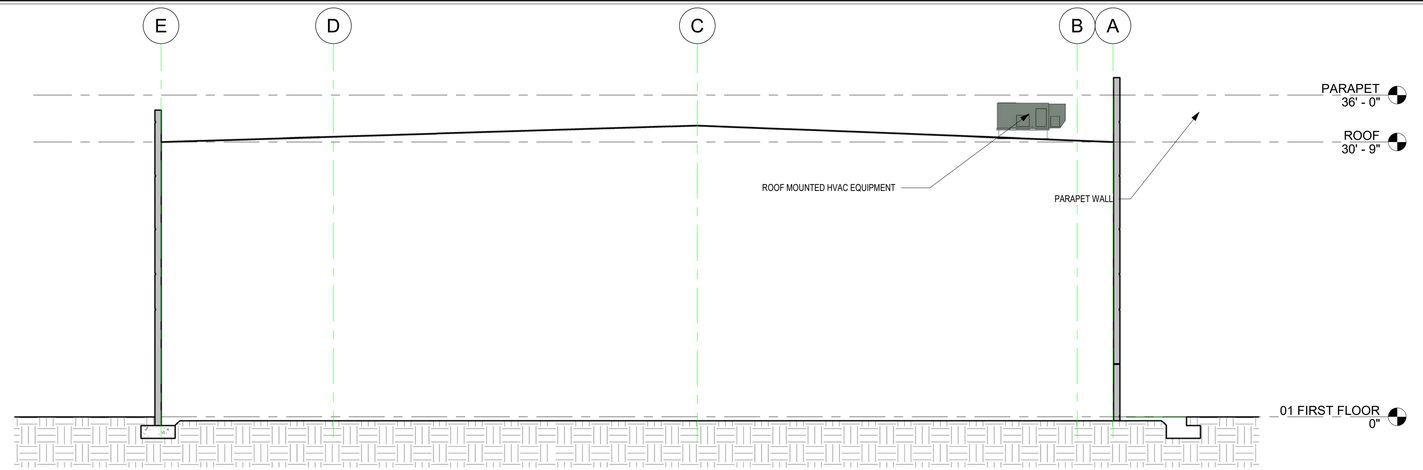
HAMANN COMPANIES
1000 PIONEER WAY
EL CAJON, CA 92020
619.440.7424
FAX 619.440-8914

HAMANN COMPANIES
LICENSE # 373142

MARCH 18, 2023

Hardt & Brier Business Park

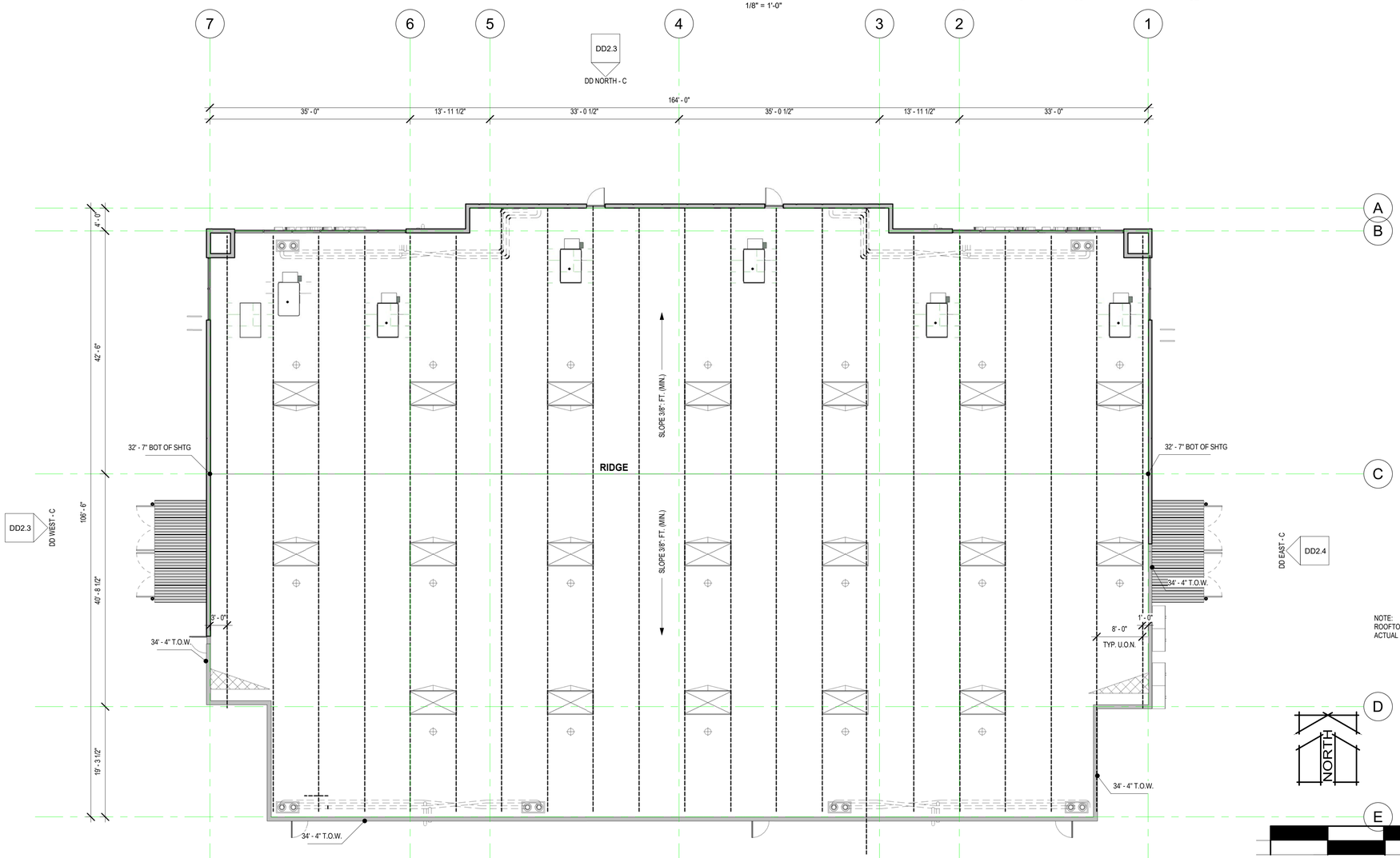
San Bernardino California



Section 1

1/8" = 1'-0"

0' 8' 16' 32'



NOTE:
ROOFTOP EQUIPMENT SHOWEN IS CONCEPTIAL.
ACTUAL PLACMENT WILL VARY.

NORTH

ROOF PLAN

1" = 10'-0"

0' 10' 20' 40'

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SAN BERNARDINO, CA

DD2.2

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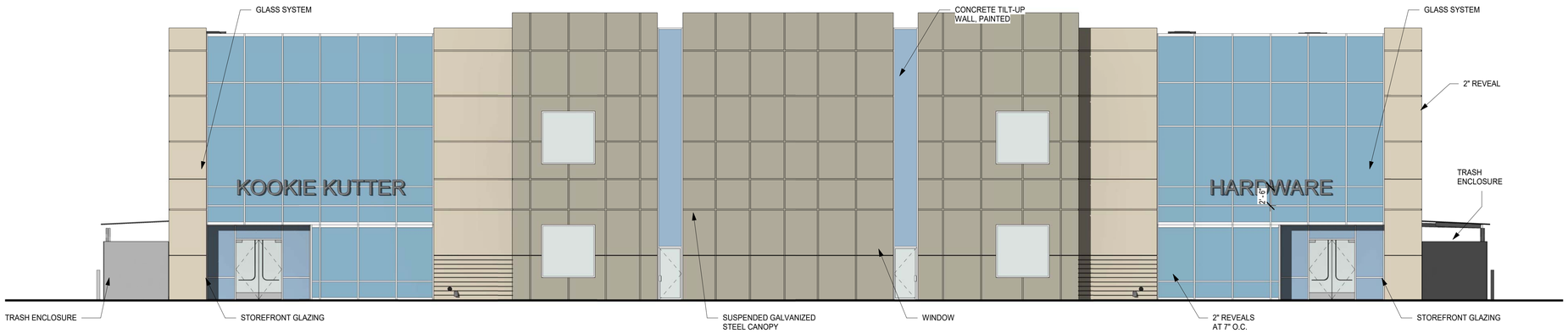


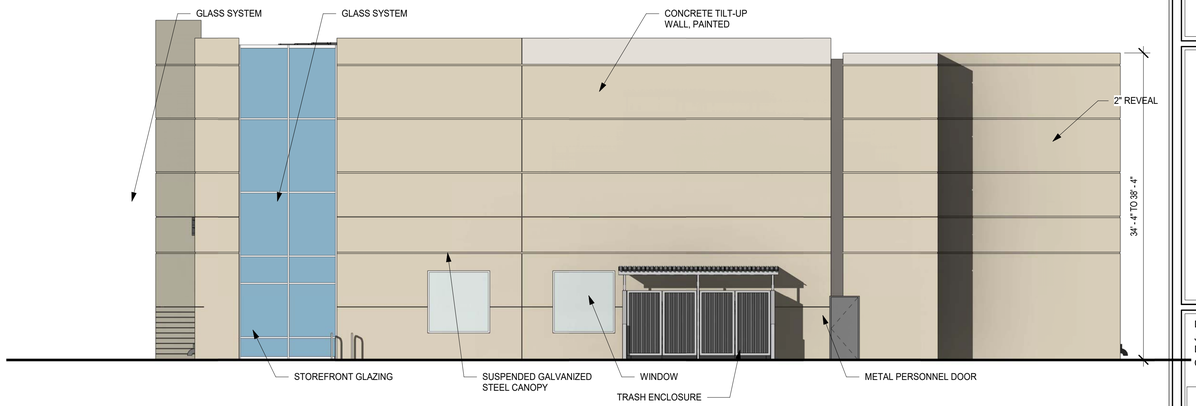
EXTERIOR PAINT :

COLORS SHALL BE SHERWIN-WILLIAMS PAINT TO MATCH NUMBERS BELOW.

- A SW 6203 SPARE WHITE
- B SW 7667 ZIRCON
- C SW 7669 SUMMIT GRAY

DD NORTH - C

1/8" = 1'-0"



DD WEST - C

1/8" = 1'-0"

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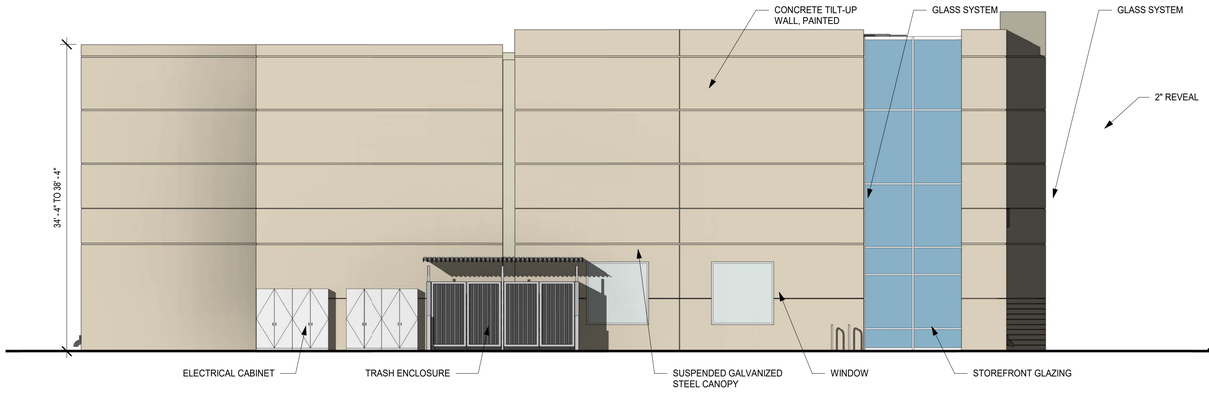
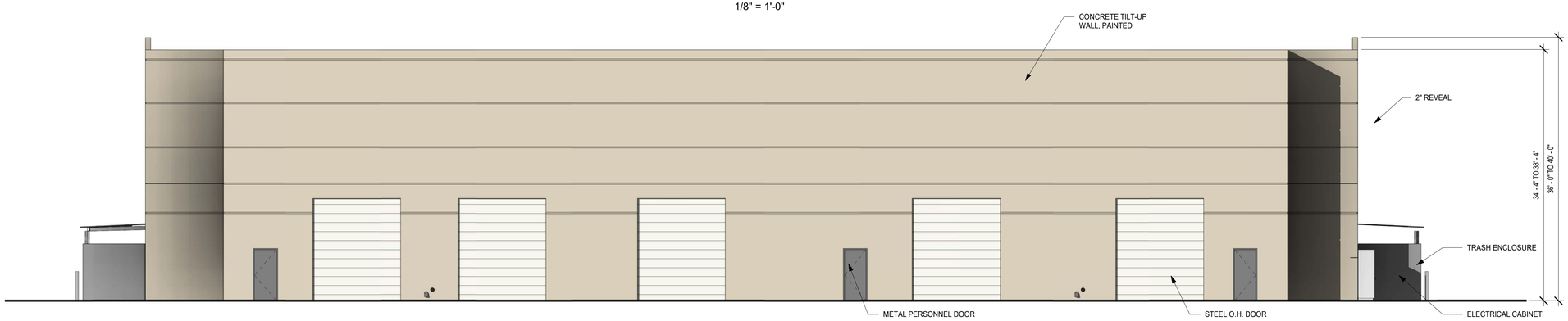


DD EAST - C

1/8" = 1'-0"



DD SOUTH - C

1/8" = 1'-0"

EXTERIOR PAINT :

COLORS SHALL BE SHERWIN-WILLIAMS PAINT TO MATCH NUMBERS BELOW.

A	SW 6203 SPARE WHITE	
B	SW 7667 ZIRCON	
C	SW 7669 SUMMIT GRAY	

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SAN BERNARDINO, CA

DD2.4

7/22/2022 2:00:31 PM D:\Users\Ken Smith\My Documents\Brier Street building C-CENTERA\[2019]_ksmith@kdsarch.com.rvt

LEGAL DESCRIPTION

PARCELS 17 OF PARCEL MAP NO. 5464
FILED IN SAN BERNARDING COUNTY

APN: 281-311-19

ADDRESS: HARDT STREET

USE: SHELL

ZONE: TOD CR-3

SITE INFORMATION

SITE AREA:	44,241 SF	1.02 ACRES
PROPOSED BUILDING COVERAGE:	13,759 SF	31.1 %
PROPOSED LANDSCAPE AREA:	10,697 SF	24.18 %
PROPOSED PAVING AREA:	19,785 SF	44.72 %

TYPE OF DEVELOPMENT: SHELL

PARKING TABULATION

PARKING PROVIDED:
- 36 STANDARD SPACES PROVIDED
- 0 COMPACT SPACES PROVIDED
- 1 VAN ACCESSIBLE SPACES PROVIDED
- 1 ACCESSIBLE SPACES PROVIDED
- 4 CLEAN AIR VEHICLE SPACES PROVIDED (8% of AUTO SPACES MIN.)
  - 2 FUTURE E.V. CHARGING STATIONS

42 TOTAL AUTOMOBILE SPACES PROVIDED

2 SHORT TERM BICYCLE SPACES w/ PERMANENTLY ANCHORED RACKS (5% of VISITOR AUTO SPACES MIN.
1 LONG TERM BICYCLE SPACE IN LOCKABLE, PERMANENTLY ANCHORED LOCKER (5% of TENANT/EMPLOYEE AUTO SPACES MIN.)

LEGAL DESCRIPTION

PARCELS 18 OF PARCEL MAP NO. 5464
FILED IN SAN BERNARDING COUNTY

APN: 281-311-18

ADDRESS: HARDT STREET

USE: SHELL

ZONE: TOD CR-3

SITE INFORMATION

SITE AREA:	44,241 SF	1.02 ACRES
PROPOSED BUILDING COVERAGE:	13,759 SF	31.1 %
PROPOSED LANDSCAPE AREA:	10,697 SF	24.18 %
PROPOSED PAVING AREA:	19,785 SF	44.72 %

TYPE OF DEVELOPMENT: SHELL

PARKING TABULATION

PARKING PROVIDED:
- 36 STANDARD SPACES PROVIDED
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42 TOTAL AUTOMOBILE SPACES PROVIDED

2 SHORT TERM BICYCLE SPACES w/ PERMANENTLY ANCHORED RACKS (5% of VISITOR AUTO SPACES MIN.
1 LONG TERM BICYCLE SPACE IN LOCKABLE, PERMANENTLY ANCHORED LOCKER (5% of TENANT/EMPLOYEE AUTO SPACES MIN.)

OWNER

OAK PROPERTIES
1000 PIONEER WAY
EL CAJON, CA. 92020
Tel:(619) 440 7424
Fax:(619) 440 8914
Email:-
CONTACT:GREGG HAMANN

SITE LEGEND

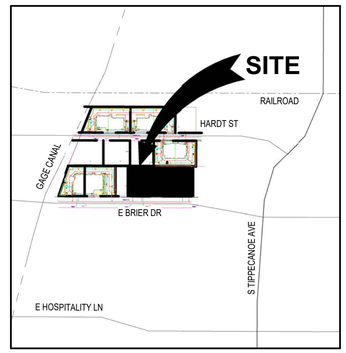
- W W - EXISTING WATER SERVICE LINE
- S S - EXISTING SEWER SERVICE LATERAL
- F F - EXISTING FIRE (WATER) SERVICE LINE
- I I - EXISTING IRRIGATION (WATER) SERVICE LINE
- E E - EXISTING ELECTRICAL SERVICE LINE
- G G - EXISTING GAS SERVICE LINE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING POLE MOUNTED LIGHT STANDARD
- PROPOSED POLE MOUNTED LIGHT STANDARD
- POST INDICATOR VALVE
- POST INDICATOR VALVE
- FIRE DEPARTMENT POINT OF CONNECTION
- FIRE DEPARTMENT POINT OF CONNECTION
- REDUCED PRESSURE DETECTION ASSEMBLY (RPDA) or DOUBLE CHECK VALVE ASSEMBLY (DCVA) PER JURISDICTION
- 1 NUMBER OF PARKING
- HANDICAP PARKING SYMBOL

ACCESSIBLE PATH OF TRAVEL

NEW PATH OF TRAVEL (P.O.T.) AS INDICATED IS A BARRIER FREE ACCESS ROUTE WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING 1/2" BEVELED AT 1:2 MAXIMUM SLOPE, EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/4" VERTICAL AND IS AT LEAST 48" WIDE. SURFACE IS SLIP RESISTANT, STABLE, FIRM, AND SMOOTH. CROSS-SLOPE DOES NOT EXCEED 2% AND SLOPE IN DIRECTION OF TRAVEL IS LESS THAT 5% UNLESS OTHERWISE INDICATED. P.O.T. SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM (11B-307.2) AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM A WALL AND ABOVE 27" AND LESS THAN 80" (11B-307.3).

PROJECT SCOPE

A FREESTANDING SPRINKLERED TILT-UP SHELL BUILDING THAN WILL BE CAPABLE OF ACCOMMODATING A VARIETY OF USES, ON APPROXIMATELY 2.10 ACRES

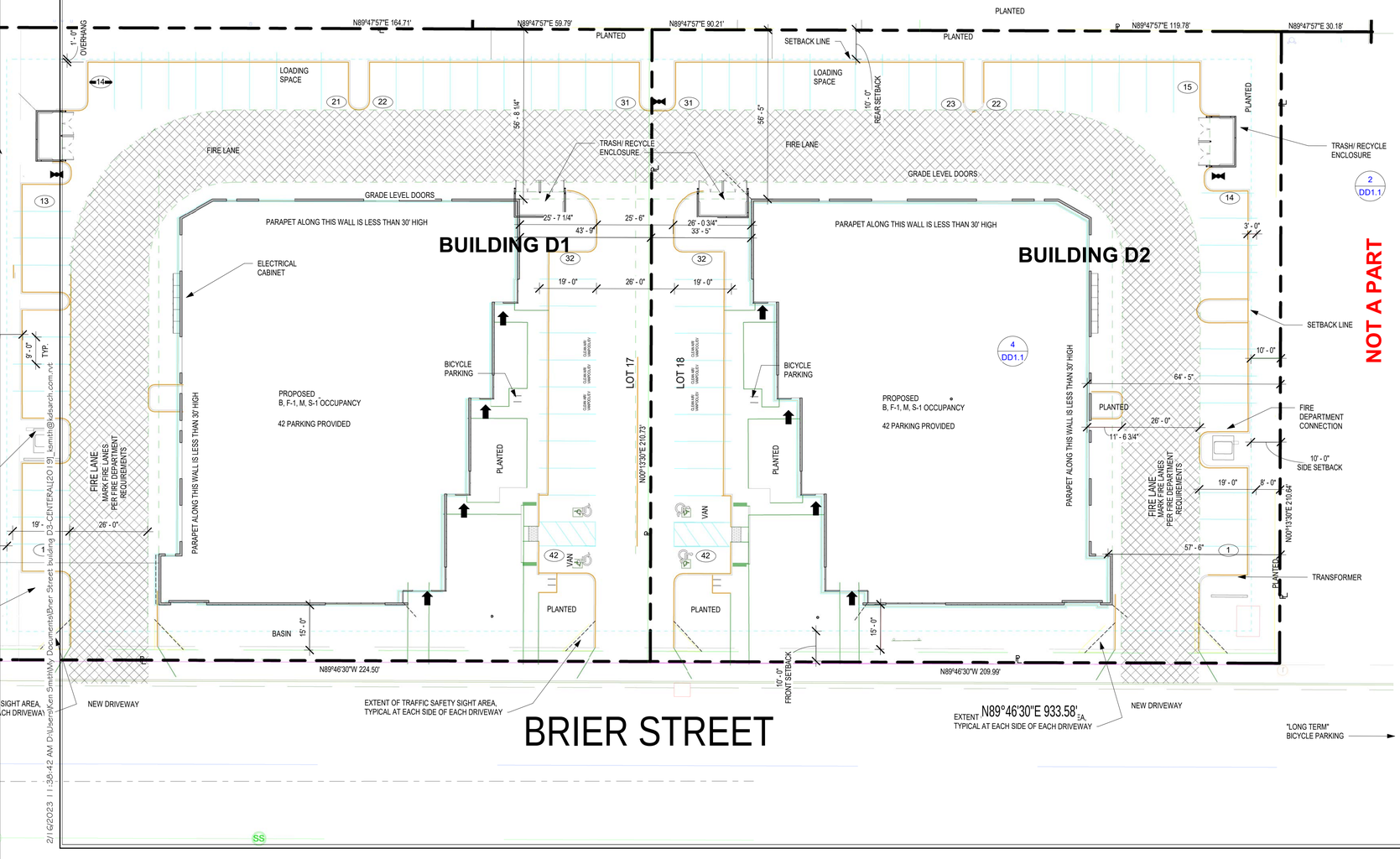


VICINITY MAP

1" = 500'-0"

SHEET LIST DD

SHEET #	SHEET NAME
DD1.0	SITE PLAN
DD1.1	SITE DETAILS
DD2.1	FLOOR PLAN
DD2.2	ROOF PLAN
DD2.3	ELEVATION



0' 20' 40' 80'

NORTH

SITE PLAN

KENNETH D. SMITH
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LOTS 17 & 18
SAN BERNARDINO, CA

DD1.0

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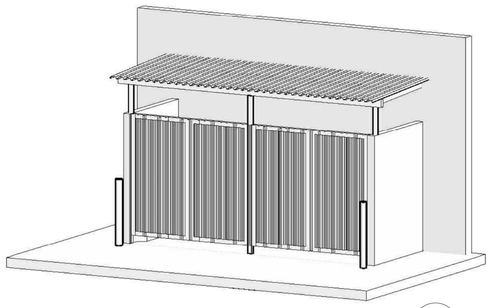
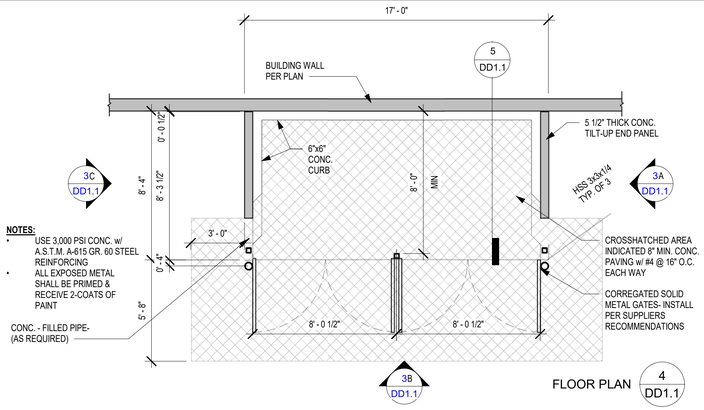


3D JPEG VIEW 1 (1 DD1.1)

1/4" = 1'-0"

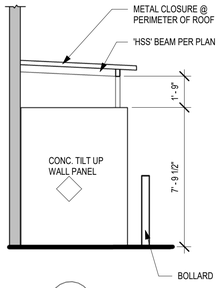


NOTES:

- USE 3,000 PSI CONC. w/ A.S.T.M. A-615 GR. 60 STEEL REINFORCING
- ALL EXPOSED METAL SHALL BE PRIMED & RECEIVE 2-COATS OF PAINT

FLOOR PLAN (4 DD1.1)

1/4" = 1'-0"



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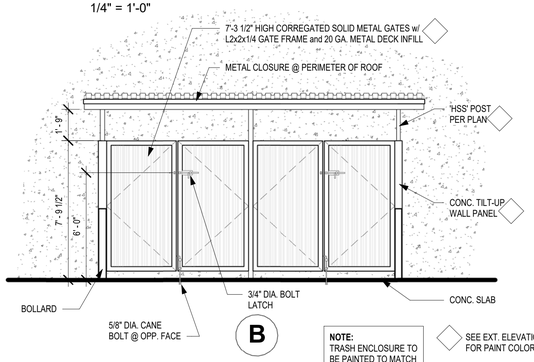
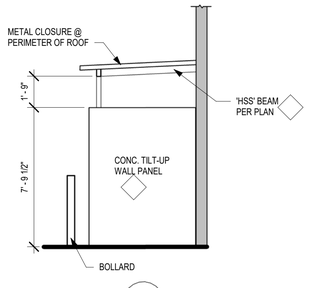


B

NOTE: TRASH ENCLOSURE TO BE PAINTED TO MATCH MAIN BUILDING COLOR

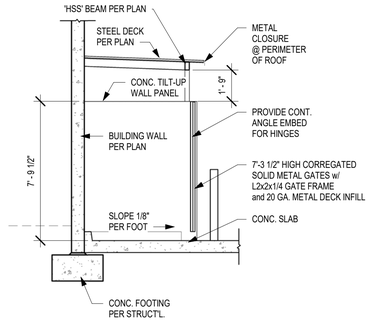
SEE EXT. ELEVATIONS FOR PAINT COLOR LEGEND



A

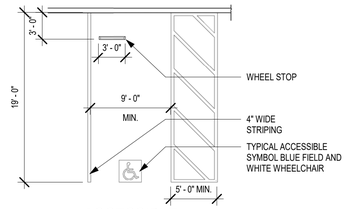
ELEVATIONS (3 DD1.1)

1/4" = 1'-0"

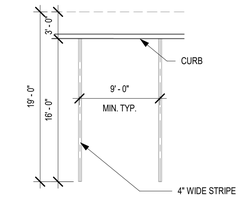


SECTION (5 DD1.1)

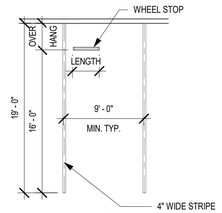
1/4" = 1'-0"



ACCESSIBLE STALL STRIPING



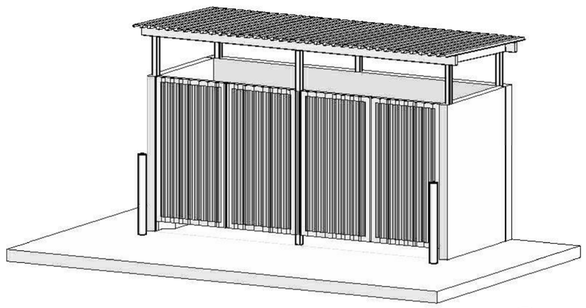
TYPICAL STALL w/ OVERHANG



TYPICAL STALL STRIPING

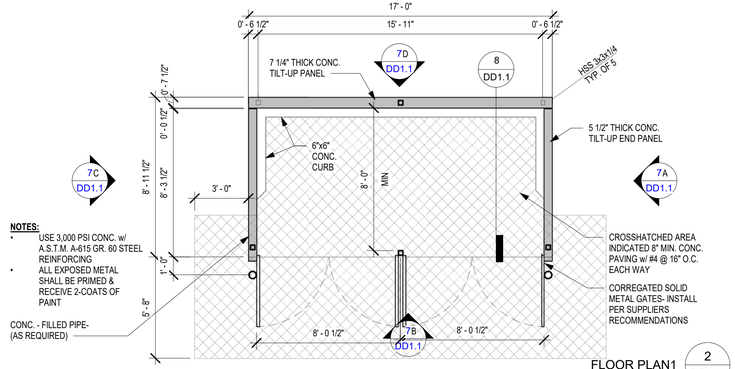
PARKING (6 DD1.1)

1/8" = 1'-0"



3D JPEG VIEW1 (9 DD1.1)

1/4" = 1'-0"



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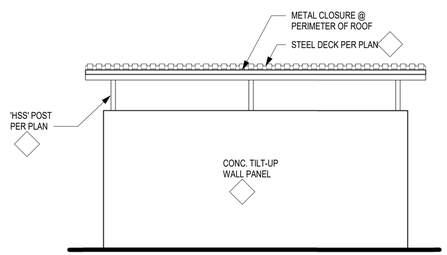
FLOOR PLAN1 (2 DD1.1)

1/4" = 1'-0"



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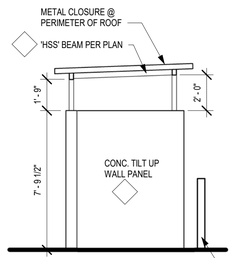

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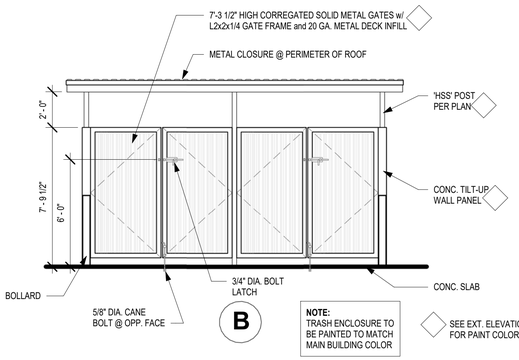
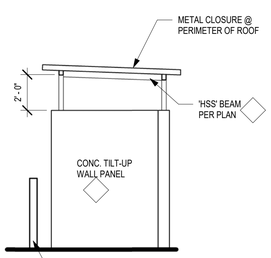


B

NOTE: TRASH ENCLOSURE TO BE PAINTED TO MATCH MAIN BUILDING COLOR

SEE EXT. ELEVATIONS FOR PAINT COLOR LEGEND



A

ELEVATIONS1 (7 DD1.1)

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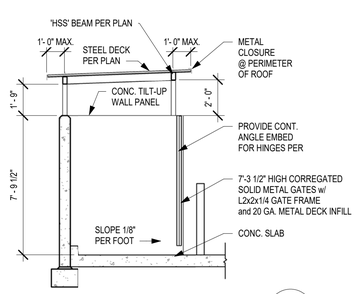
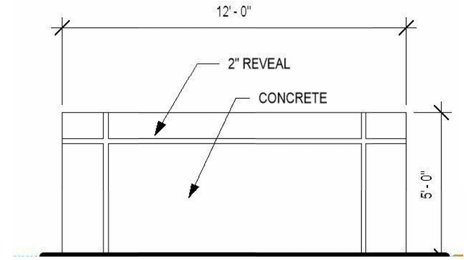


SECTION1 (8 DD1.1)

1/4" = 1'-0"



TYPICAL SCREENING WALL

NOT TO SCALE

KENNETH D. SMITH ARCHITECT & ASSOCIATES, INC.

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DD1.1

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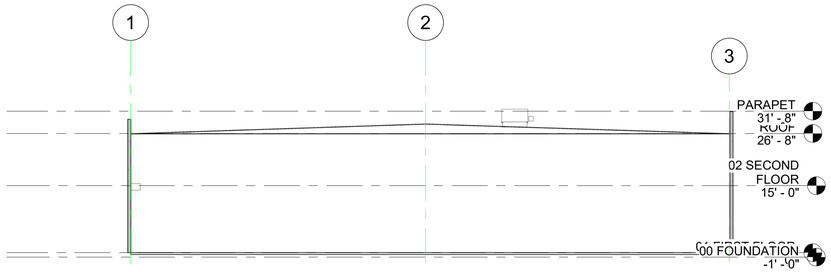
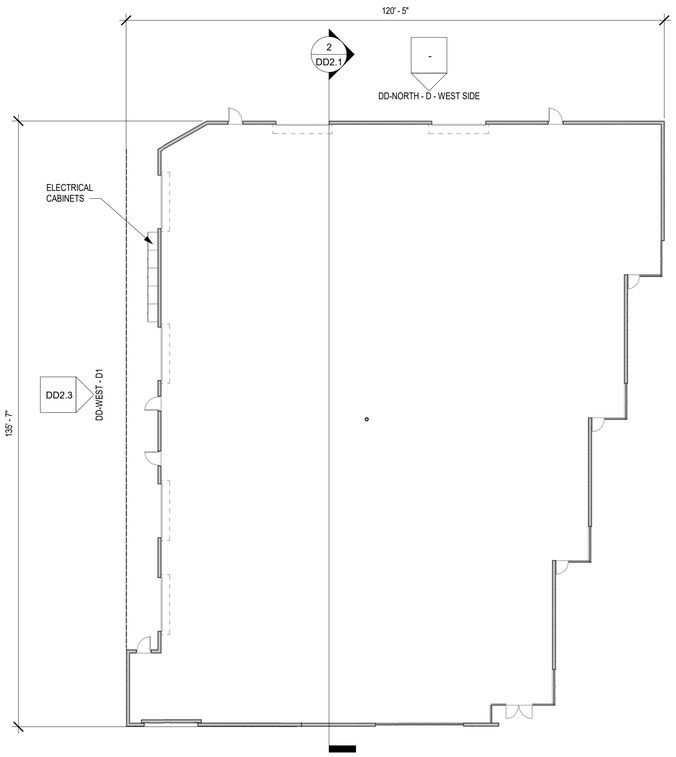
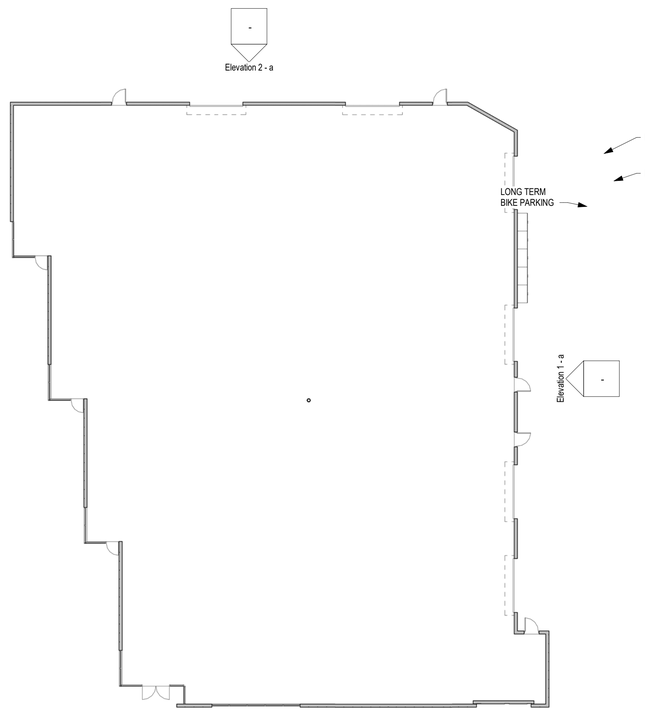


2
DD2.1

1/16" = 1'-0"

Section 1





TOTAL BUILDING WIDTH IS GREATER THAN 50% OF THE WIDTH OF THE SITE

BRIER STREET ELEVATIN

DD2.3

FIRST FLOOR PLAN

1/16" = 1'-0"

SQUARE FOOTAGE	
Name	**Area**
BUILDING D1	13,759 SF
BUILDING D2	13,759 SF

0' 16' 32' 64'

NORTH

KENNETH D. SMITH
ARCHITECT
& ASSOCIATES, INC.

500 FESLER ST. SUITE 102
EL CAJON - CA - 92020
PH / 619 444 2182
Fax / 619 442 2699

LICENSED ARCHITECT
KENNETH DUANE SMITH
No. C25315
Ren. 2/28/19
STATE OF CALIFORNIA

DATE: 5-20-19
JOB NO: Project Number
DRAWN BY: Author
CHECKED BY: Checker

Revision Schedule

#	Date	Description

project:
NEW SHELL BUILDING 'D'
Hardt & Brier Business Park
LOTS 17 & 18
SAN BERNARDINO, CA

DD2.1

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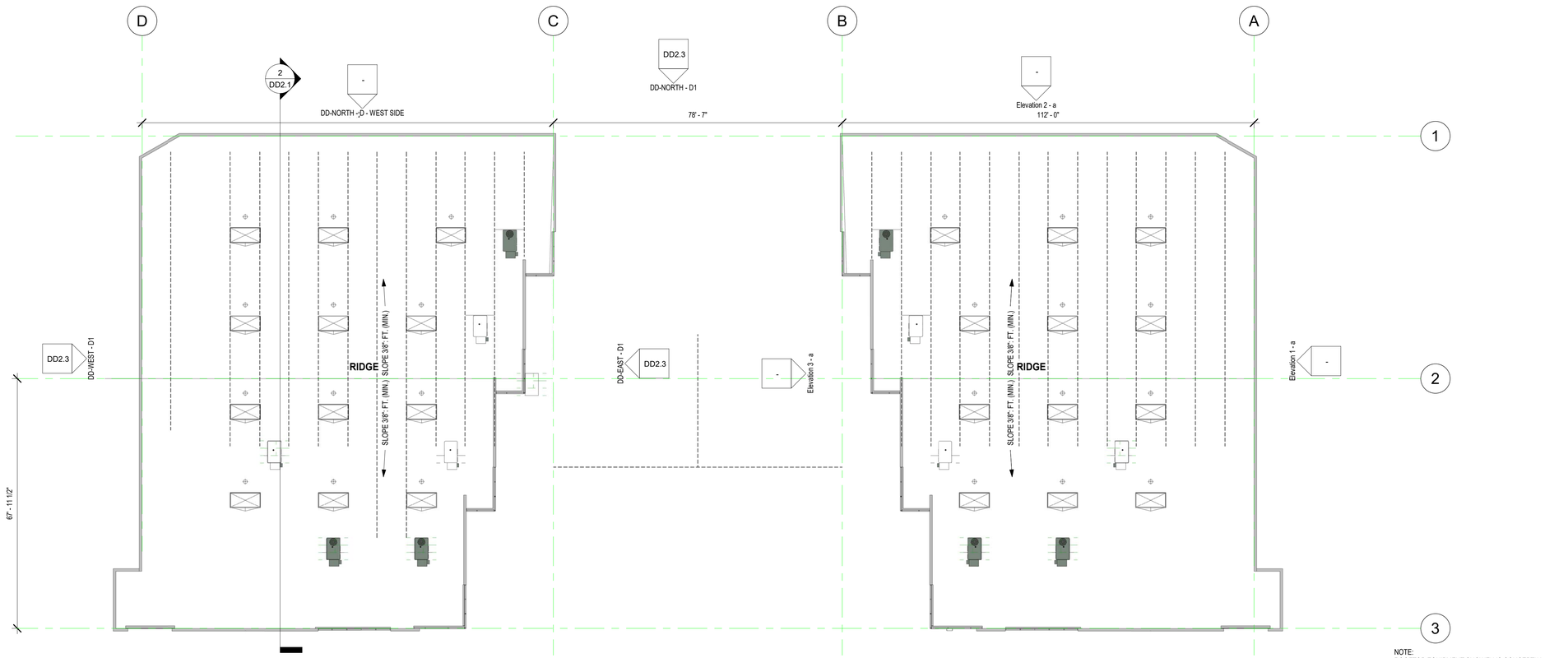

0' 8' 16' 32'

0' 16' 32' 64'

NOTE:
ROOFTOP EQUIPMENT SHOWEN IS CONCEPTIAL.
ACTUAL PLACMENT WILL VARY.

NORTH

ROOF PLAN

1/16" = 1'-0"

KENNETH D. SMITH
ARCHITECT
& ASSOCIATES, INC.

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CHECKED BY: Checker

Revision Schedule		
#	Date	Description

project:
NEW SHELL BUILDING 'D'
Hardt & Brier Business Park
LOTS 17 & 18
SAN BERNARDINO, CA

DD2.2

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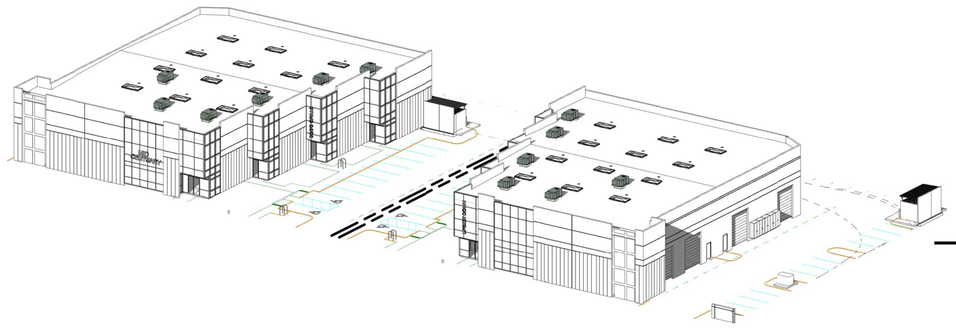

5
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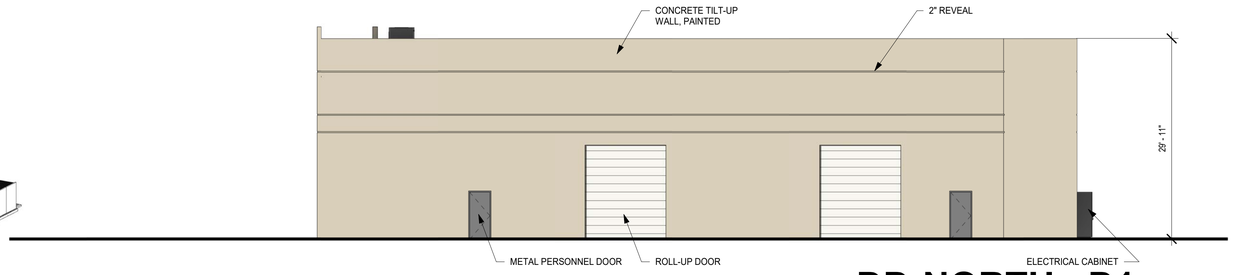
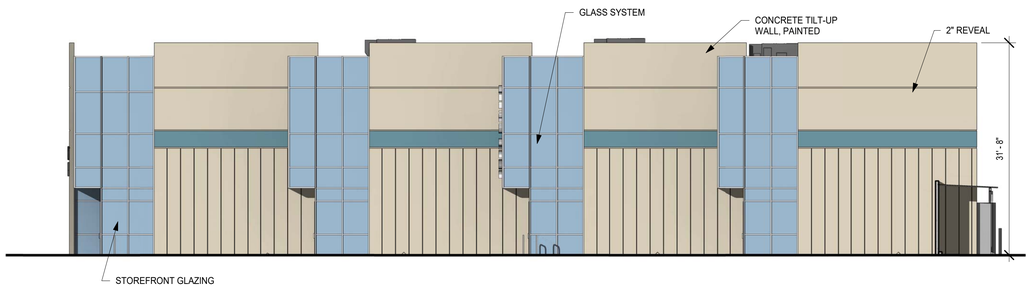


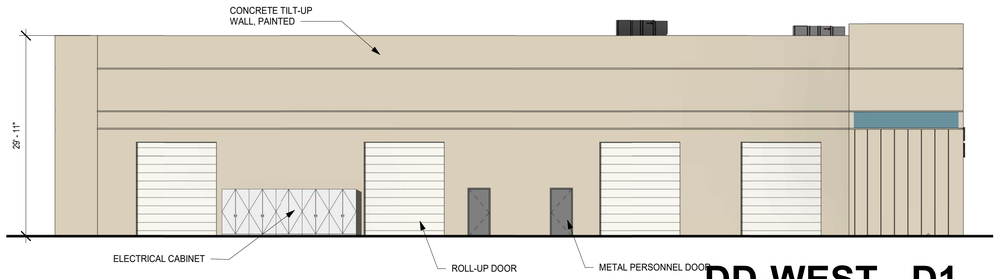
DD-NORTH - D1

3/32" = 1'-0"



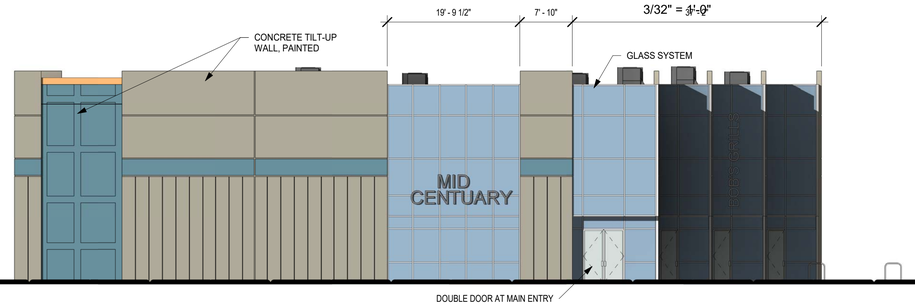
DD-EAST - D1

3/32" = 1'-0"



DD-WEST - D1

3/32" = 1'-0"



BRIER STREET ELEVATIN

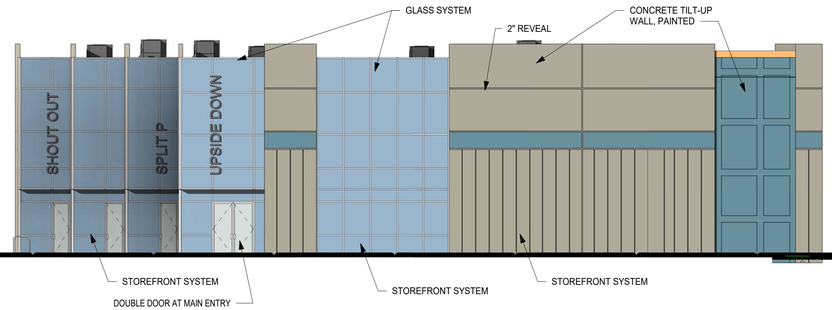
3/32" = 1'-0"

EXTERIOR PAINT :

COLORS SHALL BE SHERWIN-WILLIAMS PAINT TO MATCH NUMBERS BELOW.

A	SW 6203 SPARE WHITE	
B	SW 7667 ZIRCON	
C	SW 7669 SUMMIT GRAY	

D2 ELEVATIONS ARE A FLOP OF D1



KENNETH D. SMITH
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500 FESLER ST. SUITE 102
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KENNETH DUANE SMITH
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DATE: 5-20-19
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CHECKED BY: Checker

Revision Schedule

#	Date	Description

project:
NEW SHELL BUILDING 'D'
Hardt & Brier Business Park
LOTS 17 & 18
SAN BERNARDINO, CA

DD2.3

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LEGAL DESCRIPTION

PARCELS 29 & 30 OF PARCEL MAP NO. 5464
FILED IN SAN BERNARDING COUNTY

APN: 0281-311-17 & 08

ADDRESS: HARDT STREET

USE: SHELL

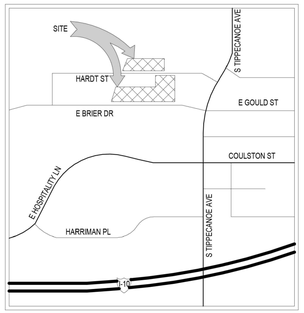
ZONE: TOD CR-3

SITE INFORMATION

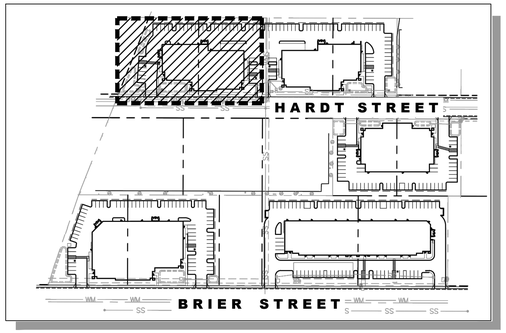
SITE AREA:	54,315 SF	1.25 ACRES
PROPOSED BUILDING COVERAGE:	16,514 SF	30.4 %
PROPOSED LANDSCAPE AREA:	15,030 SF	27.67 %
PROPOSED PAVING AREA:	22,771 SF	41.92 %

TYPE OF DEVELOPMENT: SHELL

VICINITY MAP



KEY MAP



North
NTS

(a) Hydrozone Category	PF- Plant Factor
Very Low Water Use	0.0 - 0.1
Low Water Use*	0.2 - 0.3
Moderate Water Use	0.4 - 0.6
High Water Use	0.7 - 1.0

*Artificial turf and temporarily irrigated areas are considered Low Water Use.

(b) Irrigation Method	(c) IE- Irrigation Efficiency
Filler Pipe for Pools/Spas	1.00
Drip/Subsurface	0.90
Bubblers	0.85
Rotors	0.75
Rotators	0.70
Overhead Spray	0.60

(d)
ETWU (Annual Gallons Required) =
Eto x 0.62 x ETAF x Area

ETo - see Appendix A in Water Efficient Lands (**ETO = 55.1**)
Design Manual.
0.62 is the conversion factor to gallons per sq. ft.
ETAF is Plant Factor/Irrigation Efficiency.
Area is the Landscaped Area for each hydrozone.

(e)
MAWA (Annual Gallons Allowed) =
(ETo)(0.62)[(ETAF x LA) + ((1- ETAF) x SLA)]

LA is the total landscape of all hydrozone areas in sq. ft.
SLA is the total special landscape area in square feet.
ETAF is 0.42 for all areas

WATER EFFICIENT LANDSCAPE WORKSHEET

Building 'A'

REFERENCE EVAPOTRANSPIRATION (ETo)____ 55.1

ETWU (Annual Gallons Required) =
Eto x 0.62 x ETAF x Area

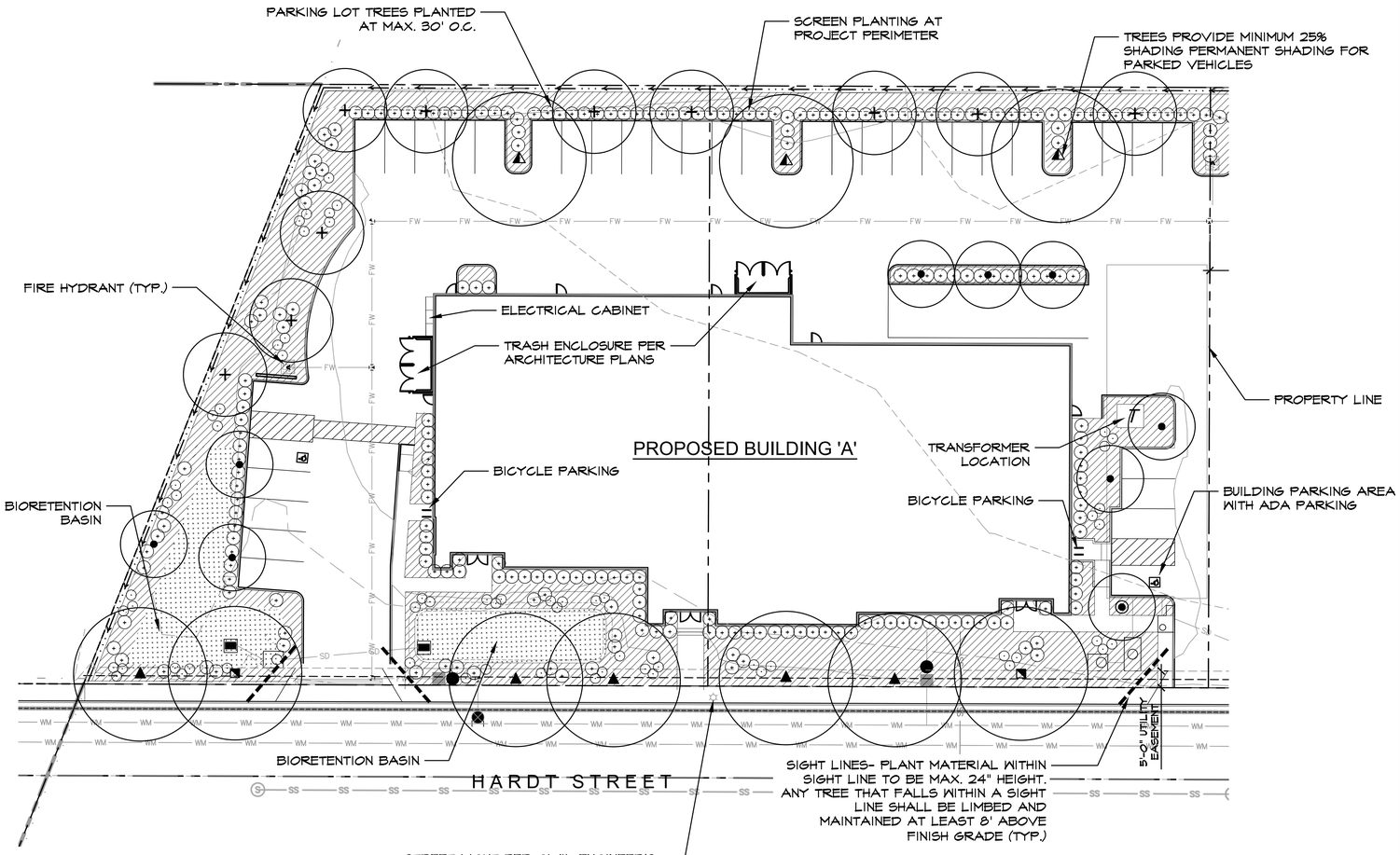
Hydrozone # / Planting **(a)** Description	Plant Factor (PF)	Irrigation **(b)** Method	Irrigation Efficiency **(c)** (IE)	ETAF (PF/IE)	Landscape Area In Square Feet	ETAF x Area	Estimated Total Water Use **(d)** (ETWU)
Regular Landscape Areas							
Trees, Shrubs, GC	0.2	Drip-sub	0.9	0.22	10,391	2,309	78,884
Trees, Shrubs, GC	0.5	Drip-sub	0.9	0.56	2,255	1,253	42,797
Basin	0.2	Rotors	0.75	0.27	2,384	636	21,718
				Totals	15,030	4,198	143,399
Special Landscape Areas							
						0	0
				Totals	0	0	0
Estimated Total Water Use in Gallons Per Year **(ETWU) Total**							**143,399**
Maximum Annual Water Allowance in Gallons Per Year **(MAWA) Total**							**215,651**
						MAWA - ETWU =	**72,252**
MAWA (Annual Gallons Allowed) =							must be a postitive number
(ETo)(0.62)[(ETAF x LA) + ((1- ETAF) x SLA)]							

****Average Irrigation Efficiency for overall irrigation system shall meet or exceed 0.75 (total of all efficiency ratings divided by number of hydrozones).**

ETAF CALCULATIONS

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas and 0.45 or below for non-residential areas. ***Provide Totals based on information calculated in Worksheet above.***

Regular Landscape Areas		***Totals***	**All Landscape Areas**		***Totals***
Total ETAF x Area	(B) =	4,198	Total ETAF x Area	(B+D) =	4,198
Total Area	(A) =	15,030	Total Area	(A+C) =	15,030
Average ETAF	**(B) ÷ (A) =**	0.28	**Site wide ETAF**	(B+D) ÷ (A+C) =	0.28



NOTE: PLANT MATERIAL WITHIN SIGHT LINE TO BE MAX. 24" HEIGHT. ANY TREE THAT FALLS WITHIN A SIGHT LINE SHALL BE LIMBED AND MAINTAINED AT LEAST 8' ABOVE FINISH GRADE (TYP.)

PARKING SPACES: 34
24' BOX TREES PROPOSED: 17
RATIO: 1 TREE PER 2 SPACES

SEE SHEET 2 FOR PLANTING LEGEND AND NOTES

North

0 10' 20' 60'

Scale 1" = 20'

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rla 2681
HOWARD ASSOCIATES
landscape architecture
1951 Fourth avenue
Suite 302
san diego ca 92101 619 718 9660

MARK	REVISIONS	BY	APPR.	DATE

BENCH MARK:

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY:
CHECKED BY:
RECOMMENDED BY:

CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES~PUBLIC WORKS/ENGINEERING

Landscape Concept Plan for:
BUILDING 'A'
San Bernardino Business Park
HARDT ST TO E BRIER DR

DRAWING NO. XXXX

SHEET 1 OF 2 SHEETS

FOR CITY USE ONLY: FILE NO. W.O. NO.

GENERAL NOTES

1. FINAL LANDSCAPE PLANS SHALL ACCURATELY SHOW PLACEMENT OF TREES, SHRUBS AND GROUNDCOVERS.

2. ALL REQUIRED LANDSCAPE AREAS, INCLUDING THE ROW, SHALL BE MAINTAINED PER CITY OF SAN BERNARDINO REQUIREMENTS.

3. AUTOMATIC IRRIGATION SHALL BE INSTALLED TO PROVIDE COVERAGE FOR ALL PLANTING AREAS SHOWN ON THE PLAN. LOW VOLUME EQUIPMENT SHALL PROVIDE SUFFICIENT WATER FOR PLANT GROWTH WITH MINIMUM WATER LOSS DUE TO WATER RUN-OFF. IRRIGATION SYSTEMS SHALL USE HIGH QUALITY, AUTOMATIC CONTROL VALVES, CONTROLLERS AND OTHER NECESSARY IRRIGATION EQUIPMENT. ALL COMPONENTS SHALL BE OF NON-CORROSIVE MATERIAL. ALL DRIP SYSTEMS SHALL BE ADEQUATELY FILTERED AND REGULATED PER THE MANUFACTURES RECOMMENDED DESIGN PARAMETERS. ALL IRRIGATION IMPROVEMENTS SHALL FOLLOW THE CITY OF SAN BERNARDINO GUIDELINES AND WATER CONSERVATION ORDINANCE.

4. THE SELECTION OF PLANT MATERIAL IS BASED ON AESTHETIC AND MAINTENANCE CONSIDERATIONS. ALL PLANTING AREAS SHALL BE PREPARED WITH APPROPRIATE SOIL AMENDMENTS, FERTILIZERS, AND APPROPRIATE SUPPLEMENTS BASED UPON A SOILS REPORT FROM AN AGRICULTURAL SUITABILITY SOIL SAMPLE TAKEN FROM THE SITE. GROUND COVERS OR BARK MULCH SHALL FILL IN BETWEEN SHRUBS TO SHIELD THE SOIL FROM THE SUN, EVAPOTRANSPIRATION, AND RUN-OFF. ALL THE SHRUB BEDS SHALL BE MULCHED TO A 3" DEPTH TO HELP CONSERVE WATER, LOWER THE SOIL TEMPERATURE AND REDUCE WEED GROWTH. THE SHRUBS SHALL BE ALLOWED TO GROW IN THEIR NATURAL FORMS. ALL LANDSCAPE IMPROVEMENTS SHALL FOLLOW THE CITY OF SAN BERNARDINO GUIDELINES.

TREES:

6. STREET TREES AND OTHER TREES SHALL BE SPACED AS FOLLOWS:
6.1. 8' FROM TRANSFORMERS, CABLE, AND PULL BOXES
6.2. 5 FEET FROM MAIL BOXES
6.3. 5 FEET FROM FIRE HYDRANTS (ALL SIDES)
6.4. 10 FEET FROM CENTERLINE OF ALL UTILITY LINES (WITHOUT EASEMENT)(SEWER, WATER, STORM DRAINS, DOUBLE CHECK DETECTOR VALVES, AIR RELIEF VALVES, AND GAS)
6.5. 10 FEET FROM EASEMENT BOUNDARIES (SEWER, WATER, STORM DRAINS, ACCESS OR OTHER UTILITIES)
6.6. 10 FEET FROM DRIVEWAYS (UNLESS A LINE OF SIGHT IS DETERMINED BY THE TRAFFIC DIVISION TO BE OTHERWISE)
6.7. 10 FEET FROM TRAFFIC AND DIRECTIONAL SIGNS
6.8. 15 FEET (MINIMUM) FROM STREETLIGHTS, OTHER UTILITY POLES, (DETERMINED BY SPECIFICATIONS)

6.9. STREET TREES SHALL BE PLANTED 3' OUTSIDE RIGHT-OF-WAY IF THE RIGHT-OF-WAY DOES NOT ALLOW SPACE, SUBJECT TO CITY ENGINEERS APPROVAL.
6.10. LINE OF SIGHT AT ARTERIALS, COLLECTOR AND LOCAL STREETS SHALL BE REVIEWED AND DETERMINED BY THE TRAFFIC ENGINEER.
6.11. MINIMUM FIFTEEN (15') STREETLIGHT AND STOP SIGN OR CLEARANCE DETERMINED BY SPECIFICATIONS.
6.12. SCREEN ALL UTILITIES ACCORDING TO SPECIFIC AGENCY REQUIREMENTS.

ROOT BARRIERS

ROOT BARRIERS SHALL BE INSTALLED ADJACENT TO ALL PAVING SURFACES WHERE A PAVING SURFACE IS LOCATED WITHIN 6 FEET OF A TREE TRUNK. ROOT BARRIERS SHALL EXTEND 10 FEET IN EACH DIRECTION FROM THE CENTERLINE OF THE TRUNK, FOR A TOTAL DISTANCE OF 20 FEET. ROOT BARRIERS SHALL BE MINIMUM OF 24 INCHES IN DEPTH. INSTALLING A ROOT BARRIER AROUND THE TREE'S ROOT BALL IS UNACCEPTABLE.

IRRIGATION NOTES

THE IRRIGATION SYSTEM WILL BE DESIGNED TO AFFORD OPTIMUM COVERAGE FOR THE SUPPORT OF PLANT GROWTH. THE COVERAGE WILL MEET THE WATER REQUIREMENTS FOR THE SELECTED PLANT MATERIAL AND WITHIN THE GIVEN PLANTING AREAS. THE DESIGN WILL TAKE INTO CONSIDERATION THE TYPE OF EXPOSURE THE SYSTEM WILL HAVE. THE IRRIGATION SYSTEM WILL BE DESIGNED WITH RESPECT TO WATER CONSERVATION. IRRIGATION HEADS SHALL BE CHOSEN FOR MAXIMUM COVERAGE WITH LOW-GALLONAGE AND PRECIPITATION QUALITIES. THE IRRIGATION SYSTEM SHALL BE A FULLY AUTOMATIC SYSTEM AND AS MAINTENANCE-FREE AS POSSIBLE. THE MATERIALS FOR THE SYSTEM WILL BE OF AN EXTREMELY DURABLE NATURE, AND WILL HAVE BEEN SELECTED FOR WEAR RESISTANCE AND LONG LIFE. THE OVERALL SYSTEM SHALL BE DESIGNED FOR EASE OF MAINTENANCE. ALL LANDSCAPE AND IRRIGATION SHALL CONFORM TO THE STANDARDS OF THE CITYWIDE LANDSCAPE REGULATIONS AND THE LANDSCAPE STANDARDS AND ALL OTHER LANDSCAPE RELATED CITY AND REGIONAL STANDARDS. ALL IRRIGATION SHALL UTILIZE A DESIGNATED SEPARATE IRRIGATION WATER METER, AND SUBSURFACE DRIP OR ROTOR LOW PRECIPITATION RATE IRRIGATION WITH A WEATHER - BASED AUTOMATIC IRRIGATION SMART CONTROLLER.

GRADING AND DRAINAGE

ALL GRADES AND DRAINAGE SWALES SHALL BE PER CIVIL ENGINEER'S GRADING AND DEVELOPMENT PLAN.

NOTES:

1. NO STRUCTURES HIGHER THAN 30" OR PLANT MATERIAL HIGHER THAN 24" AT MATURITY SHALL BE ALLOWED WITHIN THE CLEAR SIGHT AREA.

2. ALL LANDSCAPED AREAS SHALL BE MAINTAINED BY THE PROJECT OWNER, INCLUDING REGULAR WATERING, PRUNING, FERTILIZING, CLEARING OF DEBRIS AND WEEDS, REMOVAL AND REPLACEMENT OF DEAD PLANTS AND REPAIR AND REPLACEMENT OF IRRIGATION SYSTEM.

CITY OF SAN BERNARDINO MC G19.28.130(5)

1. WATER CONSERVATION CRITERIA

Compliance with the Water Conservation in Landscape Ordinance.

	Points
A. Landscape Technique	
1. Water conserving plants used in 75 percent or more of the total landscaped area.	20
2. Turf limited as follows:	20
a. All other projects* - 30 percent of total landscaped area.	
3. Plants placed or grouped into hydrozones according to their watering needs.	10
4. Polymers incorporated into the soil to improve water holding capacity in turf and ground cover areas.	10
5. A maintenance program consisting of:	10
a. Periodic irrigation system repair.	
b. Seasonal adjustments to the irrigation system.	
c. Practices which foster long term landscape water conservation.	
6. Where no groundcover is used, utilize wood chips, bark, or other organic mulch, to a depth of three inches on top of exposed soil or landscaped fabric, such as underneath shrubs.	5
7. Organic soil amendments to improve water holding capacity of soil, where soil conditions merit.	5
TOTAL: 80 POINTS	

B. Irrigation Technique	
1. Low gallonage irrigation system, or higher gallonage systems with automatic controller capable of repeat cycling, used for more than 75% of the total landscaped area. Turf areas must utilize "spray" coverage, drip systems may not be used for turf.	20
2. Automatic controller for irrigation system.	20
3. Irrigation system designed using hydrozones to water plants according to their water needs (i.e., landscape materials which require different watering needs are irrigated by separate control valves).	10
4. Rain sensors used in conjunction with an automatic controller.	10
5. Soil-moisture sensors used in conjunction with an automatic controller	5
6. In-head or in-line check valves are utilized (whenever the cross gradient is greater than three feet in elevation).	5
7. Irrigation schedule which varies by season, and developed through the use of Evapotranspiration data (ET).	5
TOTAL: 75 POINTS	

NOTE:

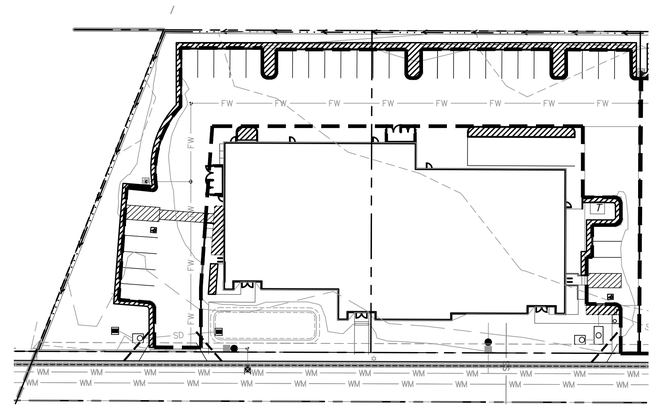
1. MINIMUM TREE SIZES SHALL BE AS FOLLOWS:
15% 48" BOX
15% 36" BOX
20% 24" BOX
50% 15 GAL.

2. MINIMUM SHRUB SIZES SHALL BE AS FOLLOWS:
80% 5 GAL.
20% 1 GAL.

3. GROUNDCOVERS SHALL ACHIEVE 100% COVERAGE WITHIN 1 YEAR.

Plant Legend

SYMBOL	BOTANICAL NAME	COMMON NAME	MIN. SIZE (SEE NOTE BELOW LEFT)	WUCOLS ZONE 4
HARDT STREET TREES:				
▲	PLATANUS ACERIFOLIA	LONDON PLANETREE	36" BOX	M
BRIER STREET TREES:				
■	FRAXINUS SPP.	ASH TREE	36" BOX	M
ENTRY SPECIMEN TREES:				
◥	QUERCUS ILEX	HOLLY OAK	48" BOX	L
PARKING AND PERIMETER TREES:				
+	TRISTANIA CONFERTA	BRISBANE BOX	24" BOX	L
◭	GEIJERA PARVIFLORA	AUSTRALIAN WILLOW	24" BOX	L
SMALL ACCENT TREES:				
●	LAGERSTROEMIA 'MUSKOGEE'	CRAPE MYRTLE	24" BOX	L
◉	LAGERSTROEMIA 'MUSKOGEE'	CRAPE MYRTLE	48" BOX	L
SHRUBS:				
	ARBUTUS COMPACTA	COMPACT STRAWBERRY TREE	5 GAL	L
	BACCHARIS CENTENNIAL	CENTENNIAL DESERT BROOM	5 GAL	L
	CALLISTEMON LITTLE JOHN	LITTLE JOHN BOTTLEBRUSH	5 GAL	L
	HESPERALOE PARVIFLORA	RED YUCCA	5 GAL	L
	LIGUSTRUM TEXANUM	WAXLEAF PRIVET	5 GAL	M
	LLEUCOPHYLLUM FRUTESCENS	TEXAS RANGER	5 GAL	L
	PITTOSPORUM SPP.	KOHUHU	5 GAL	M
	PODOCARPUS MACROPHYLLUS	YEW PINE	5 GAL	M
	SALVIA 'FURMANS RED'	RED AUTUMN SAGE	5 GAL	L
	TECOMA STANS	YELLOW BELLS	5 GAL	L
	WESTRINGIA 'BLUE GEM'	COASTAL ROSEMARY	5 GAL	L
GROUNDCOVER:				
▨	LANTANA 'NEW GOLD'	NEW GOLD LANTANA	1 GAL. @ 36" O.C.	L
	MUHLENBERGIA CAPILLARIS	PINK MUHLYGRASS	1 GAL. @ 36" O.C.	L
	MYOPORUM PUTAH CREEK	CREEPING MYOPORUM	1 GAL. @ 36" O.C.	L
	ROS. 'HUNTINGTON CARPET'	TRAILING ROSEMARY	1 GAL. @ 36" O.C.	L
BASINS:				
⁘	CAREX DIVULSA	GREY SEDGE	PLUGS @ 12" O.C.	L
	ELYMUS TRITICOIDES	CREEPING WILD RYE	PLUGS @ 18" O.C.	L
	JUNCUS PATENS	COMMON RUSH	PLUGS @ 18" O.C.	L



North
1"=40'

PARKING LOT CALCULATIONS:

NET AREA OF ALL SURFACE PARKING AREA: 18,183 SQFT

LANDSCAPING WITHIN PARKING AREA: 2,890 SQFT

TOTAL: 16%

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HOWARD ASSOCIATES
landscape architecture
1951 Fourth avenue
Suite 302
san diego ca 92101 619 718 9660

MARK	REVISIONS	BY	APPR.	DATE

BENCH MARK:

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY:
CHECKED BY:
RECOMMENDED BY:

CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES–PUBLIC WORKS/ENGINEERING

Landscape Concept Plan for:
BUILDING 'A'
San Bernardino Business Park
HARDT ST TO E BRIER DR

FOR CITY USE ONLY: FILE NO. W.O. NO.

DRAWING NO. XXXX

SHEET 2 OF 2 SHEETS

LEGAL DESCRIPTION

PARCELS 31 & 32 OF PARCEL MAP NO. 5464
FILED IN SAN BERNARDING COUNTY

APN: 0281-311-07 & 06

ADDRESS: HARDT STREET

USE: SHELL

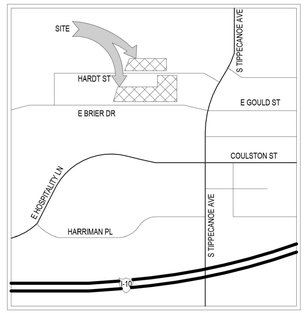
ZONE: TOD CR-3

SITE INFORMATION

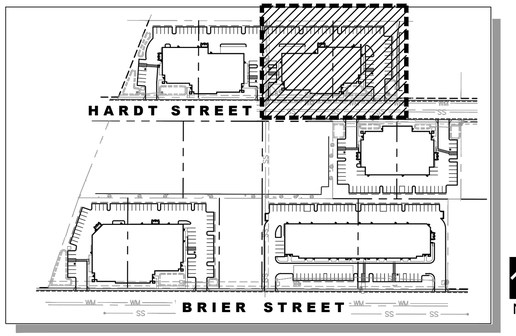
SITE AREA:	56,564 SF	1.30 ACRES
PROPOSED BUILDING COVERAGE:	16,300 SF	28.82 %
PROPOSED LANDSCAPE AREA:	13,356 SF	23.61 %
PROPOSED PAVING AREA:	26,908 SF	47.57 %

TYPE OF DEVELOPMENT: SHELL

VICINITY MAP



KEY MAP



(a) Hydrozone Category	PF- Plant Factor
Very Low Water Use	0.0 - 0.1
Low Water Use*	0.2 - 0.3
Moderate Water Use	0.4 - 0.6
High Water Use	0.7 - 1.0

*Artificial turf and temporarily irrigated areas are considered Low Water Use.

(b) Irrigation Method	(c) IE- Irrigation Efficiency
Filler Pipe for Pools/Spas	1.00
Drip/Subsurface	0.90
Bubblers	0.85
Rotors	0.75
Rotators	0.70
Overhead Spray	0.60

(d)
ETWU (Annual Gallons Required) =
Eto x 0.62 x ETAF x Area

ETo - see Appendix A in Water Efficient Lands Design Manual. **(ETO = 55.1)**
0.62 is the conversion factor to gallons per sq. ft.
ETAF is Plant Factor/Irrigation Efficiency.
Area is the Landscaped Area for each hydrozone.

(e)
MAWA (Annual Gallons Allowed) =
(ETo)(0.62)[(ETAF x LA) + ((1- ETAF) x SLA)]

LA is the total landscape of all hydrozone areas in sq. ft.
SLA is the total special landscape area in square feet.
ETAF is 0.42 for all areas

WATER EFFICIENT LANDSCAPE WORKSHEET

Building 'B'

REFERENCE EVAPOTRANSPIRATION (ETo)____ 55.1

ETWU (Annual Gallons Required) =
Eto x 0.62 x ETAF x Area

Hydrozone # / Planting **(a)** Description	Plant Factor (PF)	Irrigation **(b)** Method	Irrigation Efficiency **(c)** (IE)	ETAF (PF/IE)	Landscape Area In Square Feet	ETAF x Area	Estimated Total Water Use **(d)** (ETWU)
Regular Landscape Areas							
Trees, Shrubs, GC	0.2	Drip-sub	0.9	0.22	11,353	2,523	86,187
Trees, Shrubs, GC	0.5	Drip-sub	0.9	0.56	2,003	1,113	38,015
				Totals	13,356	3,636	124,202
Special Landscape Areas							
						0	0
				Totals	0	0	0
Estimated Total Water Use in Gallons Per Year **(ETWU) Total**							**124,202**
Maximum Annual Water Allowance in Gallons Per Year **(MAWA) Total**							**191,632**
MAWA - ETWU =							**67,431**
MAWA (Annual Gallons Allowed) =						must be a postitive number	
(ETo)(0.62)[(ETAF x LA) + ((1- ETAF) x SLA)]							

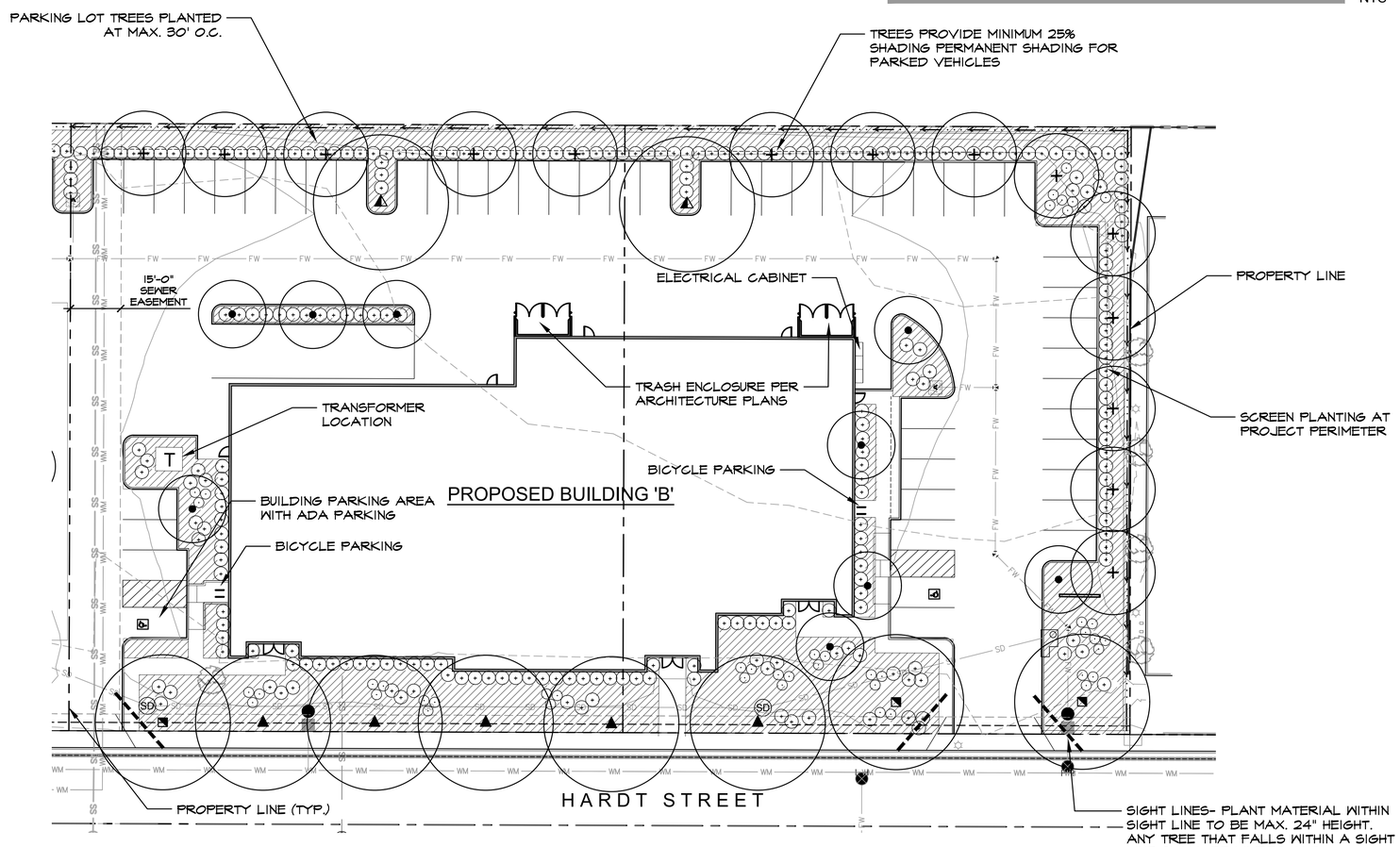
****Average Irrigation Efficiency for overall irrigation system shall meet or exceed 0.75 (total of all efficiency ratings divided by number of hydrozones).**

ETAF CALCULATIONS

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas and 0.45 or below for non-residential areas. ***Provide Totals based on information calculated in Worksheet above.***

Regular Landscape Areas		***Totals***	**All Landscape Areas**		***Totals***
Total ETAF x Area	(B) =	3,636	Total ETAF x Area	(B+D) =	3,636
Total Area	(A) =	13,356	Total Area	(A+C) =	13,356
Average ETAF	**(B) ÷ (A) =**	0.27	**Site wide ETAF**	(B+D) ÷ (A+C) =	0.27

NOTE: PLANT MATERIAL WITHIN SIGHT LINE TO BE MAX. 24" HEIGHT. ANY TREE THAT FALLS WITHIN A SIGHT LINE SHALL BE LIMBED AND MAINTAINED AT LEAST 8' ABOVE FINISH GRADE (TYP.)



PARKING SPACES: 51
24' BOX TREES PROPOSED: 24
RATIO: 1 TREE PER 2.1 SPACES

SEE SHEET 2 FOR PLANTING LEGEND AND NOTES

North

0 10' 20' 60'

Scale 1" = 20'

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rla 2681
HOWARD ASSOCIATES
landscape architecture
1951 Fourth avenue
Suite 302
san diego ca 92101 619 718 9660

MARK	REVISIONS	BY	APPR.	DATE

BENCH MARK:

APPROVED _____ 2007

SENIOR CIVIL ENGINEER

REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY:

CHECKED BY:

RECOMMENDED BY:

CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES–PUBLIC WORKS/ENGINEERING

Landscape Concept Plan for:
BUILDING 'B'
San Bernardino Business Park
HARDT ST TO E BRIER DR

FOR CITY USE ONLY: FILE NO. W.O. NO.

DRAWING NO. XXXX

SHEET 1 OF 2 SHEETS

GENERAL NOTES

1. FINAL LANDSCAPE PLANS SHALL ACCURATELY SHOW PLACEMENT OF TREES, SHRUBS AND GROUNDCOVERS.

2. ALL REQUIRED LANDSCAPE AREAS, INCLUDING THE ROW, SHALL BE MAINTAINED PER CITY OF SAN BERNARDINO REQUIREMENTS.

3. AUTOMATIC IRRIGATION SHALL BE INSTALLED TO PROVIDE COVERAGE FOR ALL PLANTING AREAS SHOWN ON THE PLAN. LOW VOLUME EQUIPMENT SHALL PROVIDE SUFFICIENT WATER FOR PLANT GROWTH WITH MINIMUM WATER LOSS DUE TO WATER RUN-OFF. IRRIGATION SYSTEMS SHALL USE HIGH QUALITY, AUTOMATIC CONTROL VALVES, CONTROLLERS AND OTHER NECESSARY IRRIGATION EQUIPMENT. ALL COMPONENTS SHALL BE OF NON-CORROSIVE MATERIAL. ALL DRIP SYSTEMS SHALL BE ADEQUATELY FILTERED AND REGULATED PER THE MANUFACTURES RECOMMENDED DESIGN PARAMETERS. ALL IRRIGATION IMPROVEMENTS SHALL FOLLOW THE CITY OF SAN BERNARDINO GUIDELINES AND WATER CONSERVATION ORDINANCE.

4. THE SELECTION OF PLANT MATERIAL IS BASED ON AESTHETIC AND MAINTENANCE CONSIDERATIONS. ALL PLANTING AREAS SHALL BE PREPARED WITH APPROPRIATE SOIL AMENDMENTS, FERTILIZERS, AND APPROPRIATE SUPPLEMENTS BASED UPON A SOILS REPORT FROM AN AGRICULTURAL SUITABILITY SOIL SAMPLE TAKEN FROM THE SITE. GROUND COVERS OR BARK MULCH SHALL FILL IN BETWEEN SHRUBS TO SHIELD THE SOIL FROM THE SUN, EVAPOTRANSPIRATION, AND RUN-OFF. ALL THE SHRUB BEDS SHALL BE MULCHED TO A 3" DEPTH TO HELP CONSERVE WATER, LOWER THE SOIL TEMPERATURE AND REDUCE WEED GROWTH. THE SHRUBS SHALL BE ALLOWED TO GROW IN THEIR NATURAL FORMS. ALL LANDSCAPE IMPROVEMENTS SHALL FOLLOW THE CITY OF SAN BERNARDINO GUIDELINES.

TREES:

6. STREET TREES AND OTHER TREES SHALL BE SPACED AS FOLLOWS:
6.1. 8' FROM TRANSFORMERS, CABLE, AND PULL BOXES
6.2. 5 FEET FROM MAIL BOXES
6.3. 5 FEET FROM FIRE HYDRANTS (ALL SIDES)
6.4. 10 FEET FROM CENTERLINE OF ALL UTILITY LINES (WITHOUT EASEMENT)(SEWER, WATER, STORM DRAINS, DOUBLE CHECK DETECTOR VALVES, AIR RELIEF VALVES, AND GAS)
6.5. 10 FEET FROM EASEMENT BOUNDARIES (SEWER, WATER, STORM DRAINS, ACCESS OR OTHER UTILITIES)
6.6. 10 FEET FROM DRIVEWAYS (UNLESS A LINE OF SIGHT IS DETERMINED BY THE TRAFFIC DIVISION TO BE OTHERWISE)
6.7. 10 FEET FROM TRAFFIC AND DIRECTIONAL SIGNS
6.8. 15 FEET (MINIMUM) FROM STREETLIGHTS, OTHER UTILITY POLES, (DETERMINED BY SPECIFICATIONS)

6.9. STREET TREES SHALL BE PLANTED 3' OUTSIDE RIGHT-OF-WAY IF THE RIGHT-OF-WAY DOES NOT ALLOW SPACE, SUBJECT TO CITY ENGINEERS APPROVAL.
6.10. LINE OF SIGHT AT ARTERIALS, COLLECTOR AND LOCAL STREETS SHALL BE REVIEWED AND DETERMINED BY THE TRAFFIC ENGINEER.
6.11. MINIMUM FIFTEEN (15') STREETLIGHT AND STOP SIGN OR CLEARANCE DETERMINED BY SPECIFICATIONS.
6.12. SCREEN ALL UTILITIES ACCORDING TO SPECIFIC AGENCY REQUIREMENTS.

ROOT BARRIERS

ROOT BARRIERS SHALL BE INSTALLED ADJACENT TO ALL PAVING SURFACES WHERE A PAVING SURFACE IS LOCATED WITHIN 6 FEET OF A TREE TRUNK. ROOT BARRIERS SHALL EXTEND 10 FEET IN EACH DIRECTION FROM THE CENTERLINE OF THE TRUNK, FOR A TOTAL DISTANCE OF 20 FEET. ROOT BARRIERS SHALL BE MINIMUM OF 24 INCHES IN DEPTH. INSTALLING A ROOT BARRIER AROUND THE TREE'S ROOT BALL IS UNACCEPTABLE.

IRRIGATION NOTES

THE IRRIGATION SYSTEM WILL BE DESIGNED TO AFFORD OPTIMUM COVERAGE FOR THE SUPPORT OF PLANT GROWTH. THE COVERAGE WILL MEET THE WATER REQUIREMENTS FOR THE SELECTED PLANT MATERIAL AND WITHIN THE GIVEN PLANTING AREAS. THE DESIGN WILL TAKE INTO CONSIDERATION THE TYPE OF EXPOSURE THE SYSTEM WILL HAVE. THE IRRIGATION SYSTEM WILL BE DESIGNED WITH RESPECT TO WATER CONSERVATION. IRRIGATION HEADS SHALL BE CHOSEN FOR MAXIMUM COVERAGE WITH LOW-GALLONAGE AND PRECIPITATION QUALITIES. THE IRRIGATION SYSTEM SHALL BE A FULLY AUTOMATIC SYSTEM AND AS MAINTENANCE-FREE AS POSSIBLE. THE MATERIALS FOR THE SYSTEM WILL BE OF AN EXTREMELY DURABLE NATURE, AND WILL HAVE BEEN SELECTED FOR WEAR RESISTANCE AND LONG LIFE. THE OVERALL SYSTEM SHALL BE DESIGNED FOR EASE OF MAINTENANCE. ALL LANDSCAPE AND IRRIGATION SHALL CONFORM TO THE STANDARDS OF THE CITYWIDE LANDSCAPE REGULATIONS AND THE LANDSCAPE STANDARDS AND ALL OTHER LANDSCAPE RELATED CITY AND REGIONAL STANDARDS. ALL IRRIGATION SHALL UTILIZE A DESIGNATED SEPARATE IRRIGATION WATER METER, AND SUBSURFACE DRIP OR ROTOR LOW PRECIPITATION RATE IRRIGATION WITH A WEATHER - BASED AUTOMATIC IRRIGATION SMART CONTROLLER.

GRADING AND DRAINAGE

ALL GRADES AND DRAINAGE SWALES SHALL BE PER CIVIL ENGINEER'S GRADING AND DEVELOPMENT PLAN.

NOTES:

1. NO STRUCTURES HIGHER THAN 30" OR PLANT MATERIAL HIGHER THAN 24" AT MATURITY SHALL BE ALLOWED WITHIN THE CLEAR SIGHT AREA.

2. ALL LANDSCAPED AREAS SHALL BE MAINTAINED BY THE PROJECT OWNER, INCLUDING REGULAR WATERING, PRUNING, FERTILIZING, CLEARING OF DEBRIS AND WEEDS, REMOVAL AND REPLACEMENT OF DEAD PLANTS AND REPAIR AND REPLACEMENT OF IRRIGATION SYSTEM.

CITY OF SAN BERNARDINO MC G19.28.130(5)

1. WATER CONSERVATION CRITERIA

Compliance with the Water Conservation in Landscape Ordinance.

	Points
A. Landscape Technique	
1. Water conserving plants used in 75 percent or more of the total landscaped area.	20
2. Turf limited as follows:	20
a. All other projects* - 30 percent of total landscaped area.	
3. Plants placed or grouped into hydrozones according to their watering needs.	10
4. Polymers incorporated into the soil to improve water holding capacity in turf and ground cover areas.	10
5. A maintenance program consisting of:	10
a. Periodic irrigation system repair.	
b. Seasonal adjustments to the irrigation system.	
c. Practices which foster long term landscape water conservation.	
6. Where no groundcover is used, utilize wood chips, bark, or other organic mulch, to a depth of three inches on top of exposed soil or landscaped fabric, such as underneath shrubs.	5
7. Organic soil amendments to improve water holding capacity of soil, where soil conditions merit.	5
TOTAL: 80 POINTS	

B. Irrigation Technique	
1. Low gallonage irrigation system, or higher gallonage systems with automatic controller capable of repeat cycling, used for more than 75% of the total landscaped area. Turf areas must utilize "spray" coverage, drip systems may not be used for turf.	20
2. Automatic controller for irrigation system.	20
3. Irrigation system designed using hydrozones to water plants according to their water needs (i.e., landscape materials which require different watering needs are irrigated by separate control valves).	10
4. Rain sensors used in conjunction with an automatic controller.	10
5. Soil-moisture sensors used in conjunction with an automatic controller	5
6. In-head or in-line check valves are utilized (whenever the cross gradient is greater than three feet in elevation).	5
7. Irrigation schedule which varies by season, and developed through the use of Evapotranspiration data (ET).	5
TOTAL: 75 POINTS	

NOTE:

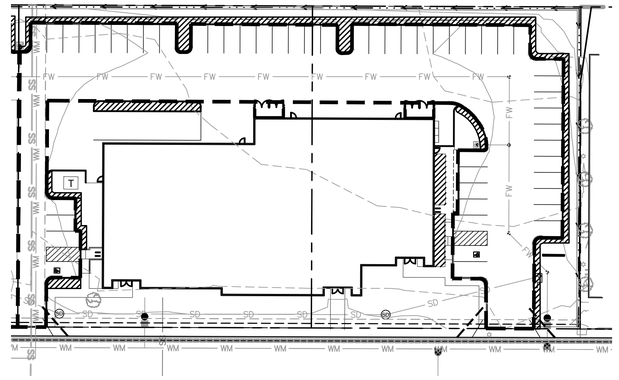
1. MINIMUM TREE SIZES SHALL BE AS FOLLOWS:
15% 48" BOX
15% 36" BOX
20% 24" BOX
50% 15 GAL.

2. MINIMUM SHRUB SIZES SHALL BE AS FOLLOWS:
80% 5 GAL.
20% 1 GAL.

3. GROUNDCOVERS SHALL ACHIEVE 100% COVERAGE WITHIN 1 YEAR.

Plant Legend

SYMBOL	BOTANICAL NAME	COMMON NAME	MIN. SIZE (SEE NOTE BELOW LEFT)	WUCOLS ZONE 4
HARDT STREET TREES:				
▲	PLATANUS ACERIFOLIA	LONDON PLANETREE	36" BOX	M
BRIER STREET TREES:				
■	FRAXINUS SPP.	ASH TREE	36" BOX	M
ENTRY SPECIMEN TREES:				
◥	QUERCUS ILEX	HOLLY OAK	48" BOX	L
PARKING AND PERIMETER TREES:				
+	TRISTANIA CONFERTA	BRISBANE BOX	24" BOX	L
◭	GEIJERA PARVIFLORA	AUSTRALIAN WILLOW	24" BOX	L
SMALL ACCENT TREES:				
●	LAGERSTROEMIA 'MUSKOGEE'	CRAPE MYRTLE	24" BOX	L
◉	LAGERSTROEMIA 'MUSKOGEE'	CRAPE MYRTLE	48" BOX	L
SHRUBS:				
	ARBUTUS COMPACTA	COMPACT STRAWBERRY TREE	5 GAL	L
	BACCHARIS CENTENNIAL	CENTENNIAL DESERT BROOM	5 GAL	L
	CALLISTEMON LITTLE JOHN	LITTLE JOHN BOTTLEBRUSH	5 GAL	L
	HESPERALOE PARVIFLORA	RED YUCCA	5 GAL	L
	LIGUSTRUM TEXANUM	WAXLEAF PRIVET	5 GAL	M
	LLEUCOPHYLLUM FRUTESCENS	TEXAS RANGER	5 GAL	L
	PITTOSPORUM SPP.	KOHUHU	5 GAL	M
	PODOCARPUS MACROPHYLLUS	YEW PINE	5 GAL	M
	SALVIA 'FURMANS RED'	RED AUTUMN SAGE	5 GAL	L
	TECOMA STANS	YELLOW BELLS	5 GAL	L
	WESTRINGIA 'BLUE GEM'	COASTAL ROSEMARY	5 GAL	L
GROUNDCOVER:				
▨	LANTANA 'NEW GOLD'	NEW GOLD LANTANA	1 GAL. @ 36" O.C.	L
	MUHLENBERGIA CAPILLARIS	PINK MUHLYGRASS	1 GAL. @ 36" O.C.	L
	MYOPORUM PUTAH CREEK	CREEPING MYOPORUM	1 GAL. @ 36" O.C.	L
	ROS. 'HUNTINGTON CARPET'	TRAILING ROSEMARY	1 GAL. @ 36" O.C.	L
BASINS:				
⁘	CAREX DIVULSA	GREY SEDGE	PLUGS @ 12" O.C.	L
	ELYMUS TRITICOIDES	CREEPING WILD RYE	PLUGS @ 18" O.C.	L
	JUNCUS PATENS	COMMON RUSH	PLUGS @ 18" O.C.	L



PARKING LOT CALCULATIONS:

NET AREA OF ALL SURFACE PARKING AREA: 21,294 SQFT

LANDSCAPING WITHIN PARKING AREA: 3,215 SQFT

TOTAL: 15%

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rla 2681
HOWARD ASSOCIATES
landscape architecture
1951 Fourth avenue
Suite 302
san diego ca 92101 619 718 9660

MARK	REVISIONS	BY	APPR.	DATE

BENCH MARK:

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY:
CHECKED BY:
RECOMMENDED BY:

CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES~PUBLIC WORKS/ENGINEERING

Landscape Concept Plan for:
BUILDING 'B'
San Bernardino Business Park
HARDT ST TO E BRIER DR

FOR CITY USE ONLY: FILE NO. W.O. NO.

DRAWING NO. XXXX

SHEET 2 OF 2 SHEETS

LEGAL DESCRIPTION

PARCELS 24 & 25 OF PARCEL MAP NO. 5464
FILED IN SAN BERNARDING COUNTY

APN: 0281-311-11 & 12

ADDRESS: HARDT STREET

USE: SHELL

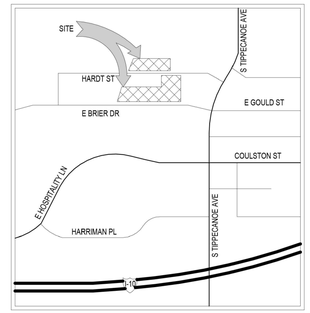
ZONE: TOD CR-3

SITE INFORMATION

SITE AREA:	54,041 SF	1.24 ACRES
PROPOSED BUILDING COVERAGE:	17,048 SF	31.55 %
PROPOSED LANDSCAPE AREA:	13,367 SF	24.73 %
PROPOSED PAVING AREA:	23,626 SF	43.72 %

TYPE OF DEVELOPMENT: SHELL

VICINITY MAP



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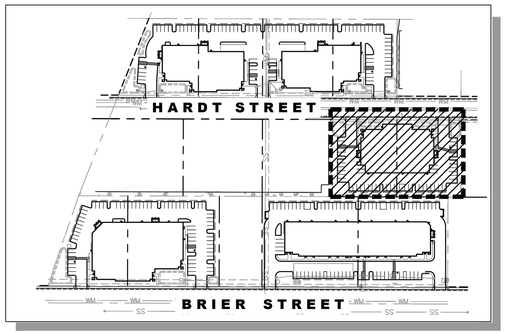

North
NTS

(a) Hydrozone Category	PF- Plant Factor
Very Low Water Use	0.0 - 0.1
Low Water Use*	0.2 - 0.3
Moderate Water Use	0.4 - 0.6
High Water Use	0.7 - 1.0

*Artificial turf and temporarily irrigated areas are considered Low Water Use.

(b) Irrigation Method	(c) IE- Irrigation Efficiency
Filler Pipe for Pools/Spas	1.00
Drip/Subsurface	0.90
Bubblers	0.85
Rotors	0.75
Rotators	0.70
Overhead Spray	0.60

(d)
ETWU (Annual Gallons Required) =
Eto x 0.62 x ETAF x Area

ETo - see Appendix A in Water Efficient Lands Design Manual. **(ETO = 55.1)**
0.62 is the conversion factor to gallons per sq. ft.
ETAF is Plant Factor/Irrigation Efficiency.
Area is the Landscaped Area for each hydrozone.

(e)
MAWA (Annual Gallons Allowed) =
(ETo)(0.62)[(ETAF x LA) + ((1- ETAF) x SLA)]

LA is the total landscape of all hydrozone areas in sq. ft.
SLA is the total special landscape area in square feet.
ETAF is 0.42 for all areas

WATER EFFICIENT LANDSCAPE WORKSHEET

Building 'C'

REFERENCE EVAPOTRANSPIRATION (ETo)____ 55.1

ETWU (Annual Gallons Required) =
Eto x 0.62 x ETAF x Area

Hydrozone # / Planting **(a)** Description	Plant Factor (PF)	Irrigation **(b)** Method	Irrigation Efficiency **(c)** (IE)	ETAF (PF/IE)	Landscape Area In Square Feet	ETAF x Area	Estimated Total Water Use **(d)** (ETWU)
Regular Landscape Areas							
Trees, Shrubs, GC	0.2	Drip-sub	0.9	0.22	10,202	2,267	77,449
Trees, Shrubs, GC	0.5	Drip-sub	0.9	0.56	2,005	1,114	38,053
Basin	0.2	Rotors	0.75	0.27	1,160	309	10,567
				Totals	13,367	3,690	126,069
Special Landscape Areas							
						0	0
				Totals	0	0	0
Estimated Total Water Use in Gallons Per Year **(ETWU) Total**							**126,069**
Maximum Annual Water Allowance in Gallons Per Year **(MAWA) Total**							**191,790**
MAWA - ETWU =							**65,721**
MAWA (Annual Gallons Allowed) =							must be a postitive number
(ETo)(0.62)[(ETAF x LA) + ((1- ETAF) x SLA)]							

****Average Irrigation Efficiency for overall irrigation system shall meet or exceed 0.75 (total of all efficiency ratings divided by number of hydrozones).**

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Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas and 0.45 or below for non-residential areas. ***Provide Totals based on information calculated in Worksheet above.***

Regular Landscape Areas		***Totals***	**All Landscape Areas**		***Totals***
Total ETAF x Area	(B) =	3,690	Total ETAF x Area	(B+D) =	3,690
Total Area	(A) =	13,367	Total Area	(A+C) =	13,367
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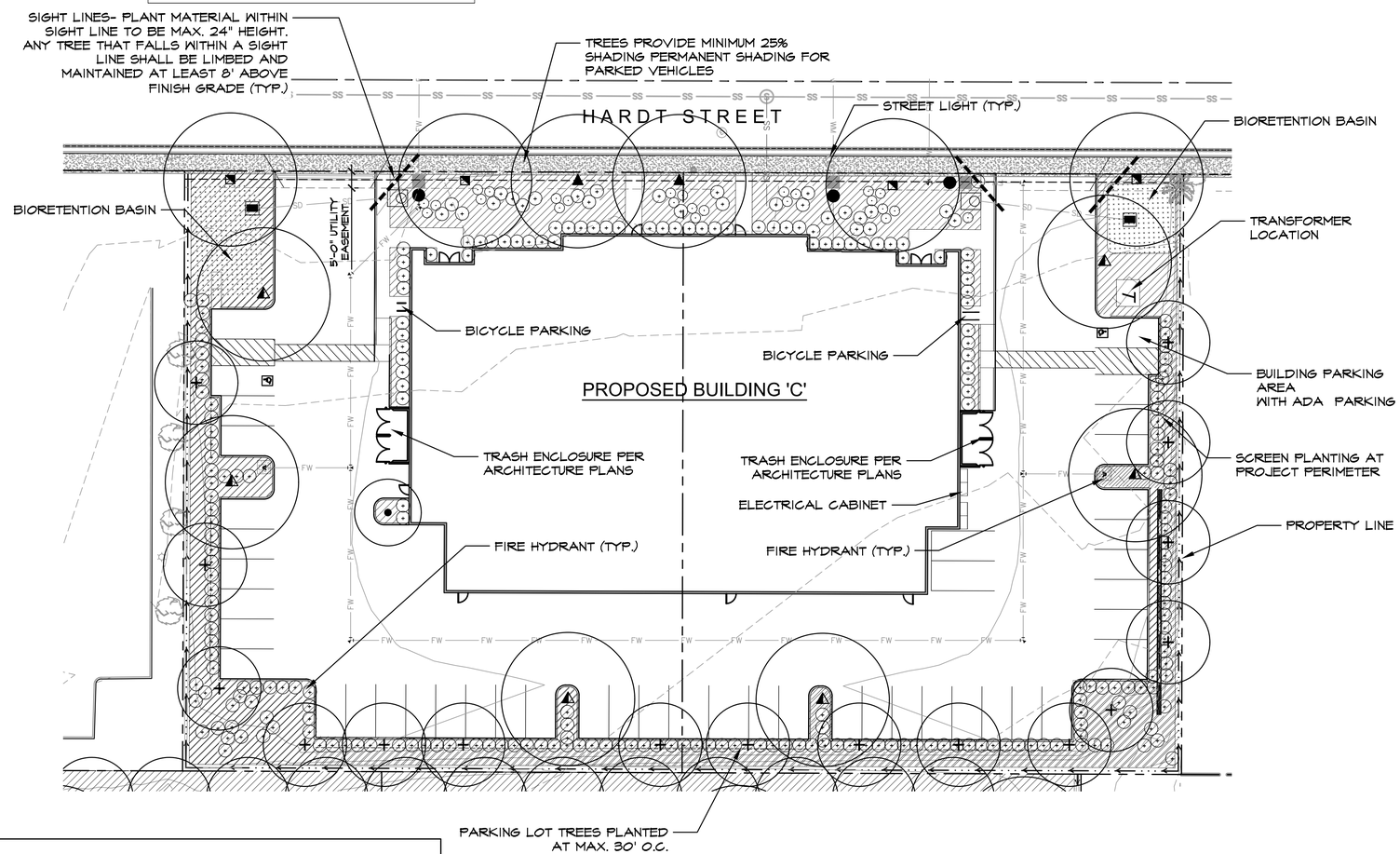

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SEE SHEET 2 FOR PLANTING LEGEND AND NOTES

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DRAWN BY:
CHECKED BY:
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DEVELOPMENT SERVICES--PUBLIC WORKS/ENGINEERING

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6.8. 15 FEET (MINIMUM) FROM STREETLIGHTS, OTHER UTILITY POLES, (DETERMINED BY SPECIFICATIONS)

6.9. STREET TREES SHALL BE PLANTED 3' OUTSIDE RIGHT-OF-WAY IF THE RIGHT-OF-WAY DOES NOT ALLOW SPACE, SUBJECT TO CITY ENGINEERS APPROVAL.
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THE IRRIGATION SYSTEM WILL BE DESIGNED TO AFFORD OPTIMUM COVERAGE FOR THE SUPPORT OF PLANT GROWTH. THE COVERAGE WILL MEET THE WATER REQUIREMENTS FOR THE SELECTED PLANT MATERIAL AND WITHIN THE GIVEN PLANTING AREAS. THE DESIGN WILL TAKE INTO CONSIDERATION THE TYPE OF EXPOSURE THE SYSTEM WILL HAVE. THE IRRIGATION SYSTEM WILL BE DESIGNED WITH RESPECT TO WATER CONSERVATION. IRRIGATION HEADS SHALL BE CHOSEN FOR MAXIMUM COVERAGE WITH LOW-GALLONAGE AND PRECIPITATION QUALITIES. THE IRRIGATION SYSTEM SHALL BE A FULLY AUTOMATIC SYSTEM AND AS MAINTENANCE-FREE AS POSSIBLE. THE MATERIALS FOR THE SYSTEM WILL BE OF AN EXTREMELY DURABLE NATURE, AND WILL HAVE BEEN SELECTED FOR WEAR RESISTANCE AND LONG LIFE. THE OVERALL SYSTEM SHALL BE DESIGNED FOR EASE OF MAINTENANCE. ALL LANDSCAPE AND IRRIGATION SHALL CONFORM TO THE STANDARDS OF THE CITYWIDE LANDSCAPE REGULATIONS AND THE LANDSCAPE STANDARDS AND ALL OTHER LANDSCAPE RELATED CITY AND REGIONAL STANDARDS. ALL IRRIGATION SHALL UTILIZE A DESIGNATED SEPARATE IRRIGATION WATER METER, AND SUBSURFACE DRIP OR ROTOR LOW PRECIPITATION RATE IRRIGATION WITH A WEATHER - BASED AUTOMATIC IRRIGATION SMART CONTROLLER.

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ALL GRADES AND DRAINAGE SWALES SHALL BE PER CIVIL ENGINEER'S GRADING AND DEVELOPMENT PLAN.

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CITY OF SAN BERNARDINO MC G19.28.130(5)

1. WATER CONSERVATION CRITERIA

Compliance with the Water Conservation in Landscape Ordinance.

	Points
A. Landscape Technique	
1. Water conserving plants used in 75 percent or more of the total landscaped area.	20
2. Turf limited as follows:	20
a. All other projects* - 30 percent of total landscaped area.	
3. Plants placed or grouped into hydrozones according to their watering needs.	10
4. Polymers incorporated into the soil to improve water holding capacity in turf and ground cover areas.	10
5. A maintenance program consisting of:	10
a. Periodic irrigation system repair.	
b. Seasonal adjustments to the irrigation system.	
c. Practices which foster long term landscape water conservation.	
6. Where no groundcover is used, utilize wood chips, bark, or other organic mulch, to a depth of three inches on top of exposed soil or landscaped fabric, such as underneath shrubs.	5
7. Organic soil amendments to improve water holding capacity of soil, where soil conditions merit.	5
TOTAL: 80 POINTS	

B. Irrigation Technique	
1. Low gallonage irrigation system, or higher gallonage systems with automatic controller capable of repeat cycling, used for more than 75% of the total landscaped area. Turf areas must utilize "spray" coverage, drip systems may not be used for turf.	20
2. Automatic controller for irrigation system.	20
3. Irrigation system designed using hydrozones to water plants according to their water needs (i.e., landscape materials which require different watering needs are irrigated by separate control valves).	10
4. Rain sensors used in conjunction with an automatic controller.	10
5. Soil-moisture sensors used in conjunction with an automatic controller	5
6. In-head or in-line check valves are utilized (whenever the cross gradient is greater than three feet in elevation).	5
7. Irrigation schedule which varies by season, and developed through the use of Evapotranspiration data (ET).	5
TOTAL: 75 POINTS	

NOTE:

1. MINIMUM TREE SIZES SHALL BE AS FOLLOWS:
15% 48" BOX
15% 36" BOX
20% 24" BOX
50% 15 GAL.

2. MINIMUM SHRUB SIZES SHALL BE AS FOLLOWS:
80% 5 GAL.
20% 1 GAL.

3. GROUNDCOVERS SHALL ACHIEVE 100% COVERAGE WITHIN 1 YEAR.

Plant Legend

SYMBOL	BOTANICAL NAME	COMMON NAME	MIN. SIZE (SEE NOTE BELOW LEFT)	WUCOLS ZONE 4
HARDT STREET TREES:				
▲	PLATANUS ACERIFOLIA	LONDON PLANETREE	36" BOX	M
BRIER STREET TREES:				
■	FRAXINUS SPP.	ASH TREE	36" BOX	M
ENTRY SPECIMEN TREES:				
◥	QUERCUS ILEX	HOLLY OAK	48" BOX	L
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+	TRISTANIA CONFERTA	BRISBANE BOX	24" BOX	L
◭	GEIJERA PARVIFLORA	AUSTRALIAN WILLOW	24" BOX	L
SMALL ACCENT TREES:				
●	LAGERSTROEMIA 'MUSKOGEE'	CRAPE MYRTLE	24" BOX	L
◉	LAGERSTROEMIA 'MUSKOGEE'	CRAPE MYRTLE	48" BOX	L
SHRUBS:				
	ARBUTUS COMPACTA	COMPACT STRAWBERRY TREE	5 GAL	L
	BACCHARIS CENTENNIAL	CENTENNIAL DESERT BROOM	5 GAL	L
	CALLISTEMON LITTLE JOHN	LITTLE JOHN BOTTLEBRUSH	5 GAL	L
	HESPERALOE PARVIFLORA	RED YUCCA	5 GAL	L
	LIGUSTRUM TEXANUM	WAXLEAF PRIVET	5 GAL	M
	LLEUCOPHYLLUM FRUTESCENS	TEXAS RANGER	5 GAL	L
	PITTOSPORUM SPP.	KOHUHU	5 GAL	M
	PODOCARPUS MACROPHYLLUS	YEW PINE	5 GAL	M
	SALVIA 'FURMANS RED'	RED AUTUMN SAGE	5 GAL	L
	TECOMA STANS	YELLOW BELLS	5 GAL	L
	WESTRINGIA 'BLUE GEM'	COASTAL ROSEMARY	5 GAL	L
GROUNDCOVER:				
▨	LANTANA 'NEW GOLD'	NEW GOLD LANTANA	1 GAL. @ 36" O.C.	L
	MUHLENBERGIA CAPILLARIS	PINK MUHLYGRASS	1 GAL. @ 36" O.C.	L
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BASINS:				
⁘	CAREX DIVULSA	GREY SEDGE	PLUGS @ 12" O.C.	L
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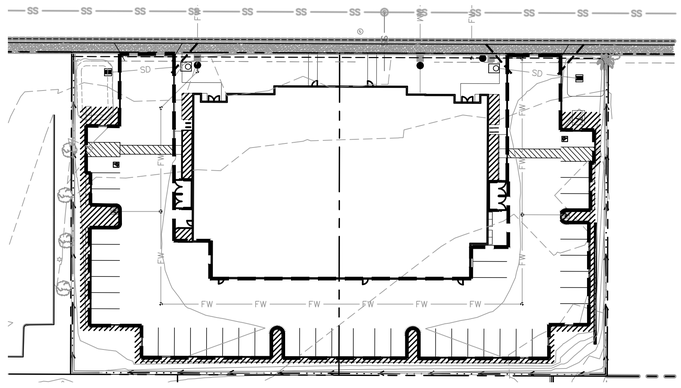
	JUNCUS PATENS	COMMON RUSH	PLUGS @ 18" O.C.	L



PARKING LOT CALCULATIONS:

NET AREA OF ALL SURFACE PARKING AREA: 22,097 SQFT

LANDSCAPING WITHIN PARKING AREA: 3,440 SQFT

TOTAL 16%

Underground Service Alert
Call: TOLL FREE
1–800
422–4133
TWO WORKING DAYS BEFORE YOU DIG

rla 2681
HOWARD ASSOCIATES
landscape architecture
1951 Fourth avenue
Suite 302
san diego ca 92101 619 718 9660

MARK	REVISIONS	BY	APPR.	DATE

BENCH MARK:

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY:
CHECKED BY:
RECOMMENDED BY:

CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES~PUBLIC WORKS/ENGINEERING

Landscape Concept Plan for:
BUILDING 'C'
San Bernardino Business Park
HARDT ST TO E BRIER DR

FOR CITY USE ONLY: FILE NO. W.O. NO.

DRAWING NO. XXXX
SHEET 2 OF 2 SHEETS

PARKING SPACES: 81
24' BOX TREES PROPOSED: 39
RATIO: 1 TREE PER 2.1 SPACES

LEGAL DESCRIPTION

PARCELS 18 & 19 OF PARCEL MAP NO. 5464
FILED IN SAN BERNARDING COUNTY

APN: 281-311-18 & 19

ADDRESS: HARDT STREET

USE: SHELL

ZONE: TOD CR-3

SITE INFORMATION: D1

SITE AREA:	44,241 SF	1.02 ACRES
PROPOSED BUILDING COVERAGE:	13,759 SF	31.1 %
PROPOSED LANDSCAPE AREA:	10,697 SF	24.18 %
PROPOSED PAVING AREA:	19,785 SF	44.72 %
TYPE OF DEVELOPMENT:	SHELL	

SITE INFORMATION: D2

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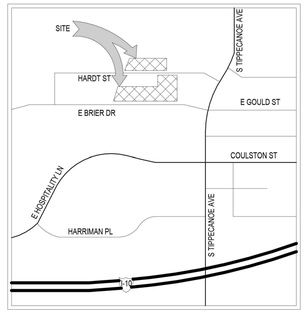
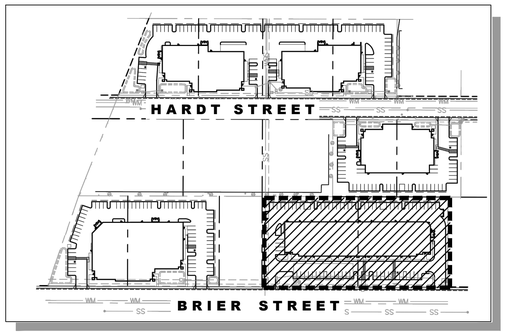
VICINITY MAP



KEY MAP



North
NTS

(a) Hydrozone Category	PF- Plant Factor
Very Low Water Use	0.0 - 0.1
Low Water Use*	0.2 - 0.3
Moderate Water Use	0.4 - 0.6
High Water Use	0.7 - 1.0

*Artificial turf and temporarily irrigated areas are considered Low Water Use.

(b) Irrigation Method	(c) IE- Irrigation Efficiency
Filler Pipe for Pools/Spas	1.00
Drip/Subsurface	0.90
Bubblers	0.85
Rotors	0.75
Rotators	0.70
Overhead Spray	0.60

(d)
ETWU (Annual Gallons Required) =
Eto x 0.62 x ETAF x Area

ETo - see Appendix A in Water Efficient Lands Design Manual. **(ETO = 55.1)**
0.62 is the conversion factor to gallons per sq. ft.
ETAF is Plant Factor/Irrigation Efficiency.
Area is the Landscaped Area for each hydrozone.

(e)
MAWA (Annual Gallons Allowed) =
(ETo)(0.62)[(ETAF x LA) + ((1- ETAF) x SLA)]

LA is the total landscape of all hydrozone areas in sq. ft.
SLA is the total special landscape area in square feet.
ETAF is 0.42 for all areas

WATER EFFICIENT LANDSCAPE WORKSHEET

Building 'D'

REFERENCE EVAPOTRANSPIRATION (ETo)___ 55.1

ETWU (Annual Gallons Required) =
Eto x 0.62 x ETAF x Area

Hydrozone # / Planting **(a)** Description	Plant Factor (PF)	Irrigation **(b)** Method	Irrigation Efficiency **(c)** (IE)	ETAF (PF/IE)	Landscape Area In Square Feet	ETAF x Area	Estimated Total Water Use **(d)** (ETWU)
Regular Landscape Areas							
Trees, Shrubs, GC	0.2	Drip-sub	0.9	0.22	18,185	4,041	138,052
Trees, Shrubs, GC	0.5	Drip-sub	0.9	0.56	3,209	1,783	60,903
				Totals	21,394	5,824	198,956
Special Landscape Areas							
						0	0
				Totals	0	0	0
						Estimated Total Water Use in Gallons Per Year **(ETWU) Total**	**198,956**
						Maximum Annual Water Allowance in Gallons Per Year **(MAWA) Total**	**306,962**
						MAWA - ETWU =	**108,006**
MAWA (Annual Gallons Allowed) =							must be a postitive number
(ETo)(0.62)[(ETAF x LA) + ((1- ETAF) x SLA)]							

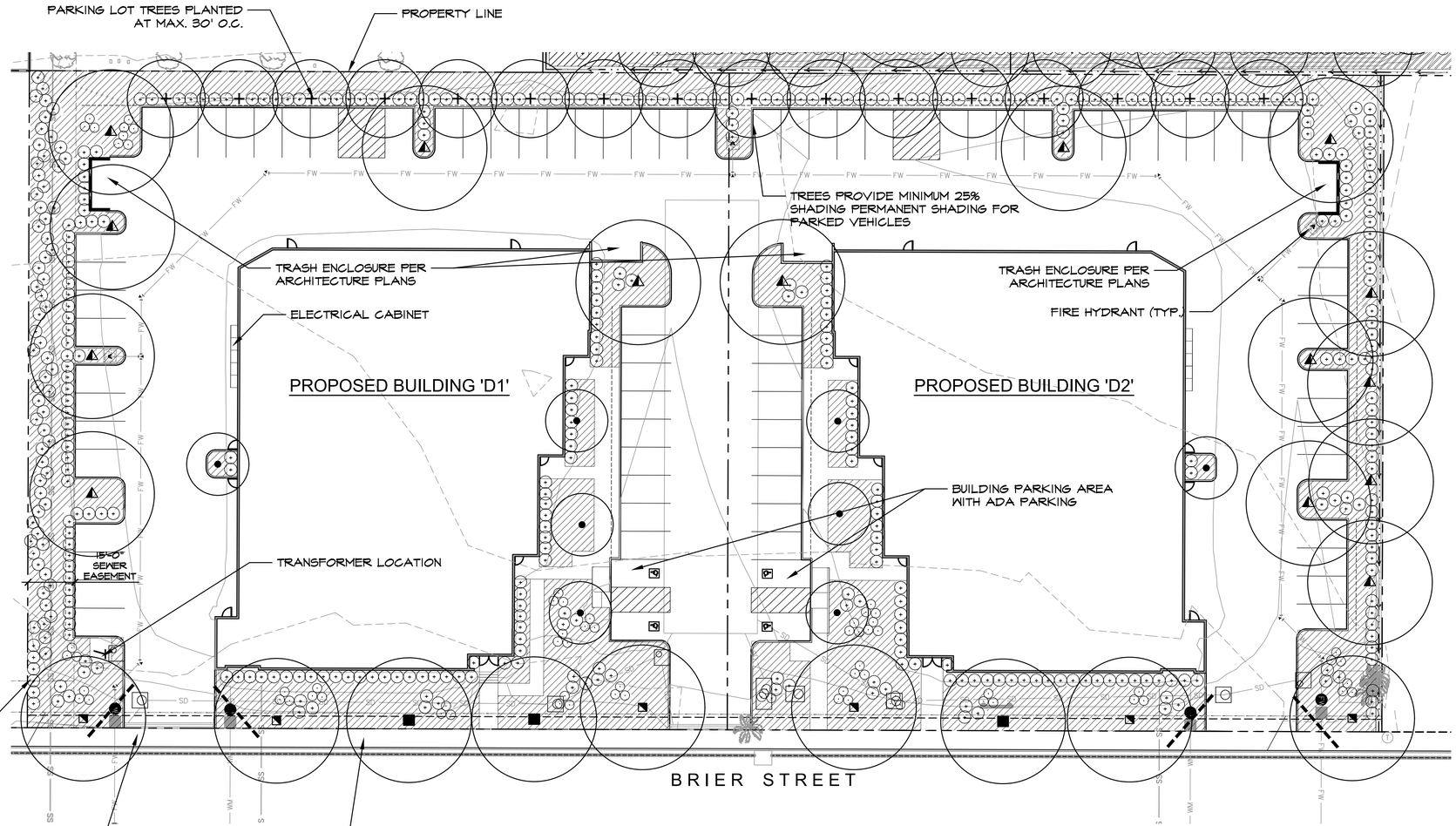
****Average Irrigation Efficiency for overall irrigation system shall meet or exceed 0.75 (total of all efficiency ratings divided by number of hydrozones).**

ETAF CALCULATIONS

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas and 0.45 or below for non-residential areas. ***Provide Totals based on information calculated in Worksheet above.***

Regular Landscape Areas		*Totals*	All Landscape Areas		*Totals*
Total ETAF x Area	(B) =	5,824	Total ETAF x Area	(B+D) =	5,824
Total Area	(A) =	21,394	Total Area	(A+C) =	21,394
Average ETAF	**(B) ÷ (A) =**	0.27	**Site wide ETAF**	(B+D) ÷ (A+C) =	0.27

NOTE: PLANT MATERIAL WITHIN SIGHT LINE TO BE MAX. 24" HEIGHT. ANY TREE THAT FALLS WITHIN A SIGHT LINE SHALL BE LIMBED AND MAINTAINED AT LEAST 8' ABOVE FINISH GRADE (TYP.)



SEE SHEET 2 FOR PLANTING LEGEND AND NOTES

North
0 10' 20' 60'
Scale 1" = 20'

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San Bernardino Business Park
HARDT ST TO E BRIER DR

FOR CITY USE ONLY: FILE NO. W.O. NO.

DRAWING NO. XXXX

SHEET 1 OF 2 SHEETS

GENERAL NOTES

1. FINAL LANDSCAPE PLANS SHALL ACCURATELY SHOW PLACEMENT OF TREES, SHRUBS AND GROUNDCOVERS.

2. ALL REQUIRED LANDSCAPE AREAS, INCLUDING THE ROW, SHALL BE MAINTAINED PER CITY OF SAN BERNARDINO REQUIREMENTS.

3. AUTOMATIC IRRIGATION SHALL BE INSTALLED TO PROVIDE COVERAGE FOR ALL PLANTING AREAS SHOWN ON THE PLAN. LOW VOLUME EQUIPMENT SHALL PROVIDE SUFFICIENT WATER FOR PLANT GROWTH WITH MINIMUM WATER LOSS DUE TO WATER RUN-OFF. IRRIGATION SYSTEMS SHALL USE HIGH QUALITY, AUTOMATIC CONTROL VALVES, CONTROLLERS AND OTHER NECESSARY IRRIGATION EQUIPMENT. ALL COMPONENTS SHALL BE OF NON-CORROSIVE MATERIAL. ALL DRIP SYSTEMS SHALL BE ADEQUATELY FILTERED AND REGULATED PER THE MANUFACTURES RECOMMENDED DESIGN PARAMETERS. ALL IRRIGATION IMPROVEMENTS SHALL FOLLOW THE CITY OF SAN BERNARDINO GUIDELINES AND WATER CONSERVATION ORDINANCE.

4. THE SELECTION OF PLANT MATERIAL IS BASED ON AESTHETIC AND MAINTENANCE CONSIDERATIONS. ALL PLANTING AREAS SHALL BE PREPARED WITH APPROPRIATE SOIL AMENDMENTS, FERTILIZERS, AND APPROPRIATE SUPPLEMENTS BASED UPON A SOILS REPORT FROM AN AGRICULTURAL SUITABILITY SOIL SAMPLE TAKEN FROM THE SITE. GROUND COVERS OR BARK MULCH SHALL FILL IN BETWEEN SHRUBS TO SHIELD THE SOIL FROM THE SUN, EVAPOTRANSPIRATION, AND RUN-OFF. ALL THE SHRUB BEDS SHALL BE MULCHED TO A 3" DEPTH TO HELP CONSERVE WATER, LOWER THE SOIL TEMPERATURE AND REDUCE WEED GROWTH. THE SHRUBS SHALL BE ALLOWED TO GROW IN THEIR NATURAL FORMS. ALL LANDSCAPE IMPROVEMENTS SHALL FOLLOW THE CITY OF SAN BERNARDINO GUIDELINES.

TREES:

6. STREET TREES AND OTHER TREES SHALL BE SPACED AS FOLLOWS:
6.1. 8' FROM TRANSFORMERS, CABLE, AND PULL BOXES
6.2. 5 FEET FROM MAIL BOXES
6.3. 5 FEET FROM FIRE HYDRANTS (ALL SIDES)
6.4. 10 FEET FROM CENTERLINE OF ALL UTILITY LINES (WITHOUT EASEMENT)(SEWER, WATER, STORM DRAINS, DOUBLE CHECK DETECTOR VALVES, AIR RELIEF VALVES, AND GAS)
6.5. 10 FEET FROM EASEMENT BOUNDARIES (SEWER, WATER, STORM DRAINS, ACCESS OR OTHER UTILITIES)
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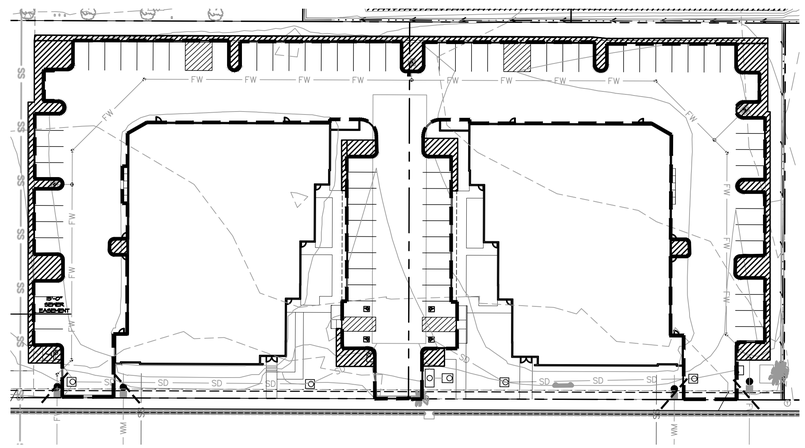
	ELYMUS TRITICOIDES	CREEPING WILD RYE	PLUGS @ 18" O.C.	L
	JUNCUS PATENS	COMMON RUSH	PLUGS @ 18" O.C.	L



PARKING LOT CALCULATIONS:

NET AREA OF ALL SURFACE PARKING AREA: 38,467 SQFT

LANDSCAPING WITHIN PARKING AREA: 5,801 SQFT

TOTAL: 15%

North
1"=40'

Underground Service Alert
Call: TOLL FREE
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422-4133
TWO WORKING DAYS BEFORE YOU DIG

rla 2681
HOWARD ASSOCIATES
landscape architecture
1951 Fourth avenue
Suite 302
san diego ca 92101 619 718 9660

MARK	REVISIONS	BY	APPR.	DATE
BENCH MARK:				

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY:
CHECKED BY:
RECOMMENDED BY:

CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES--PUBLIC WORKS/ENGINEERING

Landscape Concept Plan for:
BUILDING 'D'
San Bernardino Business Park
HARDT ST TO E BRIER DR

FOR CITY USE ONLY: FILE NO. W.O. NO.

DRAWING NO. XXXX

SHEET 2 OF 2 SHEETS

PARKING SPACES: 67
24' BOX TREES PROPOSED: 31
RATIO: 1 TREE PER 2.1 SPACES

(a) Hydrozone Category	PF- Plant Factor
Very Low Water Use	0.0 - 0.1
Low Water Use*	0.2 - 0.3
Moderate Water Use	0.4 - 0.6
High Water Use	0.7 - 1.0

*Artificial turf and temporarily irrigated areas are considered Low Water Use.

(b) Irrigation Method	(c) IE- Irrigation Efficiency
Filler Pipe for Pools/Spas	1.00
Drip/Subsurface	0.90
Bubblers	0.85
Rotors	0.75
Rotators	0.70
Overhead Spray	0.60

(d)
ETWU (Annual Gallons Required) =
Eto x 0.62 x ETAF x Area

ETo - see Appendix A in Water Efficient Land Design Manual. **(ETO = 55.1)**
0.62 is the conversion factor to gallons per sq. ft.
ETAF is Plant Factor/Irrigation Efficiency.
Area is the Landscaped Area for each hydrozone.

(e)
MAWA (Annual Gallons Allowed) =
(ETo)(0.62)[(ETAF x LA) + ((1- ETAF) x SLA)]

LA is the total landscape of all hydrozone areas in sq. ft.
SLA is the total special landscape area in square feet.
ETAF is 0.42 for all areas

WATER EFFICIENT LANDSCAPE WORKSHEET

Building 'E'

REFERENCE EVAPOTRANSPIRATION (ETo)____ 55.1

ETWU (Annual Gallons Required) =
Eto x 0.62 x ETAF x Area

Hydrozone # / Planting **(a)** Description	Plant Factor (PF)	Irrigation **(b)** Method	Irrigation Efficiency **(c)** (IE)	ETAF (PF/IE)	Landscape Area In Square Feet	ETAF x Area	Estimated Total Water Use **(d)** (ETWU)
Regular Landscape Areas							
Trees, Shrubs, GC	0.2	Drip-sub	0.9	0.22	9,328	2,073	70,814
Trees, Shrubs, GC	0.5	Drip-sub	0.9	0.56	2,254	1,252	42,778
Basin	0.2	rotors	0.75	0.27	3,448		
				Totals	15,030	3,325	113,592
Special Landscape Areas							
						0	0
				Totals	0	0	0
Estimated Total Water Use in Gallons Per Year **(ETWU) Total**							**113,592**
Maximum Annual Water Allowance in Gallons Per Year **(MAWA) Total**							**215,651**
MAWA - ETWU =							**102,059**
MAWA (Annual Gallons Allowed) = must be a postitive number							
(ETo)(0.62)[(ETAF x LA) + ((1- ETAF) x SLA)]							

**Average Irrigation Efficiency for overall irrigation system shall meet or exceed 0.75 (total of all efficiency ratings divided by number of hydrozones).

ETAF CALCULATIONS

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas and 0.45 or below for non-residential areas. ***Provide Totals based on information calculated in Worksheet above.***

Regular Landscape Areas		***Totals***	**All Landscape Areas**		***Totals***
Total ETAF x Area	(B) =	3,325	Total ETAF x Area	(B+D) =	3,325
Total Area	(A) =	15,030	Total Area	(A+C) =	15,030
Average ETAF	**(B) ÷ (A) =**	0.22	**Site wide ETAF**	(B+D) ÷ (A+C) =	0.22

NOTE: PLANT MATERIAL WITHIN SIGHT LINE TO BE MAX. 24" HEIGHT. ANY TREE THAT FALLS WITHIN A SIGHT LINE SHALL BE LIMBED AND MAINTAINED AT LEAST 8' ABOVE FINISH GRADE (TYP.)

LEGAL DESCRIPTION

PARCELS 1 & 2 OF PARCEL MAP NO. 5464
FILED IN SAN BERNARDING COUNTY

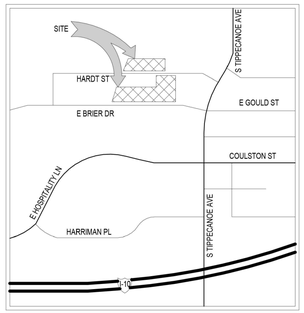
APN: 0281-301- 20 & 21
ADDRESS: BRIER STREET
USE: SHELL
ZONE: TOD CR-3

SITE INFORMATION

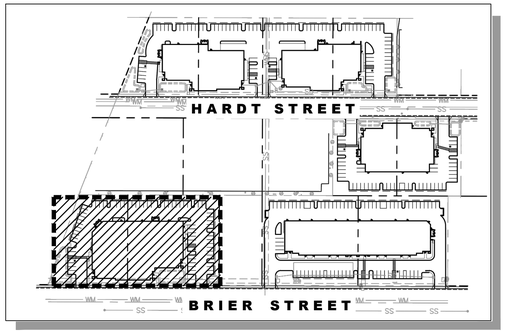
SITE AREA:	54,315 SF	1.25 ACRES
PROPOSED BUILDING COVERAGE:	25,640 SF	47.21 %
PROPOSED LANDSCAPE AREA:	15,030 SF	27.67 %
PROPOSED PAVING AREA:	13,645 SF	25.12 %

TYPE OF DEVELOPMENT: SHELL

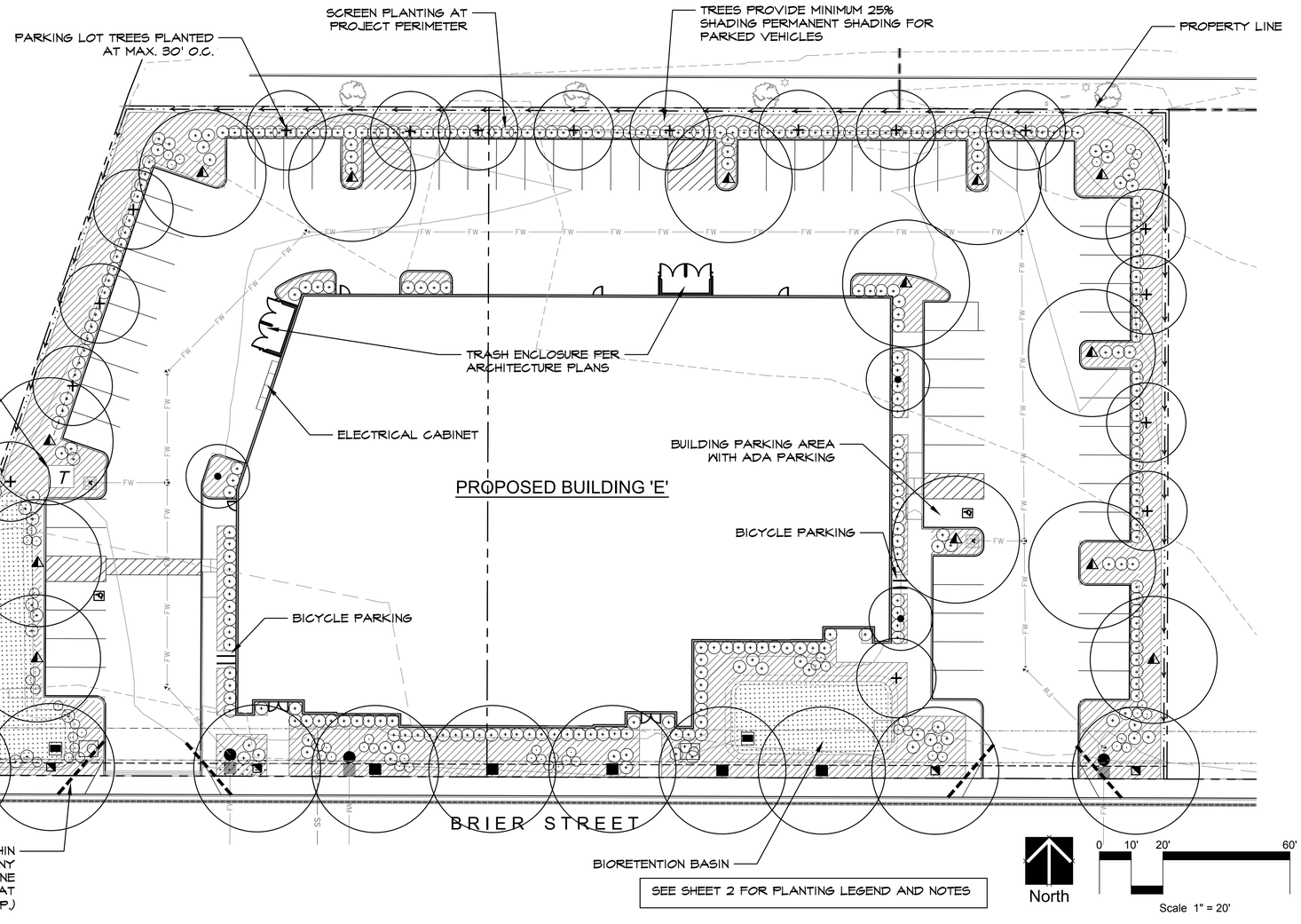
VICINITY MAP



KEY MAP



North
NTS



SEE SHEET 2 FOR PLANTING LEGEND AND NOTES

North
0 10' 20' 60'
Scale 1" = 20'

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BUILDING 'E'
San Bernardino Business Park
HARDT ST TO E BRIER DR

DRAWING NO. XXXX
SHEET 1 OF 2 SHEETS

FOR CITY USE ONLY: FILE NO. W.O. NO.

GENERAL NOTES

1. FINAL LANDSCAPE PLANS SHALL ACCURATELY SHOW PLACEMENT OF TREES, SHRUBS AND GROUNDCOVERS.

2. ALL REQUIRED LANDSCAPE AREAS, INCLUDING THE ROW, SHALL BE MAINTAINED PER CITY OF SAN BERNARDINO REQUIREMENTS.

3. AUTOMATIC IRRIGATION SHALL BE INSTALLED TO PROVIDE COVERAGE FOR ALL PLANTING AREAS SHOWN ON THE PLAN. LOW VOLUME EQUIPMENT SHALL PROVIDE SUFFICIENT WATER FOR PLANT GROWTH WITH MINIMUM WATER LOSS DUE TO WATER RUN-OFF. IRRIGATION SYSTEMS SHALL USE HIGH QUALITY, AUTOMATIC CONTROL VALVES, CONTROLLERS AND OTHER NECESSARY IRRIGATION EQUIPMENT. ALL COMPONENTS SHALL BE OF NON-CORROSIVE MATERIAL. ALL DRIP SYSTEMS SHALL BE ADEQUATELY FILTERED AND REGULATED PER THE MANUFACTURES RECOMMENDED DESIGN PARAMETERS. ALL IRRIGATION IMPROVEMENTS SHALL FOLLOW THE CITY OF SAN BERNARDINO GUIDELINES AND WATER CONSERVATION ORDINANCE.

4. THE SELECTION OF PLANT MATERIAL IS BASED ON AESTHETIC AND MAINTENANCE CONSIDERATIONS. ALL PLANTING AREAS SHALL BE PREPARED WITH APPROPRIATE SOIL AMENDMENTS, FERTILIZERS, AND APPROPRIATE SUPPLEMENTS BASED UPON A SOILS REPORT FROM AN AGRICULTURAL SUITABILITY SOIL SAMPLE TAKEN FROM THE SITE. GROUND COVERS OR BARK MULCH SHALL FILL IN BETWEEN SHRUBS TO SHIELD THE SOIL FROM THE SUN, EVAPOTRANSPIRATION, AND RUN-OFF. ALL THE SHRUB BEDS SHALL BE MULCHED TO A 3" DEPTH TO HELP CONSERVE WATER, LOWER THE SOIL TEMPERATURE AND REDUCE WEED GROWTH. THE SHRUBS SHALL BE ALLOWED TO GROW IN THEIR NATURAL FORMS. ALL LANDSCAPE IMPROVEMENTS SHALL FOLLOW THE CITY OF SAN BERNARDINO GUIDELINES.

TREES:

6. STREET TREES AND OTHER TREES SHALL BE SPACED AS FOLLOWS:
6.1. 8' FROM TRANSFORMERS, CABLE, AND PULL BOXES
6.2. 5 FEET FROM MAIL BOXES
6.3. 5 FEET FROM FIRE HYDRANTS (ALL SIDES)
6.4. 10 FEET FROM CENTERLINE OF ALL UTILITY LINES (WITHOUT EASEMENT)(SEWER, WATER, STORM DRAINS, DOUBLE CHECK DETECTOR VALVES, AIR RELIEF VALVES, AND GAS)
6.5. 10 FEET FROM EASEMENT BOUNDARIES (SEWER, WATER, STORM DRAINS, ACCESS OR OTHER UTILITIES)
6.6. 10 FEET FROM DRIVEWAYS (UNLESS A LINE OF SIGHT IS DETERMINED BY THE TRAFFIC DIVISION TO BE OTHERWISE)
6.7. 10 FEET FROM TRAFFIC AND DIRECTIONAL SIGNS
6.8. 15 FEET (MINIMUM) FROM STREETLIGHTS, OTHER UTILITY POLES, (DETERMINED BY SPECIFICATIONS)

6.9. STREET TREES SHALL BE PLANTED 3' OUTSIDE RIGHT-OF-WAY IF THE RIGHT-OF-WAY DOES NOT ALLOW SPACE, SUBJECT TO CITY ENGINEERS APPROVAL.
6.10. LINE OF SIGHT AT ARTERIALS, COLLECTOR AND LOCAL STREETS SHALL BE REVIEWED AND DETERMINED BY THE TRAFFIC ENGINEER.
6.11. MINIMUM FIFTEEN (15') STREETLIGHT AND STOP SIGN OR CLEARANCE DETERMINED BY SPECIFICATIONS.
6.12. SCREEN ALL UTILITIES ACCORDING TO SPECIFIC AGENCY REQUIREMENTS.

ROOT BARRIERS

ROOT BARRIERS SHALL BE INSTALLED ADJACENT TO ALL PAVING SURFACES WHERE A PAVING SURFACE IS LOCATED WITHIN 6 FEET OF A TREE TRUNK. ROOT BARRIERS SHALL EXTEND 10 FEET IN EACH DIRECTION FROM THE CENTERLINE OF THE TRUNK, FOR A TOTAL DISTANCE OF 20 FEET. ROOT BARRIERS SHALL BE MINIMUM OF 24 INCHES IN DEPTH. INSTALLING A ROOT BARRIER AROUND THE TREE'S ROOT BALL IS UNACCEPTABLE.

IRRIGATION NOTES

THE IRRIGATION SYSTEM WILL BE DESIGNED TO AFFORD OPTIMUM COVERAGE FOR THE SUPPORT OF PLANT GROWTH. THE COVERAGE WILL MEET THE WATER REQUIREMENTS FOR THE SELECTED PLANT MATERIAL AND WITHIN THE GIVEN PLANTING AREAS. THE DESIGN WILL TAKE INTO CONSIDERATION THE TYPE OF EXPOSURE THE SYSTEM WILL HAVE. THE IRRIGATION SYSTEM WILL BE DESIGNED WITH RESPECT TO WATER CONSERVATION. IRRIGATION HEADS SHALL BE CHOSEN FOR MAXIMUM COVERAGE WITH LOW-GALLONAGE AND PRECIPITATION QUALITIES. THE IRRIGATION SYSTEM SHALL BE A FULLY AUTOMATIC SYSTEM AND AS MAINTENANCE-FREE AS POSSIBLE. THE MATERIALS FOR THE SYSTEM WILL BE OF AN EXTREMELY DURABLE NATURE, AND WILL HAVE BEEN SELECTED FOR WEAR RESISTANCE AND LONG LIFE. THE OVERALL SYSTEM SHALL BE DESIGNED FOR EASE OF MAINTENANCE. ALL LANDSCAPE AND IRRIGATION SHALL CONFORM TO THE STANDARDS OF THE CITYWIDE LANDSCAPE REGULATIONS AND THE LANDSCAPE STANDARDS AND ALL OTHER LANDSCAPE RELATED CITY AND REGIONAL STANDARDS. ALL IRRIGATION SHALL UTILIZE A DESIGNATED SEPARATE IRRIGATION WATER METER, AND SUBSURFACE DRIP OR ROTOR LOW PRECIPITATION RATE IRRIGATION WITH A WEATHER - BASED AUTOMATIC IRRIGATION SMART CONTROLLER.

GRADING AND DRAINAGE

ALL GRADES AND DRAINAGE SWALES SHALL BE PER CIVIL ENGINEER'S GRADING AND DEVELOPMENT PLAN.

NOTES:

1. NO STRUCTURES HIGHER THAN 30" OR PLANT MATERIAL HIGHER THAN 24" AT MATURITY SHALL BE ALLOWED WITHIN THE CLEAR SIGHT AREA.

2. ALL LANDSCAPED AREAS SHALL BE MAINTAINED BY THE PROJECT OWNER, INCLUDING REGULAR WATERING, PRUNING, FERTILIZING, CLEARING OF DEBRIS AND WEEDS, REMOVAL AND REPLACEMENT OF DEAD PLANTS AND REPAIR AND REPLACEMENT OF IRRIGATION SYSTEM.

CITY OF SAN BERNARDINO MC G19.28.130(5)

1. WATER CONSERVATION CRITERIA

Compliance with the Water Conservation in Landscape Ordinance.

		Points
A.	Landscape Technique	
1.	Water conserving plants used in 75 percent or more of the total landscaped area.	20
2.	Turf limited as follows:	20
	a. All other projects* - 30 percent of total landscaped area.	
3.	Plants placed or grouped into hydrozones according to their watering needs.	10
4.	Polymers incorporated into the soil to improve water holding capacity in turf and ground cover areas.	10
5.	A maintenance program consisting of:	10
	a. Periodic irrigation system repair.	
	b. Seasonal adjustments to the irrigation system.	
	c. Practices which foster long term landscape water conservation.	
6.	Where no groundcover is used, utilize wood chips, bark, or other organic mulch, to a depth of three inches on top of exposed soil or landscaped fabric, such as underneath shrubs.	5
7.	Organic soil amendments to improve water holding capacity of soil, where soil conditions merit.	5
	TOTAL: 80 POINTS	
B.	Irrigation Technique	
1.	Low gallonage irrigation system, or higher gallonage systems with automatic controller capable of repeat cycling, used for more than 75% of the total landscaped area. Turf areas must utilize "spray" coverage, drip systems may not be used for turf.	20
2.	Automatic controller for irrigation system.	20
3.	Irrigation system designed using hydrozones to water plants according to their water needs (i.e., landscape materials which require different watering needs are irrigated by separate control valves).	10
4.	Rain sensors used in conjunction with an automatic controller.	10
5.	Soil-moisture sensors used in conjunction with an automatic controller	5
6.	In-head or in-line check valves are utilized (whenever the cross gradient is greater than three feet in elevation).	5
7.	Irrigation schedule which varies by season, and developed through the use of Evapotranspiration data (ET).	5
	TOTAL: 75 POINTS	

NOTE:

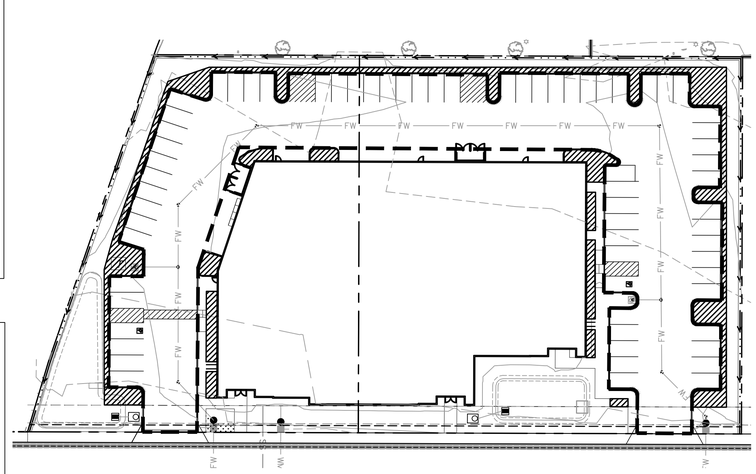
1. MINIMUM TREE SIZES SHALL BE AS FOLLOWS:
   15% 48" BOX
   15% 36" BOX
   20% 24" BOX
   50% 15 GAL.

2. MINIMUM SHRUB SIZES SHALL BE AS FOLLOWS:
   80% 5 GAL.
   20% 1 GAL.

3. GROUNDCOVERS SHALL ACHIEVE 100% COVERAGE WITHIN 1 YEAR.

Plant Legend

SYMBOL	BOTANICAL NAME	COMMON NAME	MIN. SIZE (SEE NOTE BELOW LEFT)	WUCOLS ZONE 4
HARDT STREET TREES:				
▲	PLATANUS ACERIFOLIA	LONDON PLANETREE	36" BOX	M
BRIER STREET TREES:				
■	FRAXINUS SPP.	ASH TREE	36" BOX	M
ENTRY SPECIMEN TREES:				
◥	QUERCUS ILEX	HOLLY OAK	48" BOX	L
PARKING AND PERIMETER TREES:				
+	TRISTANIA CONFERTA	BRISBANE BOX	24" BOX	L
◭	GEIJERA PARVIFLORA	AUSTRALIAN WILLOW	24" BOX	L
SMALL ACCENT TREES:				
●	LAGERSTROEMIA 'MUSKOGEE'	CRAPE MYRTLE	24" BOX	L
◉	LAGERSTROEMIA 'MUSKOGEE'	CRAPE MYRTLE	48" BOX	L
SHRUBS:				
	ARBUTUS COMPACTA	COMPACT STRAWBERRY TREE	5 GAL	L
	BACCHARIS CENTENNIAL	CENTENNIAL DESERT BROOM	5 GAL	L
	CALLISTEMON LITTLE JOHN	LITTLE JOHN BOTTLEBRUSH	5 GAL	L
	HESPERALOE PARVIFLORA	RED YUCCA	5 GAL	L
	LIGUSTRUM TEXANUM	WAXLEAF PRIVET	5 GAL	M
	LLEUCOPHYLLUM FRUTESCENS	TEXAS RANGER	5 GAL	L
	PITTOSPORUM SPP.	KOHUHU	5 GAL	M
	PODOCARPUS MACROPHYLLUS	YEW PINE	5 GAL	M
	SALVIA 'FURMANS RED'	RED AUTUMN SAGE	5 GAL	L
	TECOMA STANS	YELLOW BELLS	5 GAL	L
	WESTRINGIA 'BLUE GEM'	COASTAL ROSEMARY	5 GAL	L
GROUNDCOVER:				
▨	LANTANA 'NEW GOLD'	NEW GOLD LANTANA	1 GAL. @ 36" O.C.	L
	MUHLENBERGIA CAPILLARIS	PINK MUHLYGRASS	1 GAL. @ 36" O.C.	L
	MYOPORUM PUTAH CREEK	CREEPING MYOPORUM	1 GAL. @ 36" O.C.	L
	ROS. 'HUNTINGTON CARPET'	TRAILING ROSEMARY	1 GAL. @ 36" O.C.	L
BASINS:				
⁘	CAREX DIVULSA	GREY SEDGE	PLUGS @ 12" O.C.	L
	ELYMUS TRITICOIDES	CREEPING WILD RYE	PLUGS @ 18" O.C.	L
	JUNCUS PATENS	COMMON RUSH	PLUGS @ 18" O.C.	L



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HARDT ST TO E BRIER DR

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SHEET 2 OF 2 SHEETS

DIVISION IV GRADING NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH TITLE 15 OF THE CITY OF SAN BERNARDINO MUNICIPAL CODE, THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK) LATEST EDITION, AND ALL SUPPLEMENTS. THE PRELIMINARY SOILS REPORT DATED AND ANY SPECIAL REQUIREMENTS OF THE PERMIT.

2. APPROVAL OF THIS PLAN BY THE CITY OF SAN BERNARDINO DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION OR OF THE EXISTENCE OR NON-EXISTENCE OF ANY UNDERGROUND UTILITY PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR THE PROTECTION OF ALL UTILITIES WITHIN THE LIMITS OF THIS PROJECT.

3. PROPOSED STARTING DATE_____ AND COMPLETION DATE _____ OF GRADING.

4. CUT YARDAGE: 4,800 C.Y. FILL YARDAGE: 2,400 C.Y.

5. DUST SHALL BE CONTROLLED BY WATERING.

6. FINISH GRADING WILL BE COMPLETED AND APPROVED BEFORE OCCUPANCY OF BUILDINGS.

7. PUBLIC STREETS SHALL BE KEPT CLEAN AND FREE FROM DIRT AND/OR DEBRIS. THE GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS INCURRED IN STREET CLEANING NECESSITATED BY HIS OPERATION.

8. THE FACE OF ALL CUT AND FILL SLOPES SHALL BE PLANTED WITH A GROUND COVER APPROVED BY THE CITY ENGINEER.

9. THE CIVIL ENGINEER RESPONSIBLE FOR PLAN PREPARATION SHALL SIGN THE FOLLOWING STATEMENT ON THE PLANS:

"I CERTIFY THAT I WILL BE RESPONSIBLE FOR THIS GRADING IN ACCORDANCE WITH SECTION 7014(C) OF THE BUILDING CODE TO INCLUDE INCORPORATING ALL RECOMMENDATIONS OF THE SOILS ENGINEER, REPORT AND BE RESPONSIBLE FOR PROFESSIONAL INSPECTION AND APPROVAL OF THE GRADING. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, INSPECTION AND APPROVAL AS TO THE ESTABLISHMENT OF LINE GRADE AND DRAINAGE OF DEVELOPMENT AREA. I WILL ALSO BE RESPONSIBLE FOR THE PREPARATION OF REVISED PLANS AND THE SUBMISSION OF 'AS GRADED' GRADING PLANS UPON THE COMPLETION OF THE WORK.

SAM BELLOMIO 90818
SUPERVISING CIVIL ENGINEER R.C.E. NUMBER DATE

10. THE SOILS ENGINEER SHALL SIGN THE FOLLOWING STATEMENT ON THE PLANS:

"I SHALL PROVIDE PROFESSIONAL INSPECTION AND APPROVAL CONCERNING THE PREPARATION OF GROUND TO RECEIVE FILLS, TESTING FOR REQUIRED COMPACTION STABILITY OF ALL FINISHED SLOPES AND INCORPORATING THE DATE SUPPLIED BY THE ENGINEERING GEOLOGIST AND THE PREPARATION OF THE SOILS GRADING REPORT."

DHARMESH AMIN 2553
SUPERVISING CIVIL ENGINEER R.C.E. NUMBER DATE
(TO BE SIGNED PRIOR TO ISSUANCE OF GRADING PERMIT BY SOILS ENGINEER OF RECORD)

11. NO GRADING IN EXCESS OF 5000 CU. YDS. SHALL BE STARTED WITHOUT FIRST NOTIFYING THE ENGINEER. A PRE-GRADING MEETING AT THE SITE IS REQUIRED BEFORE START OF GRADING WITH THE FOLLOWING PEOPLE PRESENT: OWNER, GRADING CONTRACTOR, SUPERVISING CIVIL ENGINEER, SOILS ENGINEER AND/OR GEOLOGIST, CITY CONSTRUCTION INSPECTORS OR THEIR REPRESENTATIVES.

12. THE PERMITTEE OR HIS AGENT SHALL NOTIFY THE CITY OF SAN BERNARDINO W HEN THE GRADING OPERATION (EXCEEDING 5000 CU. YDS.) IS READY FOR REQUIRED INSPECTIONS AS SHOWN IN THE TESTING AND INSPECTION REQUIREMENTS OF DIVISION V.

SUPPLEMENTAL GRADING NOTES

(TO BE USED WHEN APPLICABLE)

1. NO FILL TO BE PLACED UNTIL STRIPPING OF VEGETATION, REMOVAL OF UNSUITABLE SOILS AND INSTALLATION OF SUBDRAINS. IF ANY, HAS BEEN INSPECTED AND APPROVED BY THE SOILS ENGINEER.

2. NO ROCK OR SIMILAR MATERIAL GREATER THAN 8' IN DIAMETER WILL BE PLACED IN THE FILL UNLESS RECOMMENDATIONS FOR SUCH PLACEMENT HAVING BEEN SUBMITTED BY THE SOILS ENGINEER IN ADVANCE AND APPROVED BY THE BUILDING OFFICIAL.

3. ALL EXISTING FILLS SHALL BE APPROVED BY THE CITY DEPARTMENT OF PUBLIC WORKS OR REMOVED BEFORE ANY ADDITIONAL FILLS ARE ADDED.

4. FILLS SHALL BE BENCHED IN COMPETENT MATERIAL AS REQUIRED IN SOILS REPORT.

5. AREAS TO RECEIVE FILL SHALL BE PROPERLY PREPARED AND APPROVED BY THE CITY DEPARTMENT OF PUBLIC WORKS AND SAILS ENGINEER PRIOR TO THE PLACING OF FILL.

6. PRIOR TO ISSUANCE OF BUILDING PERMITS, SUBMIT A SOIIS ENGINEER'S REPORT ON THE EXPANSION PROPERTIES OF SOIL AS SUCH SOILS ARE DEFINED BY BUILDING CODE SECTION 2904(B) ON ALL BUILDING SITES IN THE PROPOSED SUBDIVISION.

7. IF ANY DEVELOPMENT IS SCHEDULED TO BE DONE BETWEEN OCTOBER 15, AND APRIL 15, THE ENGINEER SHALL SUBMIT A DETAILED EROSION CONTROL PLAN INCLUDING DESILTING BASINS OR OTHER TEMPORARY DRAINAGE OR CONTROL MEASURES, OR BOTH, AS MAY BE NECESSARY TO PROTECT ADJOINING PUBLIC AND PRIVATE PROPERTY FROM DAMAGE BY EROSION, FLOODING OR THE DEPOSITION OF MUD OR DEBRIS WHICH MAY ORIGINATE FROM THE SITE OR RESULT FROM SUCH DEVELOPMENT.

8. THE PERMITTEE SHALL COMPLY WITH THE GRADING CODE REQUIREMENTS WHEN AN EXCESS OF 1000 CUBIC YARDS IS MOVED ON PUBLIC ROADWAYS FROM THE SITE OF AN EARTH GRADING OPERATION. (15.04-210, 5.04.545, 15.38)

9 . SLOPES IN EXCESS OF 15 FEET MUST BE PROVIDED WITH AN APPROVED IRRIGATION SYSTEM.

10. THE SOILS ENGINEER SHALL BE RESPONSIBLE FOR THE PROFESSIONAL INSPECTION AND APPROVAL CONCERNING THE PREPARATION OF GROUND TO RECEIVE FILLS, TESTING FOR REQUIRED COMPACTION, STABILITY OF ALL FINISH SLOPES AND THE DESIGN OF BUTTRESS FILLS, WHERE REQUIRED, INCORPORATING DATA SUPPLIED BY THE ENGINEERING GEOLOGIST AND INSURE COMPLIANCE WITH THE PLANS, SPECIFICATIONS, AND CODE WITHIN THEIR PURVIEW.

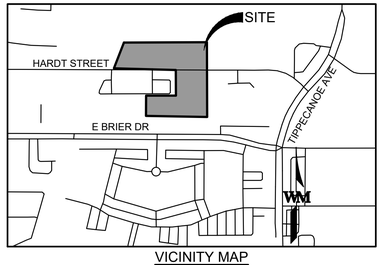
11. THE DESIGN CIVIL ENGINEER SHALL EXERCISE SUFFICIENT SUPERVISORY CONTROL DURING GRADING AND CONSTRUCTION TO INSURE COMPLIANCE WITH THE PLANS, SPECIFICATIONS, AND CODE WITHIN HIS PURVIEW.

12. WHERE SUPPORT OF BUTTRESSING OF CUT AND NATURAL SLOPES IS DETERMINED TO BE NECESSARY BY THE SOILS ENGINEER AND/OR GEOLOGIST, THE SOIIS ENGINEER WIII SUBMIT DESIGN, LOCATION AND CAICUIATIONS TO THE CITY PRIOR TO CONSTRUCTION. THE SOILS ENGINEER AND/OR GEOLOGIST WILL INSPECT AND CONTROL THE CONSTRUCTION OF THE BUTTRESSING AND CERTIFY APPROVAL TO THE STABILITY OF THE SLOPE AND ADJACENT STRUCTURES UPON COMPLETION.

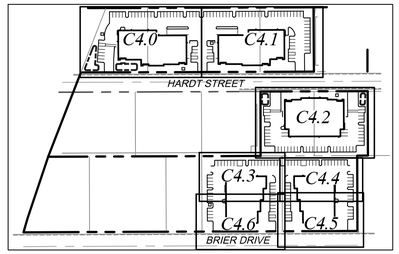
13. SANITARY FACILITIES SHALL BE MAINTAINED ON THE SITE.

14. THE LOCATION AND PROTECTION OF ALL UTILITIES IS THE RESPONSIBILITY OF THE PERMITTEE.
(ANY OTHER NOTES REQUIRED TO ADDRESS SPECIAL CIRCUMSTANCES OR CONDITIONS OF THE PROJECT)

CITY OF SAN BERNARDINO
GRADING PLAN FOR:
HARDT & BRIER BUSINESS PARK



VICINITY MAP
N.T.S.



KEY MAP
N.T.S.

OWNER/APPLICANT

OAK PROPERTIES
1000 PIONEER WAY, EL CAJON, CA 92020
619-440-7424
CONTACT: GREGG HAMANN

SITE ADDRESS

HARDT STREET & BRIER DRIVE
SAN BERNARDINO, CA 92408

ASSESSORS PARCEL NUMBER

APN: 0281-301-17, 0281-311-06, 07, 08, 11, 12, 18, & 19

SHEET INDEX

C1.0	COVER SHEET
C2.0	DETAILS
C3.0-C3.3	HORIZONTAL CONTROL PLAN
C4.0-C4.6	GRADING PLAN
C5.0-C5.2	UTILITY PLAN
C6.0-C6.2	BMP PLAN
C6.3	BMP DETAILS
C7.0-C7.2	EROSION CONTROL PLAN
C7.3	EROSION CONTROL DETAILS

GRADING QUANTITIES

BUILDING A & B: CUT: 2,000 CY FILL: 600 CY

BUILDING C & D: CUT: 2,800 CY FILL: 1,800 CY

EARTHWORK TOTALS ARE APPROXIMATE AND ARE RAW COMPARISON BETWEEN EXISTING AND FINISHED GRADE ONLY. THE TOTALS LISTED DO NOT INCLUDE OVEREXCAVATION REQUIRED BY THE GEOTECHNICAL ENGINEER, UTILITY TRENCH SPOILS, SHRINKING AND SWELLING OF DISTURBED NATIVE SOILS, PAVING SECTIONS, OR BUILDING AND RETAINING WALL FOUNDATIONS.

GRADING QUANTITIES, I.E. CUT OR FILL SHOWN HEREON ARE FOR PERMIT PURPOSES ONLY, DUE TO THE VARIATION IN SHRINKAGE SUBSIDENCE, OVEREXCATION, OR OTHER SPECIAL CONDITIONS THAT MAY EFFECT THESE QUANTITIES, ENGINEER DOES NOT WARRANT NOR MAKE ANY REPRESENTATION WHATSOEVER TO THEIR ACCURACY, ALL CONTRACTORS BIDDING ON THIS PROJECT SHOULD MAKE THEIR OWN DETERMINATION OF EARTHWORK QUANTITIES PRIOR TO SUBMITTING A BID, IRRESPECTIVE OF THE QUANTITIES SHOWN HEREON.

DIVISION V TESTING AND INSPECTION

TESTING AND INSPECTION ARE AS PER REQUIREMENTS OF THE UNIFORM BUILDING CODE AND APPLICABLE CITY CODES, IN ADDITION TO CODE REQUIREMENTS, THE FOLLOWING SHALL APPLY WHERE APPLICABLE:

1. FILL TO BE COMPACTED TO NOT LESS THAN 90% OF MAXIMUM DENSITY AS DETERMINED BY ASTM SOIL COMPACTION TEST D1557-70T.

2. NOT LESS THAN ONE FIELD DENSITY TEST WILL BE MADE FOR EACH 2 FEET VERTICAL LIFT OF FILL, NOR LESS THAN ONE SUCH TEST FOR EACH 1,000 CUBIC YARDS OF MATERIAL PLACED.

3. FIELD DENSITY WILL BE DETERMINED BY THE SAND-CONE METHOD ASTM D1556-64. IN FINE-GRAINED, COHESIVE SOILS FIELD DENSITY MAY BE DETERMINED BY THE DRIVE-CYLINDER METHOD. D9237-71 ASTM PROVIDED NOT LESS THAN 20% OF THE REQUIRED DENSITY TESTS, UNIFORMLY DISTRIBUTED, ARE BY THE SAND CONE METHOD. THE METHOD OF DETERMINING FIELD DENSITY SHALL BE SHOWN IN THE COMPACTION REPORT. OTHER METHODS MAY BE USED IF RECOMMENDED BY THE SOILS ENGINEER AND APPROVED IN ADVANCE BY THE BUILDING OFFICIAL.

4. DENSITY TESTS WILL BE MADE AT POINTS APPROXIMATELY ONE FOOT BELOW THE FILL SLOPE SURFACE. ONE TEST WILL BE MADE FOR EACH 1,000 SQUARE FEET OF SLOPE SURFACE, BUT NOT LESS THAN ONE TEST FOR EACH 10-FOOT VERTICAL OF SLOPE HEIGHT.

5. ALI PADS AT ROUGH GRADING WILL HAVE A MINIMUM SLOPE OF 1% TOWARD THE STREET OR DESIGNED DRAINAGE OUTLET.

6. ENGINEER MUST SET GRADE STAKES FOR ALL DRAINAGE DEVICES AND INSPECTIONS MUST BE OBTAINED BEFORE POURING.

7. THE FINAL COMPACTION REPORT AND APPROVAL FROM THE SOIIS ENGINEER SHALL CONTAIN THE TYPE OF FIELD TESTING PERFORMED. EACH TEST SHALL BE IDENTIFIED WITH THE METHOD OF OBTAINING THE IN-PLACE DENSITY. WHETHER SAND-CONE. DRIVE-RING, OR OTHER APPROVED METHOD AND SHALL BE SO NOTED FOR EACH TEST. SUFFICIENT MAXIMUM DENSITY DETERMINATIONS SHALL BE PERFORMED TO VERIFY THE ACCURACY OF THE MAXIMUM DENSITY CURVES USED BY THE FIELD TECHNICIAN.

8. ALL TRENCH BACKFILLS SHALL BE TESTED AND APPROVED BY THE SITE SOILS ENGINEER PER THE GRADING CODE.

9. THE PERMITTEE OR HIS AGENT SHALL NOTIFY THE CITY OF SAN BERNARDINO WHEN THE GRADING OPERATION (EXCEEDING 5000 CU. YDS.) IS READY FOR EACH OF THE FOLLOWING INSPECTIONS:

A) INITIAL INSPECTION. WHEN THE PERMITTEE IS READY TO BEGIN WORK. BUT NOT LESS THAN TWO DAYS BEFORE ANY GRADING OR BRUSHING IS STARTED.

B) TOE INSPECTION. AFTER THE NATURAL GROUND OR BEDROCK IS EXPOSED AND PREPARED TO RECEIVE FILL, BUT BEFORE FILL IS PLACED.

C) EXCAVATION INSPECTION. AFTER THE EXCAVATION IS STARTED, BUT BEFORE THE VERTICAL DEPTH OF THE EXCAVATION. EXCEEDS TEN FEET.

D) FILL INSPECTION. AFTER THE FILL PLACEMENT IS STARTED, BUT BEFORE THE VERTICAL HEIGHT OF THE FILL EXCEEDS TEN FEET.

E) DRAINAGE DEVICE INSPECTION. AFTER FORMING OF TERRACE DRAINS, DOWN DRAINS OR AFTER PLACEMENT OF PIPE IN SUB DRAINS, BUT BEFORE ANY CONCRETE OR FILL MATERIAL IS PLACED.

F) ROUGH GRADING . WHEN ALI ROUGH GRADING HAS BEEN COMPLETED. THIS INSPECTION MAY BE CALLED FOR AT THE COMPLETION OF ROUGH GRADING WITHOUT THE NECESSITY OF THE BUILDING OFFICIAL HAVING PREVIOUSLY REVIEWED AND APPROVED THE REPORT.

G) FINAL .WHEN ALL WORK, INCLUDING INSTALLATION OF ALL DRAINAGE STRUCTURES AND OTHER PROTECTIVE DEVICES HAS BEEN COMPLETED AND THE AS-GRADED PLAN, PROFESSIONAL CERTIFICATIONS AND THE REQUIRED REPORTS HAVE BEEN SUBMITTED.

REQUEST FOR INSPECTIONS SHOULD BE MADE A MINIMUM OF 24 HOURS BEFORE THE INSPECTION IS REQUIRED.

ARRANGEMENTS FOR INSPECTIONS ARE MADE BY CONTACTING (909)384-5166 BETWEEN THE HOURS OF 7:30 AND 4:30 P.M.

NORMAL INSPECTION HOURS ARE 7:30 A.M. TO 4:30 P.M., MONDAY THROUGH FRIDAY. ANY REQUESTS FOR INSPECTIONS AT OTHER TIMES OR ON OTHER DAYS MUST BE SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS A MINIMUM OF 48 HOURS BEFORE THE INSPECTION IS REQUIRED. THE PERMITTEE MUST BEAR THE COST OF SUCH OVER-TIME INSPECTIONS AND WILL BE BILLED ACCORDINGLY. NORMAL OVER-TIME RATE IS 1.5 TIMES THE BASE RATE. OVER-TIME INSPECTIONS MAY BE DISALLOWED DEPENDING ON STAFF AVAILABILITY.

INSPECTION ROUTES ARE PLANNED 24 HOURS IN ADVANCE AND ARE BASED ON EFFICIENT USE OF PERSONNEL. INSPECTION REQUESTS MADE WITH LESS THAN 24 HOURS NOTICE WILL BE PROCESSED ON AN AVAILABILITY BASIS ONLY AND NO GUARANTEE IS MADE THAT AN INSPECTION CAN BE PERFORMED WITHOUT PRIOR ADVANCE NOTICE.

EVIDENCE OF BUSINESS LICENSE, INSURANCE AND PERMITS WILL BE CHECKED BY THE INSPECTION STAFF.

DIVISION VI GRADING PLAN CHECK LIST

GRADING PLAN CHECK LIST

_____ 1ST SUBMITTAL

_____ 2ND SUBMITTAL

PROJECT NAME _____ DATE _____ 3RD SUBMITTAL

OWNER _____ CHECKED BY

ENGINEER _____ PHONE

LEGEND

PROPOSED IMPROVEMENTS

IMPROVEMENT	STANDARD DWGS.	SYMBOL
CURB (PVT)		
4" PCC SIDEWALK		
PERMEABLE PAVEMENT		
PCC HARDSCAPE		
BIOFILTRATION BASIN		
INFILTRATION BASIN		
PRECAST CONCRETE CATCH BASIN (PVT-SIZE PER PLAN)		
STORM DRAIN PIPE (PVT)		SD
CURB CATCH BASIN		
MODULAR WETLAND SYSTEM		
STORM MANHOLE		
TRENCH DRAIN		
RPDA BACKFLOW PREVENTOR		
GATE VALVE		
SANITARY SEWER		SS
DOMESTIC WATER		DW
FIRE WATER		FW
THRUST BLOCK		
TRANSFORMER W/ PAD		
RIP RAP		
SEWER MANHOLE		
FLOWLINE		
RETAINING WALL		
BROW DITCH		
FIRE HYDRANT		
TRASH ENCLOSURE		

EXISTING IMPROVEMENTS

ITEM	SYMBOL
UTILITY VALVE	
FIRE HYDRANT	
UTILITY BOX	
SEWER MANHOLE	
STREET LIGHT	
TREE	
STORM DRAIN PIPE	SD
WATER LINE	WM
SEWER LINE	SS
OVERHEAD LINE	OH
CENTERLINE	
PROPERTY LINE	
EASEMENT LINE	
LOT LINE	
EARTH SWALE	

LEGAL DESCRIPTION

PARCEL 17, 18, 24, 25, 29, 30, 31, & 32 OF PARCEL MAP NO. 5464, FILED IN BOOK 60, PAGES 31-34 OF PARCEL MAPS, NOV. 7, 1980 AND PARCELS 1,2 &3 OF PARCEL MAP NO. 8481, FILED IN BOOK 98, PAGES 47 & 48 OF PARCEL MAPS, AUGUST 26, 1985, BOTH RECORDS OF SAN BERNARDINO COUNTY.

APN: 0281-301-17, 0281-311-06, 07, 08, 11, 12, 18, & 19

REFERENCE DRAWINGS

TOPOGRAPHY SOURCE

TOPOGRAPHIC DATA AND PLANIMETRICS SHOWN HEREIN WAS OBTAINED BY CONVENTIONAL SURVEY METHODS. MAPPING DATA IS DETAILED AT 1"=20' SCALE FOR ENGINEERING USE.
CONVENTIONAL SOURCE: TOPOGRAPHIC SURVEY PREPARED BY SPEAR & ASSOCIATES INC.
DATE: APRIL 8, 2019

BENCHMARK

CONTROL POINT NO. L-523RS, 3" BRASS DISC STAMPED "L-523RS" AT INTERSECTION OF 3RD & TIPPICANOE

ELEV = 1068.52
DATUM: NAVD88

Underground Service Alert
Call: TOLL FREE
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p 858.638.7277 waremalcomb.com

ENGINEER'S SEAL
REGISTERED PROFESSIONAL ENGINEER — SAMUEL MICHAEL BELLOMIO — No. 90818 — CIVIL — STATE OF CALIFORNIA

ENGINEER'S INFORMATION

PREPARED BY:
WARE MALCOMB
3391 SORRENTO VALLEY BLVD. SUITE 120
SAN DIEGO, CA 92121

SAMUEL BELLOMIO
R.C.E. NO. 90818
EXP. DATE: 12/31/2023

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:

CONTROL POINT NO. L-523RS, 3" BRASS DISC STAMPED "L-523RS" AT INTERSECTION OF 3RD & TIPPICANOE

ELEV = 1068.52
DATUM: NAVD88

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY: ALO

CHECKED BY: LS

RECOMMENDED BY:

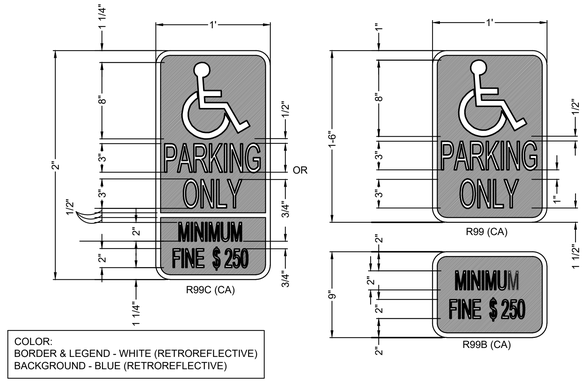
COVER SHEET FOR

CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES~PUBLIC WORKS/ENGINEERING
GRADING PLAN
FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

DRAWING NO. *XXXX*

SHEET *C1.0* OF *24* SHEETS

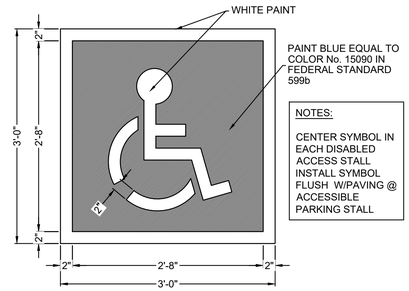
FOR CITY USE ONLY: FILE NO. W.O. NO.



COLOR:
BORDER & LEGEND - WHITE (RETROREFLECTIVE)
BACKGROUND - BLUE (RETROREFLECTIVE)

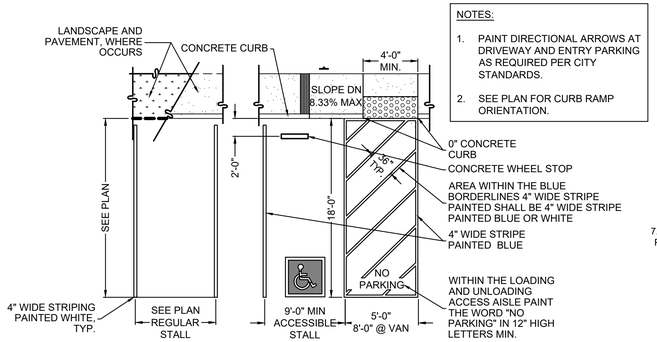
ACCESSIBLE SIGNS (1)

SCALE: N.T.S.



ACCESSIBLE STALL SYMBOL (2)

SCALE: N.T.S.

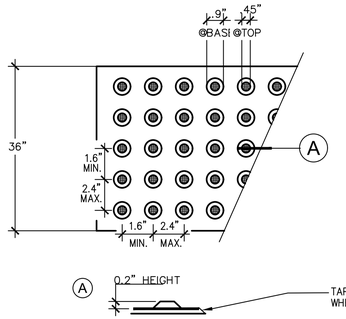


NOTES:

1. PAINT DIRECTIONAL ARROWS AT DRIVEWAY AND ENTRY PARKING AS REQUIRED PER CITY STANDARDS.
2. SEE PLAN FOR CURB RAMP ORIENTATION.

TYPICAL ADA PARKING STALLS (3)

SCALE: N.T.S.



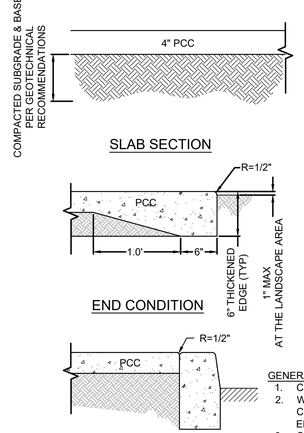
NOTES:

IF A WALK CROSSES OR ADJOINS A VEHICULAR WAY, AND THE WALKING SURFACES ARE NOT SEPARATED BY CURBS, RAILINGS, OR OTHER ELEMENTS BETWEEN THE PEDESTRIAN AREAS AND THE VEHICULAR AREAS, THE BOUNDARY BETWEEN THE AREAS SHALL BE DEFINED BY A CONTINOUS DETECTABLE WARNING WHICH IS 36" WIDE.

COLOR OF TRUNCATED DOMES TO BE YELLOW AS APPROVED BY LANDSCAPE ARCHITECT.

TRUNCATED DOMES (4)

SCALE: N.T.S.

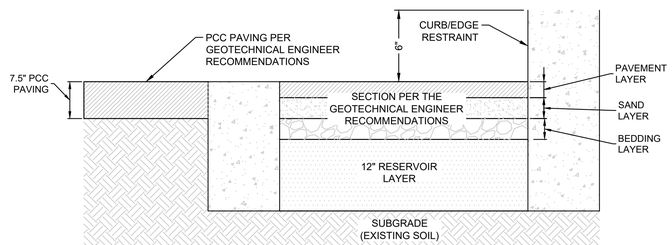


GENERAL NOTES:

1. CONCRETE CLASS -520-C-2500.
2. WEAKENED PLANE JOINTS TO MATCH CURB JOINT AS DIRECTED BY THE ENGINEER.
3. CURING COMPOUND SHALL BE SPRAYED UNIFORMLY ON ALL EXPOSED SURFACES PRIOR TO THE EVAPORATION OF SURFACE WATER.

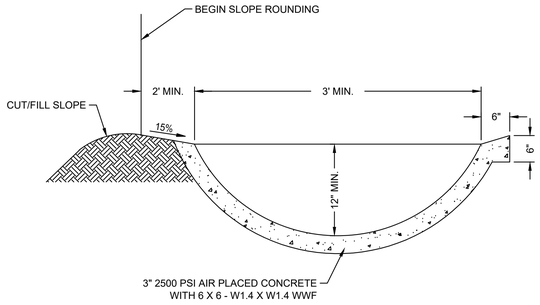
4" THICK CONCRETE SIDEWALK (5)

SCALE: N.T.S.



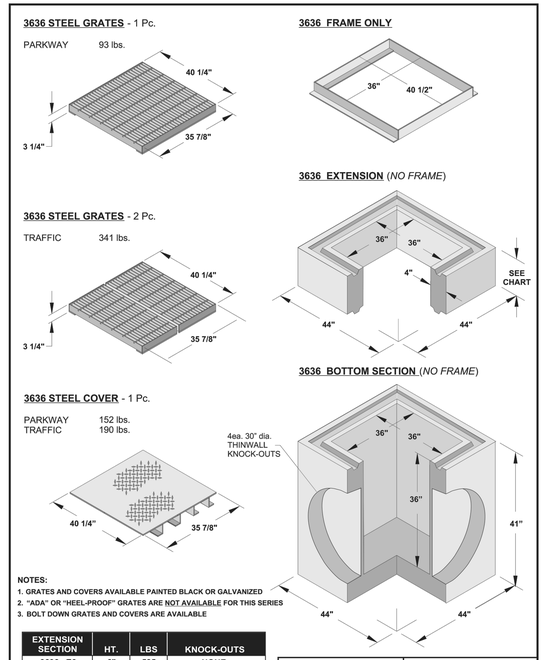
PERMEABLE PAVEMENT SECTION (6)

SCALE: N.T.S.



BROW DITCH (7)

SCALE: N.T.S.



NOTES:
1. GRATES AND COVERS AVAILABLE PAINTED BLACK OR GALVANIZED
2. "ADA" OR "HEEL-PROOF" GRATES ARE NOT AVAILABLE FOR THIS SERIES
3. BOLT DOWN GRATES AND COVERS ARE AVAILABLE

EXTENSION SECTION	HT.	LBS	KNOCK-OUTS
3636 E6	6"	525	NONE
3636 E12	12"	1050	NONE

BOTTOM SECTION	HT.	LBS	KNOCK-OUTS
3636 B36	36"	2,230	(4) 30" DIA.

36" x 36" CATCH BASIN

ORG. DWG. DATE 11-23-99 | REV. DWG. DATE 02-14-20

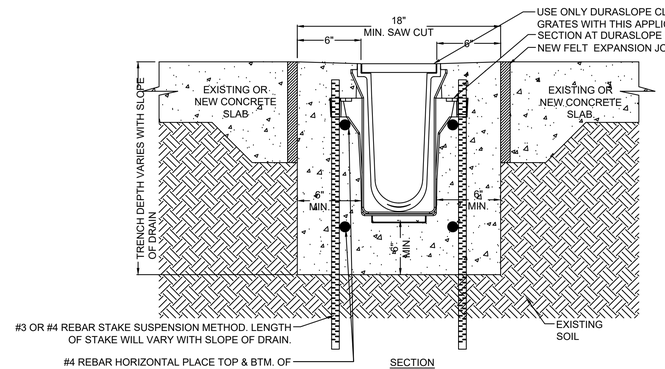
JENSEN PRECAST EST. 1968

BROOKS 3636 CB

7-06

BROOKS 36"X36" PRECAST CATCH BASIN (8)

SCALE: N.T.S.



NOTES:
1. CHANNELS TO BE INSTALLED WITH BLANK GRATE. GRATE TO BE PROTECTED FROM CONCRETE POUR (COVER HOLES WITH TAPE).
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. DO NOT SCALE DRAWING.
4. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY.
5. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.

DURA SLOPE TRENCH DRAIN SYSTEM (9)

SCALE: N.T.S.

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ENGINEER'S SEAL
REGISTERED PROFESSIONAL ENGINEER
SAMUEL MICHAEL BELLOMIO
No. 90818
CIVIL
STATE OF CALIFORNIA

ENGINEER'S INFORMATION

PREPARED BY:
WARE MALCOMB
3391 SORRENTO VALLEY BLVD. SUITE 120
SAN DIEGO, CA 92121

SAMUEL BELLOMIO
R.C.E. NO. 90818
EXP. DATE: 12/31/2023

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:

CONTROL POINT NO. L-523RS, 3" BRASS DISC STAMPED "L-523RS" AT INTERSECTION OF 3RD & TIPPICANOE

ELEV = 1068.52
DATUM: NAVD88

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY: ALO

CHECKED BY: LS

RECOMMENDED BY:

DETAILS FOR

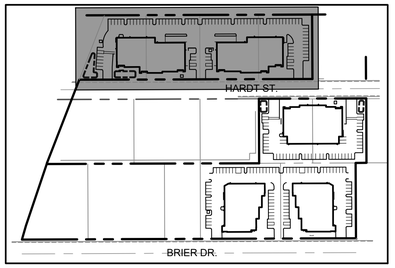
CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES--PUBLIC WORKS/ENGINEERING

GRADING PLAN
FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

FOR CITY USE ONLY: FILE NO. W.O. NO.

DRAWING NO. XXXX

SHEET C2.0 OF 24 SHEETS



KEY MAP
N.T.S.

SITE NOTES

1. CONTRACTOR TO FIELD-VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES. ENGINEER WILL NOT BE LIABLE FOR ANY COSTS ASSOCIATED WITH CHANGES TO THE DESIGN WITHOUT PROPER NOTIFICATION.
2. SEE COVER SHEET FOR BENCHMARK, AND SURVEY INFORMATION.
3. DIMENSIONS ARE TO FLOWLINE/BOTTOM OF CURB AND BUILDING FACE UNLESS OTHERWISE NOTED.
4. PAVEMENT THICKNESS AND DESIGN ARE PER THE GEOTECHNICAL REPORT.
5. ACCESSIBLE CURB RAMPS SHALL BE CONSTRUCTED WITH DETECTIBLE WARNING PADS IF REQUIRED BY LOCAL CRITERIA.
6. CONTRACTOR SHALL REMOVE AND REPLACE CURB, GUTTER, PAVING, LANDSCAPE, AND ANY OTHER ITEMS DAMAGED DURING CONSTRUCTION.
7. SEE SHEET C3.3 FOR CURB DATA TABLES

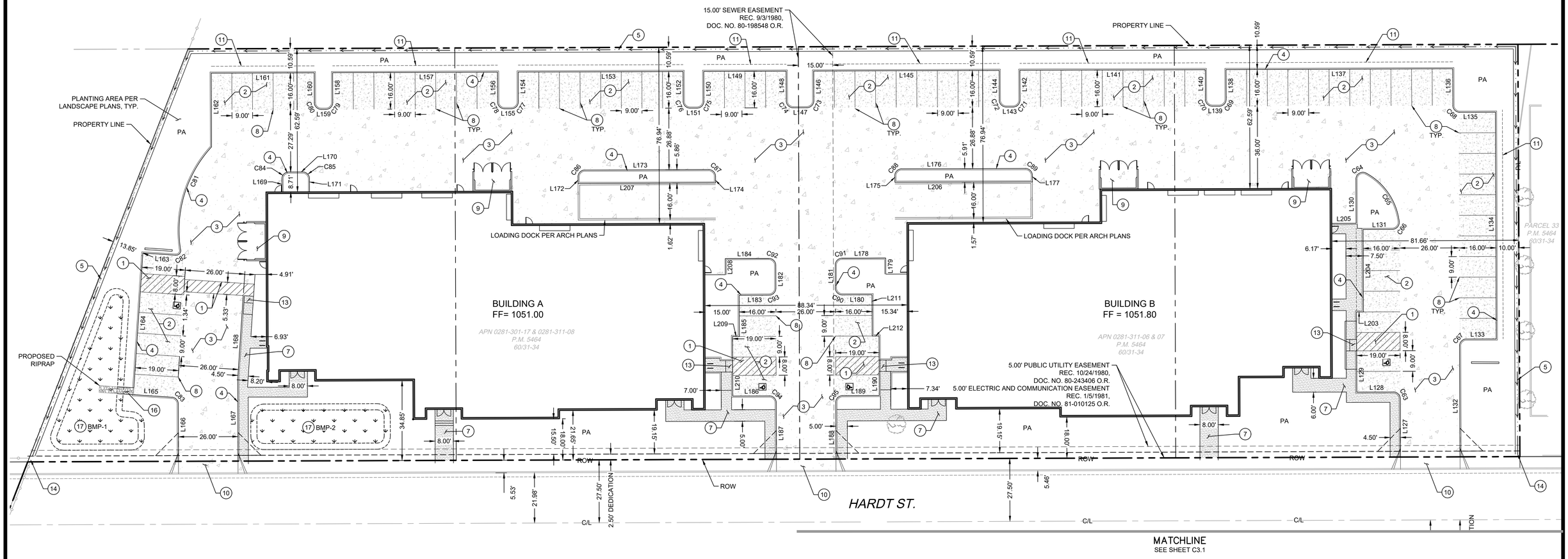
WARE MALCOMB assumes no responsibility for utility locations. The utilities shown on this drawing have been plotted from the best available information. It is, however, the contractors responsibility to field verify the location of all utilities prior to the commencement of any construction.

CONSTRUCTION NOTES

1. ADA RAMP, STRIPING, & SIGNAGE PER DETAILS 1, 2, & 3, SHEET C2.0
2. 7" PCC PAVEMENT OVER CLASS 2 BASE PER GEOTECH RECOMMENDATIONS.
3. 8" PCC PAVEMENT OVER CLASS 2 BASE PER GEOTECH RECOMMENDATIONS.
4. CONSTRUCT 6" TYPE A PCC CURB PER CITY OF SAN BERNARDINO STD. PLAN 200
5. CONSTRUCT BROW DITCH PER DETAIL 7, SHEET C2.0
6. CONSTRUCT 0" CONCRETE CURB
7. 4" PCC SIDEWALK PER DETAIL 5, SHEET C2.0
8. PAINT 4" WIDE WHITE 90° PARKING STALLS.
9. TRASH ENCLOSURE PER ARCHITECTURAL PLANS.
10. CONSTRUCT COMMERCIAL DRIVEWAY PER CITY OF SAN BERNARDINO STD. PLAN 204
11. 3' PARKING OVERHANG
12. PERMEABLE PAVEMENT PER DETAIL 6, SHEET C2.0
13. TRUNCATED DOMES PER DETAIL 4, SHEET C2.0
14. CONSTRUCT CURB OUTLET STRUCTURE PER COUNTY OF SAN BERNARDINO STD. PLAN 210
15. STAIRS W/ HANDRAIL PER ARCHITECTURAL PLANS
16. 3' WIDE CURB OPENING
17. BIOFILTRATION BASIN PER DETAIL 1, SHEET C6.3.

WM

0 10 20 40
SCALE: 1" = 20'



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ENGINEER'S INFORMATION

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EXP. DATE: 12/31/2023

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:

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ELEV = 1068.52
DATUM: NAVD88

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY: ALO

CHECKED BY: LS

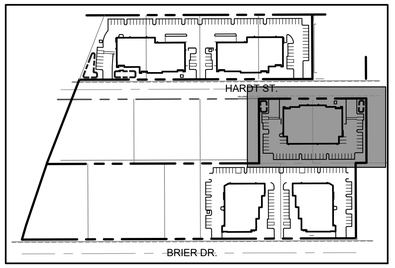
RECOMMENDED BY:

HORIZONTAL CONTROL PLAN FOR
CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES–PUBLIC WORKS/ENGINEERING
GRADING PLAN
FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

DRAWING NO. XXXX

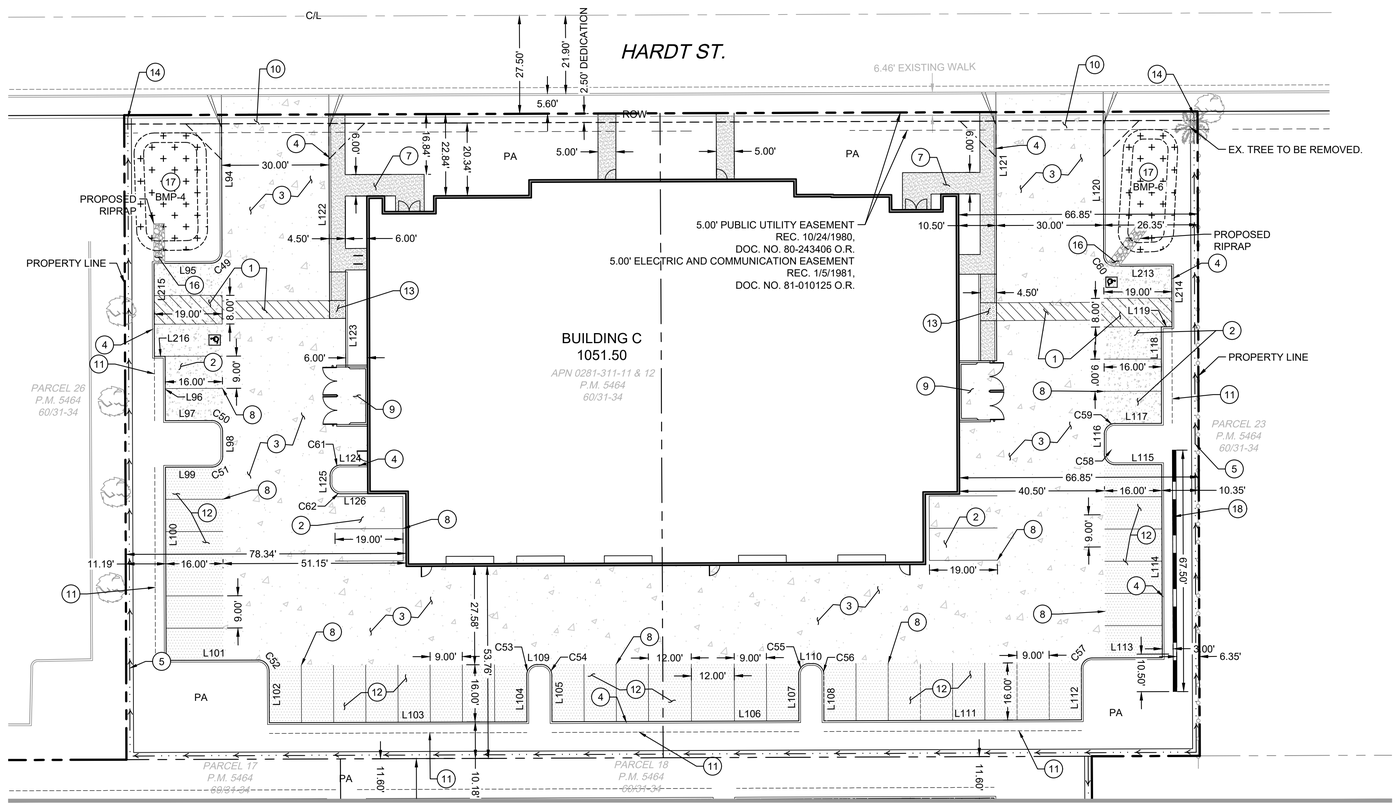
SHEET C3.0 OF 24 SHEETS

FOR CITY USE ONLY: FILE NO. W.O. NO.



KEY MAP
N.T.S.

SEE SHEET C3.0
MATCHLINE



MATCHLINE
SEE SHEET C3.2

SITE NOTES

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2. SEE COVER SHEET FOR BENCHMARK, BASIS OF BEARINGS, AND SURVEY INFORMATION.
3. DIMENSIONS ARE TO FLOWLINE/BOTTOM OF CURB AND BUILDING FACE UNLESS OTHERWISE NOTED.
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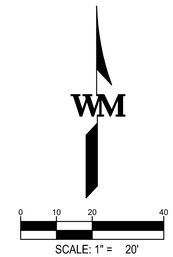
5. ACCESSIBLE CURB RAMPS SHALL BE CONSTRUCTED WITH DETECTIBLE WARNING PADS IF REQUIRED BY LOCAL CRITERIA.
6. CONTRACTOR SHALL REMOVE AND REPLACE CURB, GUTTER, PAVING, LANDSCAPE, AND ANY OTHER ITEMS DAMAGED DURING CONSTRUCTION.
7. SEE SHEET C3.3 FOR CURB DATA TABLES

WARE MALCOMB assumes no responsibility for utility locations. The utilities shown on this drawing have been plotted from the best available information. It is, however, the contractors responsibility to field verify the location of all utilities prior to the commencement of any construction.

CONSTRUCTION NOTES

1. ADA RAMP, STRIPING, & SIGNAGE PER DETAILS 1, 2, & 3, SHEET C2.0
2. 7" PCC PAVEMENT OVER CLASS 2 BASE PER GEOTECH RECOMMENDATIONS.
3. 8" PCC PAVEMENT OVER CLASS 2 BASE PER GEOTECH RECOMMENDATIONS.
4. CONSTRUCT 6" TYPE A PCC CURB PER CITY OF SAN BERNARDINO STD. PLAN 200
5. CONSTRUCT BROW DITCH PER DETAIL 7, SHEET C2.0
6. CONSTRUCT 0" CONCRETE CURB
7. 4" PCC SIDEWALK PER DETAIL 5, SHEET C2.0
8. PAINT 4" WIDE WHITE 90° PARKING STALLS.
9. TRASH ENCLOSURE PER ARCHITECTURAL PLANS.
10. CONSTRUCT COMMERCIAL DRIVEWAY PER CITY OF SAN BERNARDINO STD. PLAN 204
11. 3' PARKING OVERHANG
12. PERMEABLE PAVEMENT PER DETAIL 6, SHEET C2.0
13. TRUNCATED DOMES PER DETAIL 4, SHEET C2.0
14. CONSTRUCT CURB OUTLET STRUCTURE PER COUNTY OF SAN BERNARDINO STD. PLAN 210
15. STAIRS W/ HANDRAIL PER ARCHITECTURAL PLANS
16. 3' WIDE CURB OPENING
17. BIOFILTRATION BASIN PER DETAIL 1, SHEET C6.3.
18. CONSTRUCT GRAVITY RETAINING WALL PER SD RSD C-9



SCALE: 1" = 20'

Underground Service Alert
Call: TOLL FREE 1-800 422-4133
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WARE MALCOMB
CIVIL ENGINEERING
3391 sorrento valley blvd. suite 120 san diego, ca 92121
p 858.638.7277 waremalcomb.com

ENGINEER'S SEAL
REGISTERED PROFESSIONAL ENGINEER SAMUEL MICHAEL BELLOMIO No. 90818 CIVIL STATE OF CALIFORNIA

ENGINEER'S INFORMATION

PREPARED BY:
WARE MALCOMB
3391 SORRENTO VALLEY BLVD. SUITE 120
SAN DIEGO, CA 92121

SAMUEL BELLOMIO
R.C.E. NO. 90818
EXP. DATE: 12/31/2023

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:

CONTROL POINT NO. L-523RS, 3" BRASS DISC STAMPED "L-523RS" AT INTERSECTION OF 3RD & TIPPICANOE

ELEV = 1068.52
DATUM: NAVD88

APPROVED _____ 2007

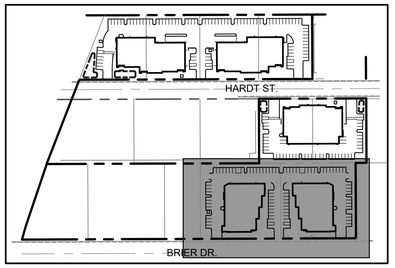
SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY: ALO
CHECKED BY: LS
RECOMMENDED BY:

HORIZONTAL CONTROL PLAN FOR
CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES~PUBLIC WORKS/ENGINEERING
GRADING PLAN
FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

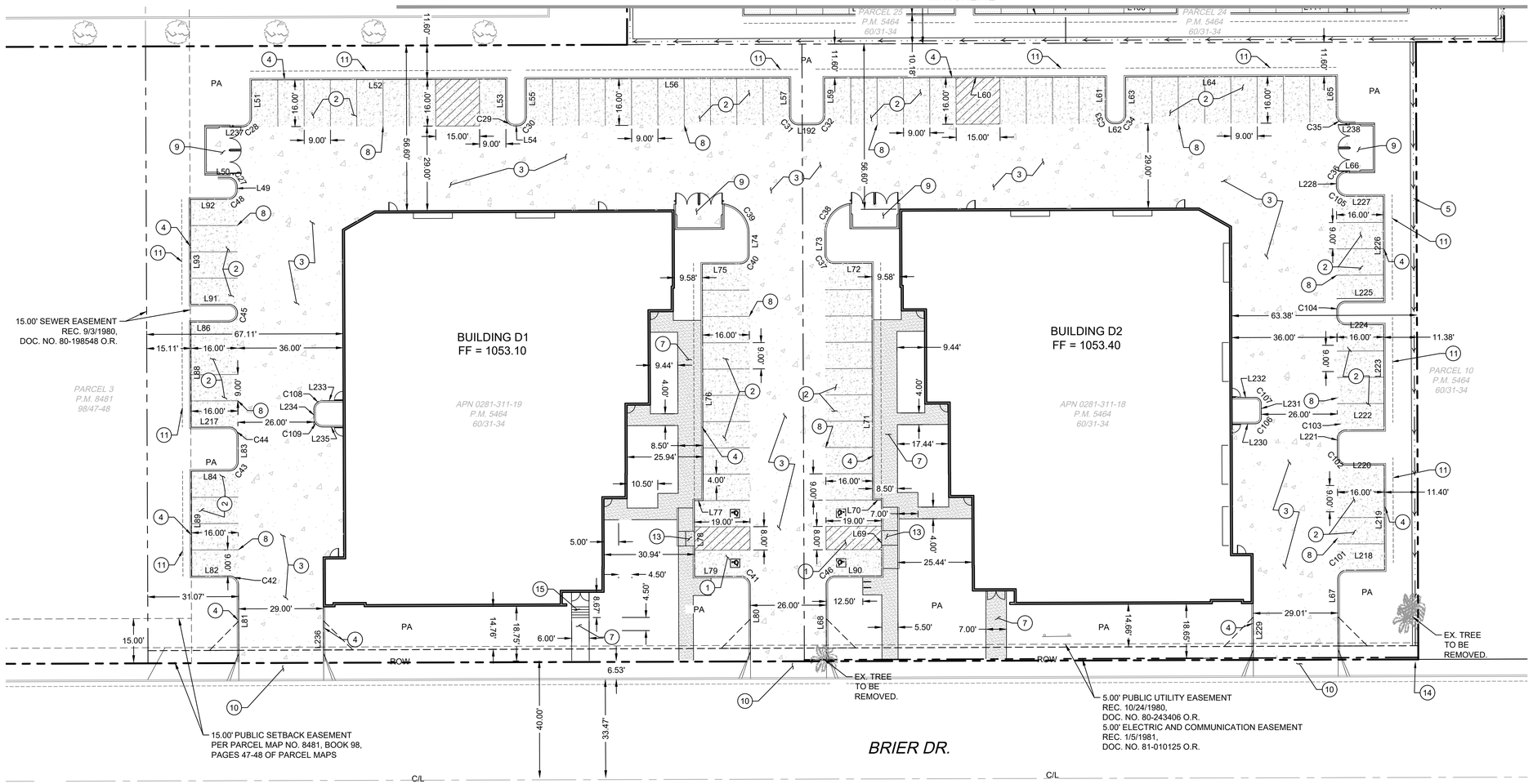
FOR CITY USE ONLY: FILE NO. W.O. NO.

DRAWING NO. XXXX
SHEET C3.1 OF 24 SHEETS



KEY MAP
N.T.S.

SEE SHEET C3.1
MATCHLINE



SITE NOTES

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SCALE: 1" = 20'

HORIZONTAL CONTROL PLAN FOR

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ENGINEER'S SEAL
REGISTERED PROFESSIONAL ENGINEER
SAMUEL MICHAEL BELLOMIO
No. 90818
CIVIL
STATE OF CALIFORNIA

ENGINEER'S INFORMATION

PREPARED BY:
WARE MALCOMB
3391 SORRENTO VALLEY BLVD. SUITE 120
SAN DIEGO, CA 92121

SAMUEL BELLOMIO
R.C.E. NO. 90818
EXP. DATE: 12/31/2023

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:

CONTROL POINT NO. L-523RS, 3" BRASS DISC STAMPED "L-523RS" AT INTERSECTION OF 3RD & TIPPICANOE

ELEV = 1068.52
DATUM: NAVD88

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY: ALO
CHECKED BY: LS
RECOMMENDED BY:

CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES–PUBLIC WORKS/ENGINEERING
GRADING PLAN
FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

DRAWING NO. XXXX
SHEET C3.2 OF 24 SHEETS

FOR CITY USE ONLY: FILE NO. W.O. NO.

BLDG A&B

LINE TABLE		
LINE #	BEARING	DISTANCE
L127	N00°12'03"W	25.42'
L128	S89°47'57"W	16.00'
L129	N00°12'03"W	35.00'
L130	S00°12'03"E	19.28'
L131	N89°47'57"E	12.82'
L132	N00°12'03"W	48.42'
L133	N89°47'57"E	13.00'
L134	N00°12'03"W	99.00'
L135	S89°47'57"W	15.57'
L136	N00°12'03"W	16.00'
L137	S89°47'57"W	99.00'
L138	S00°12'03"E	13.00'
L139	S89°47'57"W	3.00'
L140	N00°12'03"W	13.00'
L141	S89°47'57"W	81.00'
L142	S00°12'03"E	13.00'
L143	S89°47'57"W	3.00'
L144	N00°12'03"W	13.00'
L145	S89°47'57"W	81.00'
L146	S00°12'03"E	13.00'
L147	S89°47'57"W	6.00'
L148	N00°12'03"W	13.00'
L149	S89°47'57"W	36.00'
L150	S00°12'03"E	13.02'
L151	S90°00'00"W	3.00'
L152	N00°12'03"W	13.01'
L153	S89°47'57"W	72.00'
L154	S00°12'03"E	13.00'
L155	S89°47'57"W	3.00'
L156	N00°12'03"W	13.00'

BLDG A&B

LINE TABLE		
LINE #	BEARING	DISTANCE
L157	S89°47'57"W	72.00'
L158	S00°12'03"E	13.00'
L159	S89°48'39"W	2.05'
L160	N00°12'03"W	13.00'
L161	S89°47'57"W	45.00'
L162	S00°12'03"E	32.26'
L163	N86°12'03"W	14.44'
L164	S03°47'57"W	62.00'
L165	S86°12'03"E	16.83'
L166	S00°12'03"E	18.55'
L167	N00°12'03"W	29.55'
L168	N03°47'57"E	36.43'
L169	S00°12'03"E	5.70'
L170	S89°52'20"W	6.05'
L171	N00°12'03"W	5.70'
L172	S00°12'03"E	2.86'
L173	S89°47'57"W	54.00'
L174	N00°12'03"W	2.86'
L175	S00°12'03"E	2.86'
L176	S89°47'57"W	54.00'
L177	N00°12'03"W	2.86'
L178	N89°47'57"E	19.00'
L179	S00°12'03"E	7.00'
L180	S89°47'57"W	13.00'
L181	N00°12'03"W	10.00'
L182	S00°12'03"E	10.00'
L183	S89°47'57"W	13.00'
L184	N89°47'57"E	19.00'
L185	N00°12'03"W	18.00'
L186	S89°47'57"W	16.00'

BLDG A&B

LINE TABLE		
LINE #	BEARING	DISTANCE
L187	N00°12'03"W	24.65'
L188	N00°12'03"W	24.65'
L189	N89°47'57"E	16.00'
L190	N00°12'03"W	26.00'
L203	N89°47'57"E	3.00'
L204	N00°12'03"W	36.00'
L205	S89°47'57"W	10.67'
L206	S89°47'57"W	60.00'
L207	S89°47'57"W	60.00'
L209	S89°47'57"W	3.00'
L210	S00°12'03"E	26.00'
L211	S00°12'03"E	18.00'
L212	N89°47'57"E	3.00'

BLDG A&B

CURVE TABLE					
CURVE #	DELTA	RADIUS	LENGTH	CHORD DIRECTION	CHORD LENGTH
C63	90°00'00"	3.00'	4.71'	N45°12'03"W	4.24'
C64	118°41'07"	3.00'	6.21'	S59°08'31"W	5.16'
C65	54°25'21"	28.00'	26.60'	N34°18'15"W	25.61'
C66	96°53'32"	3.00'	5.07'	N41°21'11"E	4.49'
C67	90°00'00"	3.00'	4.71'	S44°47'57"W	4.24'
C68	90°44'59"	2.98'	4.72'	S45°12'03"E	4.24'
C69	90°00'00"	3.00'	4.71'	N44°47'57"E	4.24'
C70	90°00'00"	3.00'	4.71'	S45°12'03"E	4.24'
C71	90°00'00"	3.00'	4.71'	N44°47'57"E	4.24'
C72	90°00'00"	3.00'	4.71'	S45°12'03"E	4.24'
C73	90°00'00"	3.00'	4.71'	N44°47'57"E	4.24'
C74	90°00'00"	3.00'	4.71'	S45°12'03"E	4.24'
C75	90°12'03"	3.00'	4.72'	N44°53'58"E	4.25'
C76	89°47'57"	3.00'	4.70'	S45°06'02"E	4.24'
C77	90°00'00"	3.00'	4.71'	N44°47'57"E	4.24'
C78	90°00'00"	3.00'	4.71'	S45°12'03"E	4.24'
C79	90°00'00"	3.00'	4.71'	N44°47'57"E	4.24'
C80	89°08'27"	3.00'	4.67'	S44°46'13"E	4.21'
C81	51°29'59"	54.12'	48.65'	S16°37'47"W	47.03'
C82	99°20'48"	1.97'	3.42'	N44°26'28"E	3.01'

BLDG A&B

CURVE TABLE					
CURVE #	DELTA	RADIUS	LENGTH	CHORD DIRECTION	CHORD LENGTH
C83	86°00'00"	3.00'	4.50'	N43°12'03"W	4.09'
C84	88°42'36"	3.01'	4.67'	S44°15'51"W	4.21'
C85	90°00'00"	3.00'	4.71'	N45°12'03"W	4.24'
C86	90°00'00"	3.00'	4.71'	S44°47'57"W	4.24'
C87	90°00'00"	3.00'	4.71'	N45°12'03"W	4.24'
C88	90°00'00"	3.00'	4.71'	S44°47'57"W	4.24'
C89	90°00'00"	3.00'	4.71'	N45°12'03"W	4.24'
C90	90°00'00"	3.00'	4.71'	S45°12'03"E	4.24'
C91	90°00'00"	3.00'	4.71'	S44°47'57"W	4.24'
C92	90°00'00"	3.00'	4.71'	N45°12'03"W	4.24'
C93	90°00'00"	3.00'	4.71'	N44°47'57"E	4.24'
C94	90°00'00"	3.00'	4.71'	N45°12'03"W	4.24'
C95	90°00'00"	3.00'	4.71'	S44°47'57"W	4.24'

BLDG C&D

LINE TABLE		
LINE #	BEARING	DISTANCE
L49	N00°12'03"W	1.50'
L50	S89°47'57"W	3.55'
L51	N00°12'03"W	13.00'
L52	N89°47'57"E	87.00'
L53	S00°12'03"E	13.00'
L54	N89°47'57"E	1.00'
L55	N00°12'03"W	13.00'
L56	N89°47'57"E	90.00'
L57	S00°12'03"E	13.00'
L59	N00°12'03"W	13.00'
L60	N89°47'57"E	96.00'
L61	S00°12'03"E	13.00'
L62	N89°47'57"E	1.00'
L63	N00°12'03"W	13.00'
L64	N89°47'57"E	72.00'
L65	S00°12'03"E	13.11'
L66	S89°47'57"W	3.55'
L67	N00°13'30"W	29.94'
L68	N00°12'03"W	25.62'
L69	N00°12'03"W	26.00'
L70	S89°47'57"W	3.00'
L71	N00°12'03"W	81.00'
L72	S89°47'57"W	13.00'
L73	N00°12'03"W	7.60'
L74	S00°12'03"E	7.60'
L75	N89°47'57"E	13.00'
L76	S00°12'03"E	81.00'
L77	N89°47'57"E	3.00'
L78	N00°12'03"W	26.00'
L79	N89°47'57"E	16.00'

BLDG C&D

LINE TABLE		
LINE #	BEARING	DISTANCE
L80	N00°12'03"W	25.63'
L81	S00°12'03"E	26.42'
L82	N89°47'57"E	13.00'
L83	S00°12'03"E	9.00'
L84	N89°47'57"E	13.00'
L86	S89°47'57"W	13.00'
L88	S00°12'03"E	36.00'
L89	S00°12'03"E	36.00'
L90	N89°47'57"E	16.00'
L91	S89°47'57"W	13.00'
L92	S89°47'57"W	13.00'
L93	N00°12'03"W	36.00'
L94	S00°12'03"E	38.46'
L95	S89°47'57"W	16.00'
L96	S00°12'03"E	18.00'
L97	N89°47'57"E	13.00'
L98	S00°12'03"E	7.00'
L99	S89°47'57"W	13.00'
L100	S00°12'03"E	54.00'
L101	N89°47'57"E	25.76'
L102	S00°12'03"E	14.52'
L103	N89°47'57"E	72.00'
L104	N00°12'03"W	13.00'
L105	S00°12'03"E	13.00'
L106	N89°47'57"E	69.00'
L107	N00°12'03"W	13.00'
L108	S00°12'03"E	13.00'
L109	N89°47'57"E	1.00'
L110	N89°47'57"E	1.00'
L111	N89°47'57"E	72.00'

BLDG C&D

LINE TABLE		
LINE #	BEARING	DISTANCE
L112	N00°12'03"W	15.31'
L113	N89°47'57"E	19.66'
L114	N00°12'03"W	57.00'
L115	S89°47'57"W	13.00'
L116	N00°12'03"W	1.50'
L117	N89°47'57"E	13.00'
L118	N00°12'03"W	27.00'
L119	N89°47'57"E	3.00'
L120	N00°12'03"W	40.17'
L121	S00°12'03"E	71.13'
L122	S00°12'03"E	57.03'
L123	S00°12'03"E	15.70'
L124	S89°47'57"W	7.50'
L125	S00°12'03"E	2.00'
L126	N89°47'57"E	7.50'
L192	N89°47'57"E	6.00'
L213	N89°47'57"E	16.00'
L214	S00°12'03"E	17.00'
L215	N00°12'03"W	26.00'
L216	S89°47'57"W	3.00'
L217	N89°47'57"E	13.00'
L218	N89°47'57"E	13.00'
L219	N00°12'03"W	35.00'
L220	S89°47'57"W	12.50'
L221	N00°12'03"W	6.00'
L222	N89°47'57"E	12.50'
L223	N00°12'03"W	19.93'
L224	S89°47'57"W	12.50'
L225	N89°47'57"E	12.50'
L226	N00°12'03"W	35.00'

BLDG C&D

CURVE TABLE					
CURVE #	DELTA	RADIUS	LENGTH	CHORD DIRECTION	CHORD LENGTH
C27	90°00'00"	3.00'	4.71'	N45°12'03"W	4.24'
C28	90°00'00"	3.00'	4.71'	N44°47'57"E	4.24'
C29	90°00'00"	3.00'	4.71'	S45°12'03"E	4.24'
C30	90°00'00"	3.00'	4.71'	N44°47'57"E	4.24'
C31	95°30'36"	3.03'	5.06'	S42°05'45"E	4.49'
C32	90°00'00"	3.00'	4.71'	N44°47'57"E	4.24'
C33	90°00'00"	3.00'	4.71'	S45°12'03"E	4.24'
C34	90°00'00"	3.00'	4.71'	N44°47'57"E	4.24'
C35	90°00'00"	3.00'	4.71'	S45°12'03"E	4.24'
C36	90°00'00"	3.50'	5.50'	S44°47'57"W	4.95'
C37	90°00'00"	3.00'	4.71'	S45°12'03"E	4.24'
C38	85°29'04"	10.00'	14.92'	S42°32'29"W	13.57'
C39	85°29'04"	10.00'	14.92'	N42°56'35"W	13.57'
C40	90°00'00"	3.00'	4.71'	N44°47'57"E	4.24'
C41	90°00'00"	3.00'	4.71'	N45°12'03"W	4.24'
C42	90°00'00"	3.00'	4.71'	N45°12'03"W	4.24'
C43	90°00'00"	3.00'	4.71'	N44°47'57"E	4.24'
C44	90°00'00"	3.00'	4.71'	N45°12'03"W	4.24'
C45	180°00'00"	3.00'	9.42'	N00°12'03"W	6.00'
C46	90°00'00"	3.00'	4.71'	S44°47'57"W	4.24'
C48	90°00'00"	3.00'	4.71'	N44°47'57"E	4.24'
C49	90°00'00"	3.00'	4.71'	N44°47'57"E	4.24'
C50	90°00'00"	3.00'	4.71'	N45°12'03"W	4.24'
C51	90°00'00"	3.00'	4.71'	N44°47'57"E	4.24'
C52	90°00'00"	3.00'	4.71'	N45°12'03"W	4.24'
C53	90°00'00"	3.00'	4.71'	S44°47'57"W	4.24'
C54	90°00'00"	3.00'	4.71'	N45°12'03"W	4.24'
C55	90°00'00"	3.00'	4.71'	S44°47'57"W	4.24'
C56	90°00'00"	3.00'	4.71'	N45°12'03"W	4.24'
C57	90°00'00"	3.00'	4.71'	S44°47'57"W	4.24'

BLDG C&D

CURVE TABLE					
CURVE #	DELTA	RADIUS	LENGTH	CHORD DIRECTION	CHORD LENGTH
C58	90°00'00"	3.00'	4.71'	S45°12'03"E	4.24'
C59	90°00'00"	3.00'	4.71'	S44°47'57"W	4.24'
C60	90°05'16"	3.00'	4.71'	S45°12'03"E	4.24'
C61	90°00'00"	3.00'	4.71'	S44°47'57"W	4.24'
C62	90°00'00"	3.00'	4.71'	S45°12'03"E	4.24'
C101	90°01'27"	3.00'	4.71'	S44°47'13"W	4.24'
C102	90°00'00"	3.50'	5.50'	S45°12'03"E	4.95'
C103	90°00'00"	3.50'	5.50'	S44°47'57"W	4.95'
C104	90°00'00"	3.50'	5.50'	S44°47'57"W	4.95'
C105	90°00'00"	3.50'	5.50'	S45°12'03"E	4.95'
C106	90°00'00"	2.00'	3.14'	N44°47'57"E	2.83'
C107	90°00'00"	2.00'	3.14'	N45°12'03"W	2.83'
C108	90°00'00"	3.00'	4.71'	S44°47'57"W	4.24'
C109	90°00'00"	3.00'	4.71'	S45°12'03"E	4.24'

BLDG C&D

LINE TABLE		
LINE #	BEARING	DISTANCE
L227	S89°47'57"W	12.50'
L228	N00°12'03"W	1.50'
L229	S00°12'03"E	18.65'
L230	N89°47'57"E	8.00'
L231	N00°12'03"W	5.00'
L232	S89°47'57"W	8.00'
L233	N89°47'57"E	6.97'
L234	N00°12'03"W	3.00'
L235	S89°47'57"W	6.97'
L236	S00°13'30"E	18.78'
L237	S89°47'57"W	7.27'
L238	N89°47'57"E	3.55'

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ENGINEER'S SEAL

REGISTERED PROFESSIONAL ENGINEER
SAMUEL MICHAEL BELLOMIO
No. 90818
CIVIL
STATE OF CALIFORNIA

ENGINEER'S INFORMATION

PREPARED BY:
WARE MALCOMB
3391 SORRENTO VALLEY BLVD. SUITE 120
SAN DIEGO, CA 92121

SAMUEL BELLOMIO
R.C.E. NO. 90818
EXP. DATE: 12/31/2023

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:

CONTROL POINT NO. L-523RS, 3" BRASS DISC STAMPED "L-523RS" AT INTERSECTION OF 3RD & TIPPICANOE

ELEV = 1068.52
DATUM: NAVD88

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY: ALO

CHECKED BY: LS

RECOMMENDED BY:

HORIZONTAL CONTROL PLAN FOR

CITY OF SAN BERNARDINO

DEVELOPMENT SERVICES~PUBLIC WORKS|ENGINEERING

GRADING PLAN FOR

HARDT & BRIER BUSINESS PARK

FROM

HARDT STREET TO BRIER DRIVE

DRAWING NO. XXXX

SHEET C3.3 OF 24 SHEETS

FOR CITY USE ONLY: FILE NO. W.O. NO.

GENERAL NOTE

UTILITIES SHOWN ON THIS PLAN FOR REFERENCE ONLY, REFER TO UTILITY PLAN SHEET C5.0-####.

SCALE: 1" = 10'

N89°47'57"E 667.35'

BUILDING A
FF=1051.00

BMP-1
TOP OF BASIN: 1049.25
BOTTOM OF BASIN: 1048.50

BMP-2
TOP OF BASIN: 1049.50
BOTTOM OF BASIN: 1048.75

BMP-3

TRUCK WELL LOADING SPACE PER ARCHITECTURAL PLANS

MATCHLINE SEE SHEET C4.1

10'X10' VISIBILITY TRIANGLE

EXISTING 12" CL&WP WATER LINE

HARDT ST.

GRADING PLAN FOR

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ENGINEER'S SEAL

REGISTERED PROFESSIONAL ENGINEER
SAMUEL MICHAEL BELLOMIO
No. 90818
CIVIL
STATE OF CALIFORNIA

ENGINEER'S INFORMATION

PREPARED BY:
WARE MALCOMB
3391 SORRENTO VALLEY BLVD. SUITE 120
SAN DIEGO, CA 92121

SAMUEL BELLOMIO
R.C.E. NO. 90818
EXP. DATE: 12/31/2023

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:

CONTROL POINT NO. L-523RS, 3" BRASS DISC STAMPED "L-523RS" AT INTERSECTION OF 3RD & TIPPICANOE

ELEV = 1068.52
DATUM: NAVD88

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY: ALO

CHECKED BY: LS

RECOMMENDED BY:

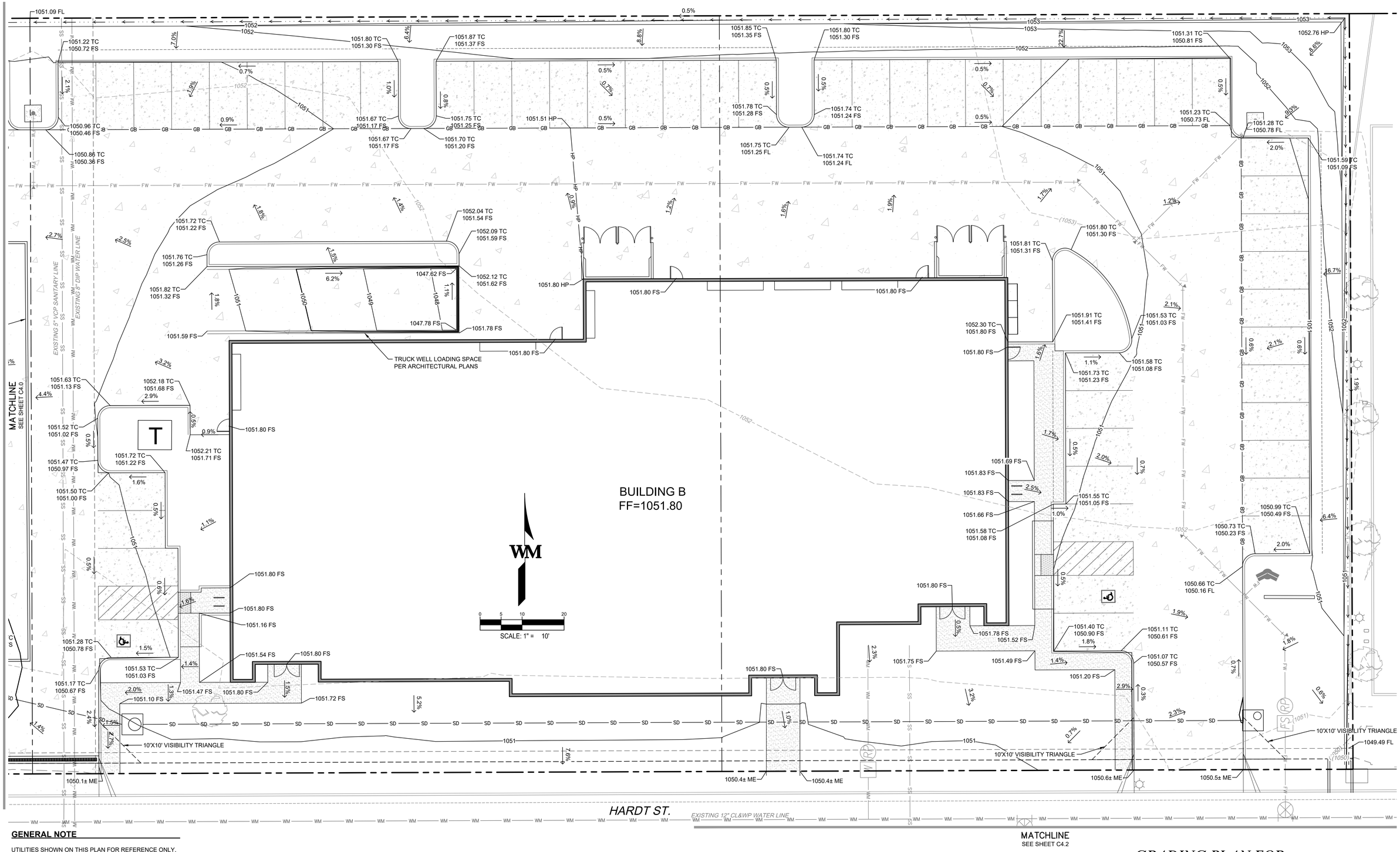
CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES–PUBLIC WORKS/ENGINEERING

GRADING PLAN
FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

FOR CITY USE ONLY: FILE NO. W.O. NO.

DRAWING NO. *XXXX*

SHEET *C4.0* OF *24* SHEETS



GENERAL NOTE

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SAMUEL BELLOMIO
R.C.E. NO. 90818
EXP. DATE: 12/31/2023

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:

CONTROL POINT NO. L-523RS, 3" BRASS DISC STAMPED "L-523RS" AT INTERSECTION OF 3RD & TIPPICANOE

ELEV = 1068.52
DATUM: NAVD88

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY: ALO

CHECKED BY: LS

RECOMMENDED BY:

GRADING PLAN FOR
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GRADING PLAN
FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

DRAWING NO. XXXX

SHEET C4.1 OF 24 SHEETS

FOR CITY USE ONLY: FILE NO. W.O. NO.

SEE SHEET C4.1
MATCHLINE

HARDT ST.

ROW

BUILDING C
FF=1051.50

PROPERTY LINE

BMP-4
TOP OF BASIN: 1049.91
BOTTOM OF BASIN: 1049.16

BMP-6
TOP OF BASIN: 1050.00
BOTTOM OF BASIN: 1049.34

10'X10' VISIBILITY TRIANGLE

EX. TREE TO BE REMOVED

PR. RETAINING WALL
MAX HT: ~1.61'

1051.78 TW
1051.13 BW

1053.31 TW
1051.70 BW

1054.79 TW
1054.59 BW

1051.81 FL

1054.77 FL

1055.10 HP

MATCHLINE
SEE SHEET C4.3

GENERAL NOTE:
UTILITIES SHOWN ON THIS PLAN FOR REFERENCE ONLY, REFER TO UTILITY PLAN SHEET C5.0-####

SCALE: 1" = 10'

GRADING PLAN FOR

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SAMUEL MICHAEL BELLOMIO
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CIVIL
STATE OF CALIFORNIA

ENGINEER'S INFORMATION

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SAN DIEGO, CA 92121

SAMUEL BELLOMIO
R.C.E. NO. 90818
EXP. DATE: 12/31/2023

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:

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ELEV = 1068.52
DATUM: NAVD88

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY: ALO

CHECKED BY: LS

RECOMMENDED BY:

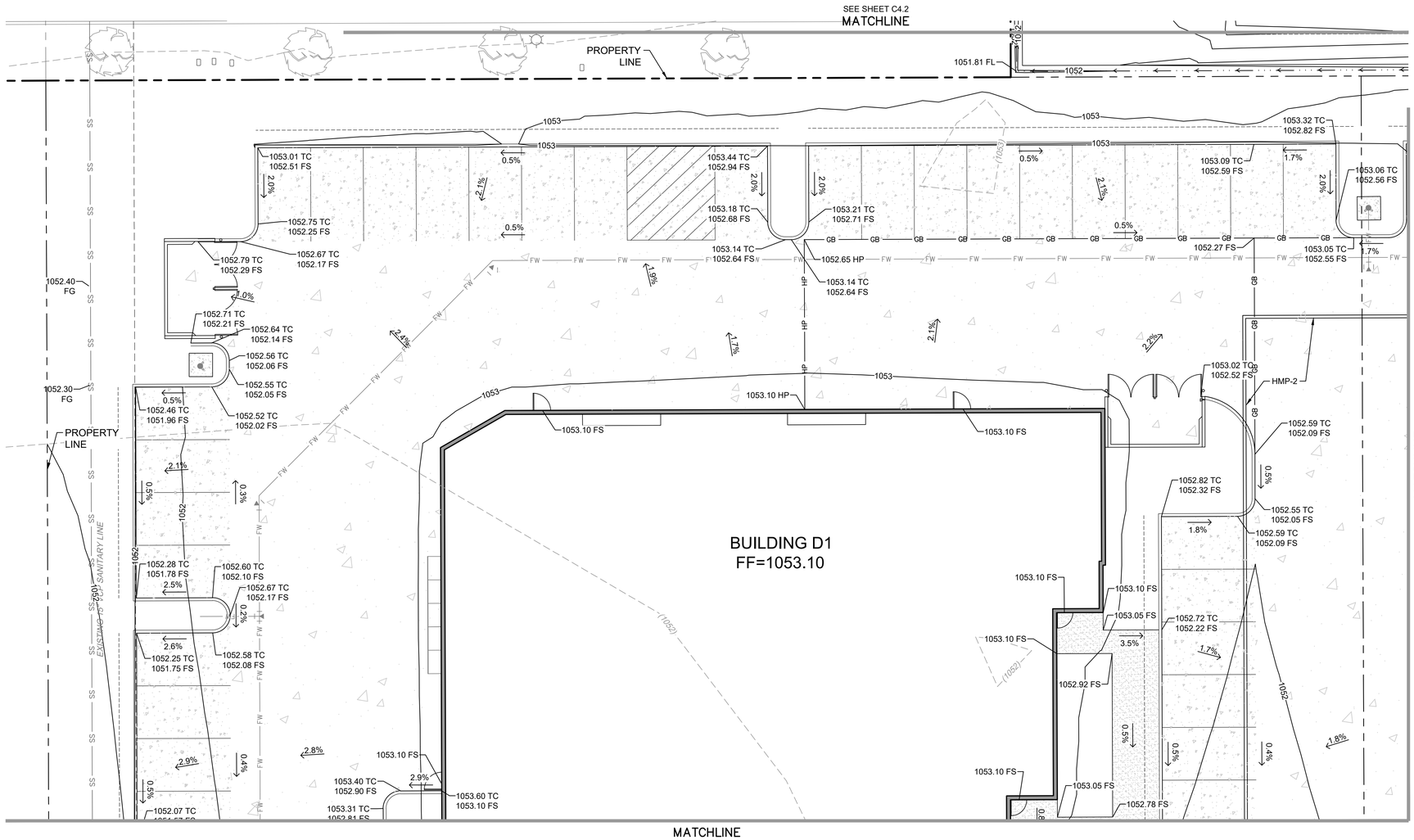
CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES–PUBLIC WORKS|ENGINEERING

GRADING PLAN FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

DRAWING NO. XXXX

SHEET C4.2 OF 24 SHEETS

FOR CITY USE ONLY: FILE NO. W.O. NO.



GRADING NOTES

1. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES WITH THE ELEVATIONS SHOWN ON THE PLANS. ENGINEER WILL NOT BE LIABLE FOR ANY COSTS ASSOCIATED WITH CHANGES TO THE DESIGN WITHOUT PROPER NOTIFICATION.
2. SEE COVER SHEET FOR BENCHMARK, BASIS OF BEARINGS, AND SURVEY INFORMATION.
3. ELEVATIONS ARE PER THE SURVEY DATUM, NOT PER ARCHITECTURAL FLOOR ELEVATIONS.
4. ELEVATIONS ARE AT FINISHED SURFACE UNLESS OTHERWISE NOTED.
5. CURB ELEVATIONS ARE AT FLOWLINE/BOTTOM OF CURB UNLESS OTHERWISE NOTED.
6. EXISTING UTILITY STRUCTURES TO BE ADJUSTED AS NECESSARY FOR PROPOSED GRADING.
7. SIDEWALKS AND LANDINGS SHALL BE 2% MAX CROSS-SLOPE TOWARD ROADS, DRIVE LANES, AND PARKING AREAS UNLESS OTHERWISE NOTED.
8. ACCESSIBLE PARKING STALLS AND LOADING AREAS TO BE 2% MAX SLOPE IN ANY DIRECTION.
9. REFER TO THE GEOTECH REPORT FOR GROUNDWATER ELEVATIONS.
10. GRADING OF LANDSCAPED AREAS AROUND BUILDINGS TO COMPLY WITH GEOTECH. REPORT.
11. PEDESTRIAN GUARDRAILS TO BE INSTALLED WHERE REQUIRED BY LOCAL, STATE, OR FEDERAL REQUIREMENTS. RE: ARCHITECTURAL/LANDSCAPE PLANS.

WARE MALCOMB assumes no responsibility for utility locations. The utilities shown on this drawing have been plotted from the best available information. It is, however, the contractors responsibility to field verify the location of all utilities prior to the commencement of any construction.

GENERAL NOTE:
UTILITIES SHOWN ON THIS PLAN FOR REFERENCE ONLY, REFER TO UTILITY PLAN SHEET C5.0-#####

SCALE: 1" = 10'

GRADING PLAN FOR

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ENGINEER'S SEAL

REGISTERED PROFESSIONAL ENGINEER — SAMUEL MICHAEL BELLOMIO — No. 90818 — CIVIL — STATE OF CALIFORNIA

ENGINEER'S INFORMATION

PREPARED BY:
WARE MALCOMB
3391 SORRENTO VALLEY BLVD. SUITE 120
SAN DIEGO, CA 92121

SAMUEL BELLOMIO
R.C.E. NO. 90818
EXP. DATE: 12/31/2023

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:

CONTROL POINT NO. L-523RS, 3" BRASS DISC STAMPED "L-523RS" AT INTERSECTION OF 3RD & TIPPICANOE

ELEV = 1068.52
DATUM: NAVD88

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

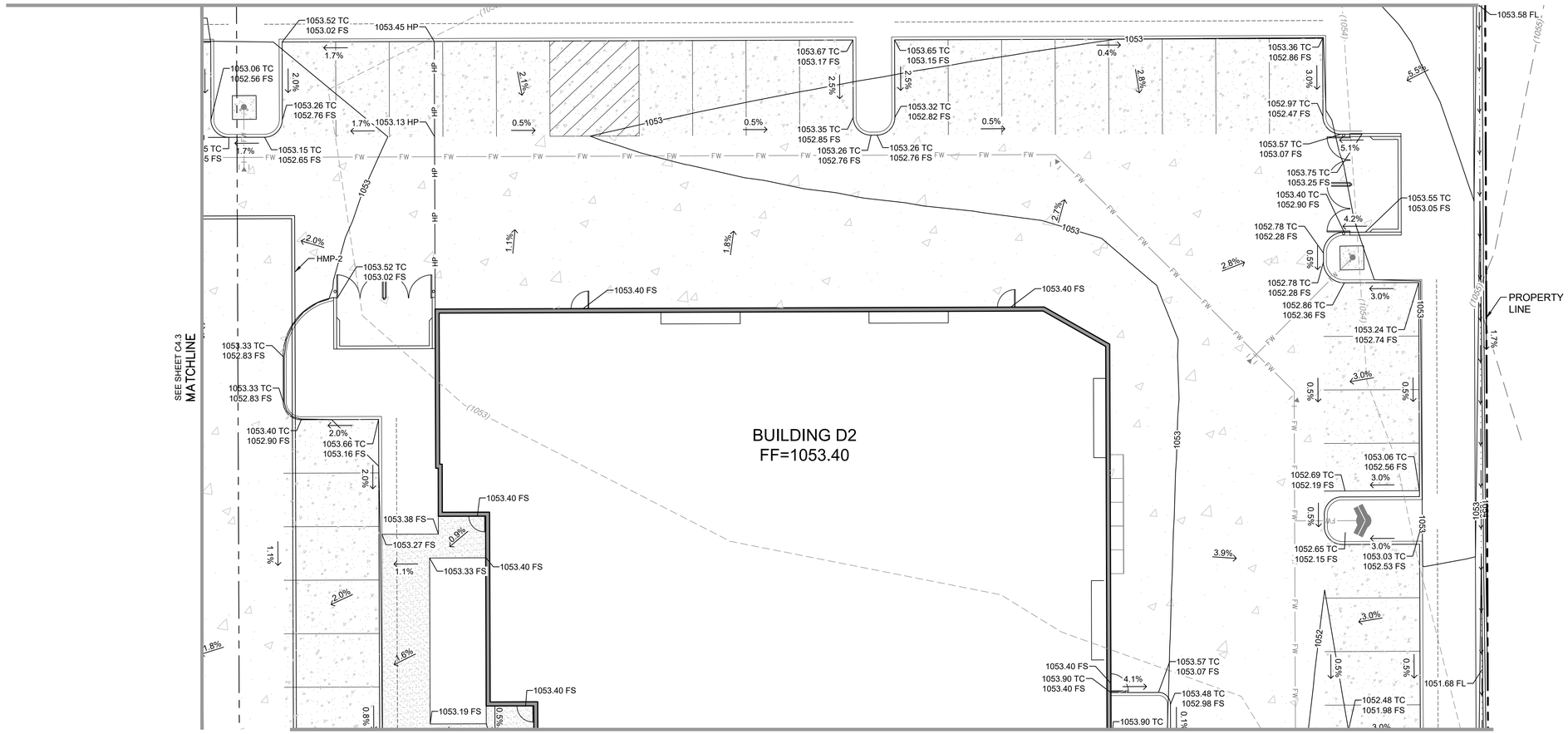
DRAWN BY: ALO
CHECKED BY: LS
RECOMMENDED BY:

CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES–PUBLIC WORKS/ENGINEERING
GRADING PLAN FOR
HARDT & BRIER BUSINESS PARK
FROM HARDT STREET TO BRIER DRIVE

FOR CITY USE ONLY: FILE NO. W.O. NO.

DRAWING NO. XXXX
SHEET C4.3 OF 24 SHEETS

SEE SHEET C4.2
MATCHLINE



MATCHLINE
SEE SHEET C4.5

GENERAL NOTE:
UTILITIES SHOWN ON THIS PLAN FOR REFERENCE ONLY,
REFER TO UTILITY PLAN SHEET C5.0-####

SCALE: 1" = 10'

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ENGINEER'S SEAL
REGISTERED PROFESSIONAL ENGINEER
SAMUEL MICHAEL BELLOMO
No. 90818
CIVIL
STATE OF CALIFORNIA

ENGINEER'S INFORMATION

PREPARED BY:
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SAN DIEGO, CA 92121

SAMUEL BELLOMIO
R.C.E. NO. 90818
EXP. DATE: 12/31/2023

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:

CONTROL POINT NO. L-523RS, 3" BRASS DISC STAMPED "L-523RS" AT INTERSECTION OF 3RD & TIPPICANOE

ELEV = 1068.52
DATUM: NAVD88

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY: ALO

CHECKED BY: LS

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GRADING PLAN FOR
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DEVELOPMENT SERVICES~PUBLIC WORKS/ENGINEERING
GRADING PLAN
FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

DRAWING NO. XXXX

SHEET C4.4 OF 24 SHEETS

FOR CITY USE ONLY: FILE NO. W.O. NO.

SEE SHEET C4.4
MATCHLINE

SEE SHEET C4.6
MATCHLINE

BUILDING D2
FF=1053.40

PROPERTY LINE

10'X10' VISIBILITY TRIANGLE

BMP-8

ROW

S89°46'30"W 209.99'

BRIER DR.

EXISTING WATER LINE

0 5 10 20
SCALE: 1" = 10'

GRADING PLAN FOR
CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES~PUBLIC WORKS|ENGINEERING

GRADING PLAN
FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

DRAWING NO. XXXX

SHEET C4.5 OF 24 SHEETS

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SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY: ALO

CHECKED BY: LS

RECOMMENDED BY:

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:

CONTROL POINT NO. L-523RS, 3" BRASS DISC STAMPED "L-523RS" AT INTERSECTION OF 3RD & TIPPICANOE

ELEV = 1068.52
DATUM: NAVD88

ENGINEER'S INFORMATION

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SAN DIEGO, CA 92121

SAMUEL BELLOMIO
R.C.E. NO. 90818
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REGISTERED PROFESSIONAL ENGINEER
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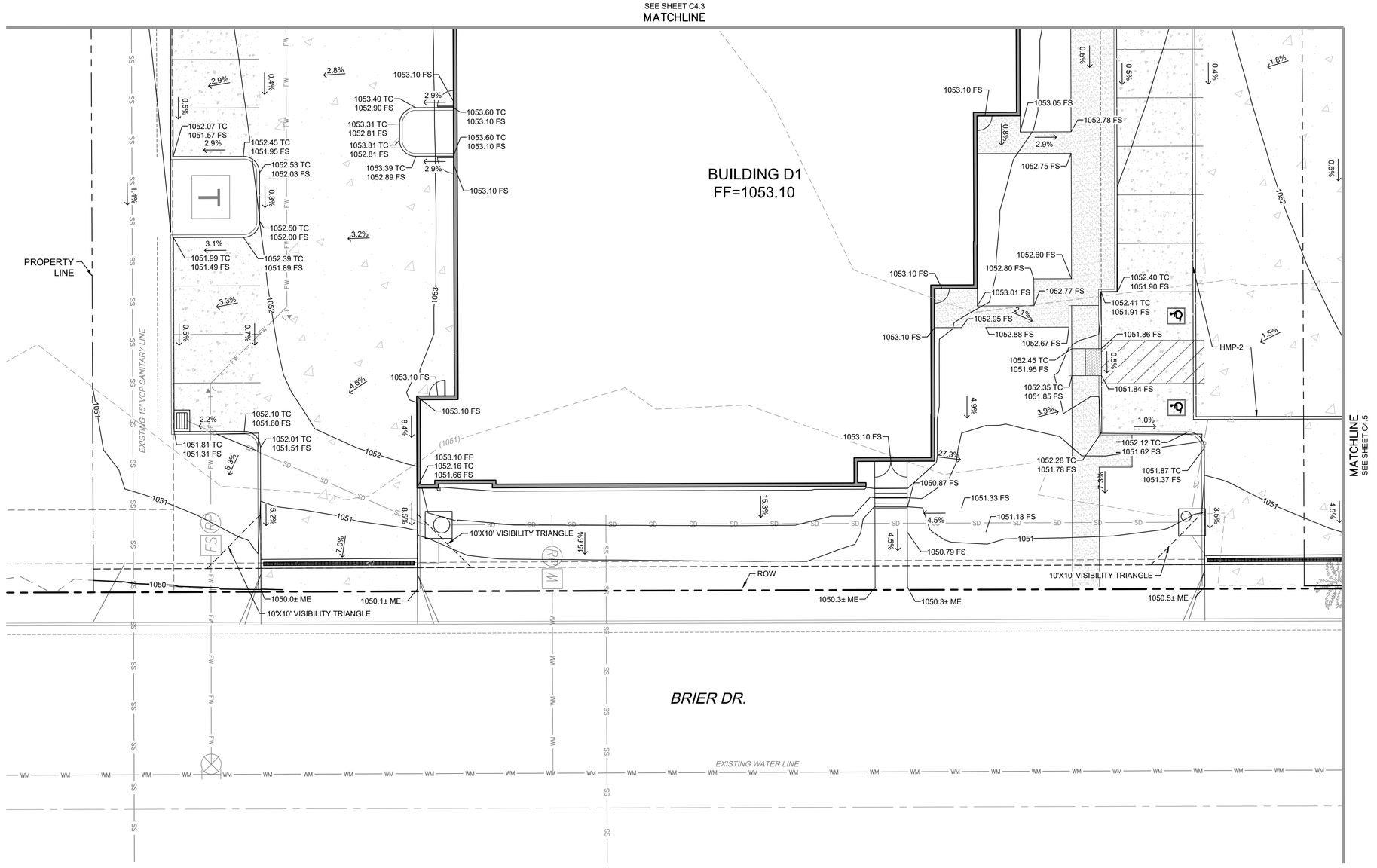

GRADING PLAN FOR

CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES~PUBLIC WORKS/ENGINEERING

GRADING PLAN
FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

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SHEET C4.6 OF 24 SHEETS

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DATUM: NAVD88

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

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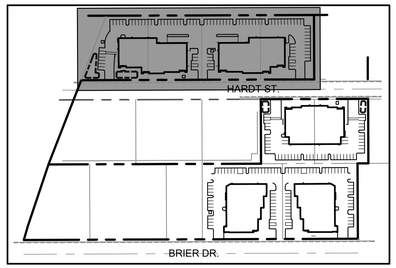


KEY MAP
N.T.S.

STORM WATER CONSTRUCTION NOTES

1. CONSTRUCT 36X36 BROOKS CATCH BASIN PER DETAIL 8, SHEET C2.0
2. INSTALL DURASLOPE TRENCH DRAIN SYSTEM W/ HS-20 TRAFFIC RATED GRATE PER DETAIL 9, SHEET C2.0
3. INSTALL 12" HDPE STORM DRAIN PIPE
4. CONSTRUCT BROW DITCH PER DETAIL 7, SHEET C2.0
5. CONSTRUCT STORM DRAIN CLEAN OUT PER COUNTY OF SAN BERNARDINO STD. PLAN 208
6. CONSTRUCT CURB INLET PER CITY OF SAN BERNARDINO STD. PLAN 403
7. INSTALL BIOCLEAN MODULAR WETLAND SYSTEM
8. INSTALL PSI STORM WATER LIFT STATION
9. INSTALL BIOCLEAN URBANPOND DETENTION SYSTEM
17. BIOFILTRATIN BASIN PER DETAIL 1, SHEET C6.4

SANITARY SEWER KEY NOTES

SS1. CONNECT TO EXISTING SANITARY SEWER W/ 4" MANHOLE PER CITY OF SAN BERNARDINO STD. PLAN 301, 304

SS2. INSTALL 6" PVC SDR-35 PRIVATE SANITARY SEWER LATERAL PER CITY OF SAN BERNARDINO STD. PLAN 305, 306 & 310

DOMESTIC WATER SERVICE KEY NOTES

DW1. PROVIDE NEW 2" DOMESTIC WATER SERVICE PER CITY OF SAN BERNARDINO STD. PLAN W1.2

DW2. INSTALL REDUCED PRESSURE BACKFLOW PREVENTOR PER CITY OF SAN BERNARDINO STD. PLAN W4.1, W4.3

DW3. CAP END FOR CONNECTION BY BUILDING PLUMBER

DW4. INSTALL 2" PVC SCH80 PRIVATE WATER LINE

FIRE SERVICE KEY NOTES

FW1. CONNECT TO EXISTING 12" WATER MAIN PER CITY OF SAN BERNARDINO STD. PLAN W3.5

FW2. INSTALL 8" AWWA PVC C-900 DR18 PRIVATE FIRE

FW3. INSTALL NEW 8" RPDA PER CITY OF SAN BERNARDINO STD. PLAN W1.14

FW4. INSTALL PRIVATE THRUST BLOCK PER CITY OF SAN BERNARDINO STD. PLAN W6.4A, W6.11

FW5. INSTALL FIRE HYDRANT ASSEMBLY PER CITY OF SAN BERNARDINO STD. PLAN W2.2

WM NOTES: UTILITY

1. CONTRACTOR SHALL VERIFY THE ELEVATION OF ALL EXISTING UTILITIES WHERE NEW GRADING OR UTILITY WORK WILL OCCUR AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR CONFLICTS. ENGINEER WILL NOT BE LIABLE FOR ANY COSTS ASSOCIATED WITH CHANGES TO THE DESIGN WITHOUT PROPER NOTIFICATION.
2. SEE COVER SHEET FOR BENCHMARK, BASIS OF BEARINGS, AND SURVEY INFORMATION.
3. PROPOSED DRY UTILITIES ARE SHOWN FOR REFERENCE ONLY. REFER TO PLANS BY UTILITY PROVIDERS AND/OR MEP.
4. EXISTING UTILITY STRUCTURES TO BE ADJUSTED AS NECESSARY FOR PROPOSED GRADING.
5. REFER TO THE GEOTECH REPORT FOR GROUNDWATER ELEVATIONS.
6. ALL WORK IN THE PUBLIC RIGHT-OF-WAY" TO BE DONE PER IMPROVEMENT PLANS AND ASSOCIATED ENCROACHMENT PERMIT.

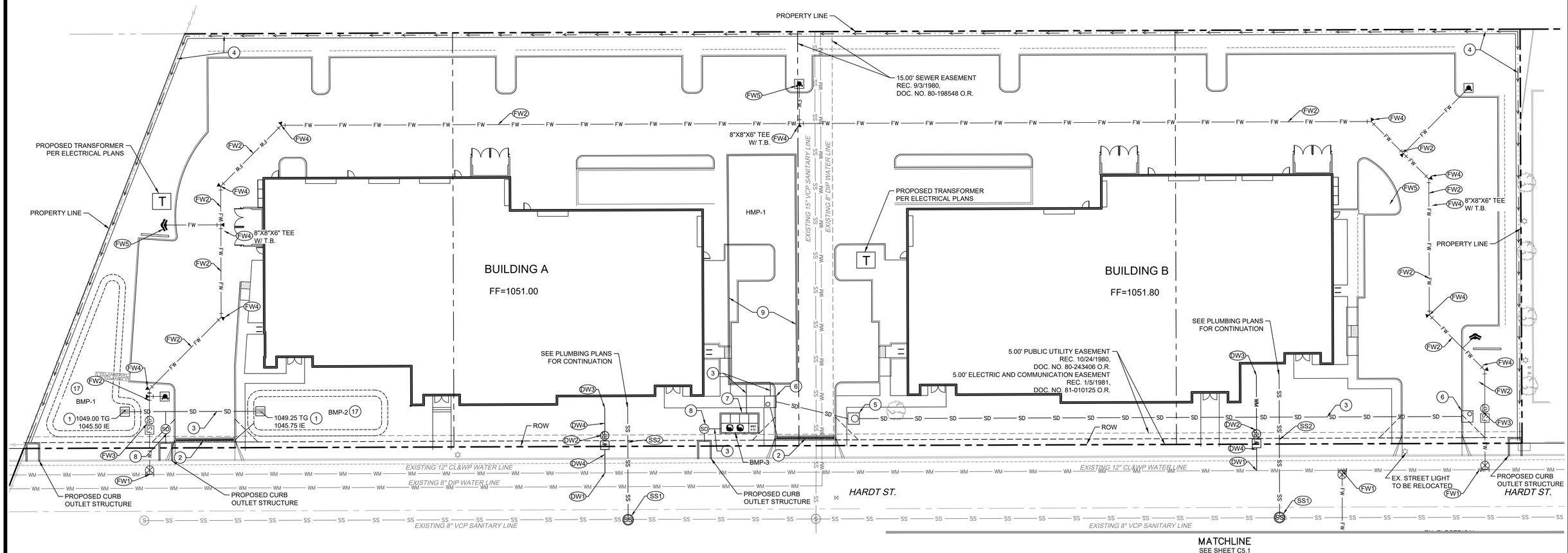
FIRE SERVICE NOTE

1. FOR REFERENCE ONLY. UNDERGROUND FIRE SERVICE SHALL BE A DEFERRED SUBMITTAL. ANY APPROVAL OF THIS GRADING PLAN DOES NOT CONSTITUTE AN APPROVAL OF ANY FIRE SERVICE WATER SUPPLY, UNDERGROUND, OR EQUIPMENT.

WM

0 10 20 40

SCALE: 1" = 20'



MATCHLINE
SEE SHEET C5.1

UTILITY PLAN FOR

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PREPARED BY:
WARE MALCOMB
3391 SORRENTO VALLEY BLVD. SUITE 120
SAN DIEGO, CA 92121

SAMUEL BELLOMIO
R.C.E. NO. 90818
EXP. DATE: 12/31/2023

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:

CONTROL POINT NO. L-523RS, 3" BRASS DISC STAMPED "L-523RS" AT INTERSECTION OF 3RD & TIPPICANOE

ELEV = 1068.52
DATUM: NAVD88

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY: ALO

CHECKED BY: LS

RECOMMENDED BY:

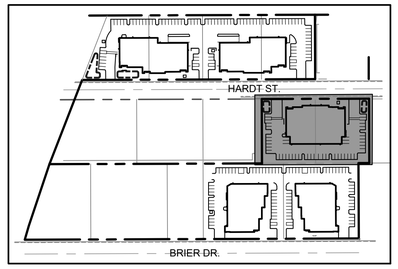
CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES~PUBLIC WORKS/ENGINEERING

GRADING PLAN
FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

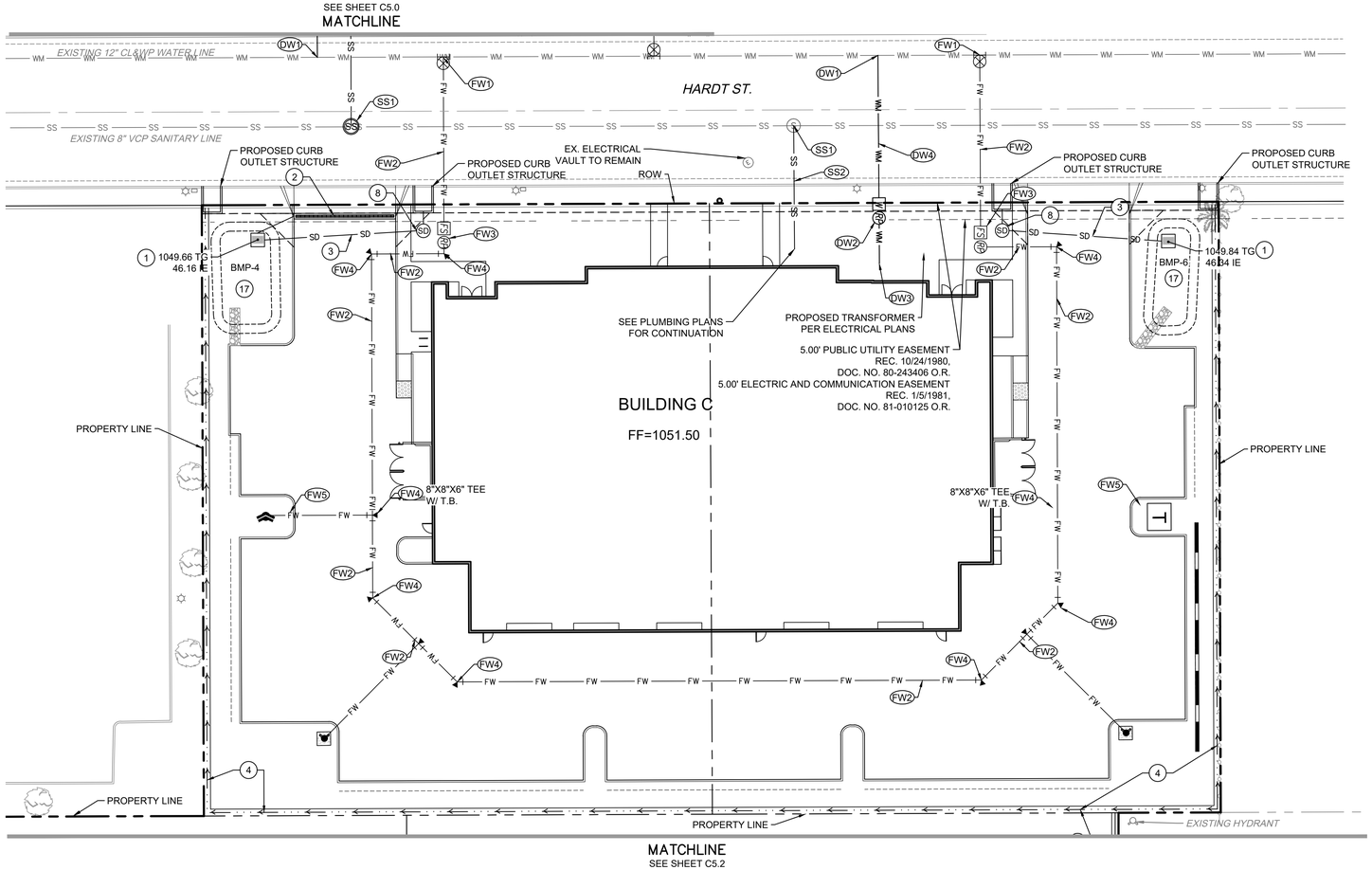
DRAWING NO. XXXX

SHEET C5.0 OF 24 SHEETS

FOR CITY USE ONLY: FILE NO. W.O. NO.



KEY MAP
N.T.S.



WM NOTES: UTILITY

1. CONTRACTOR SHALL VERIFY THE ELEVATION OF ALL EXISTING UTILITIES WHERE NEW GRADING OR UTILITY WORK WILL OCCUR AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR CONFLICTS. ENGINEER WILL NOT BE LIABLE FOR ANY COSTS ASSOCIATED WITH CHANGES TO THE DESIGN WITHOUT PROPER NOTIFICATION.
2. SEE COVER SHEET FOR BENCHMARK, BASIS OF BEARINGS, AND SURVEY INFORMATION.
3. PROPOSED DRY UTILITIES ARE SHOWN FOR REFERENCE ONLY. REFER TO PLANS BY UTILITY PROVIDERS AND/OR MEP.
4. EXISTING UTILITY STRUCTURES TO BE ADJUSTED AS NECESSARY FOR PROPOSED GRADING.
5. REFER TO THE GEOTECH REPORT FOR GROUNDWATER ELEVATIONS.
6. ALL WORK IN THE PUBLIC RIGHT-OF-WAY TO BE DONE PER IMPROVEMENT PLANS AND ASSOCIATED ENCROACHMENT PERMIT.

FIRE SERVICE NOTE

1. FOR REFERENCE ONLY, UNDERGROUND FIRE SERVICE SHALL BE A DEFERRED SUBMITTAL. ANY APPROVAL OF THIS GRADING PLAN DOES NOT CONSTITUTE AN APPROVAL OF ANY FIRE SERVICE WATER SUPPLY, UNDERGROUND, OR EQUIPMENT.

SANITARY SEWER KEY NOTES

- (SS1) CONNECT TO EXISTING SANITARY SEWER W/ 4' MANHOLE PER CITY OF SAN BERNARDINO STD. PLAN 301, 304
- (SS2) INSTALL 6" PVC SDR-35 PRIVATE SANITARY SEWER LATERAL PER CITY OF SAN BERNARDINO STD. PLAN 305, 306 & 310

DOMESTIC WATER SERVICE KEY NOTES

- (DW1) PROVIDE NEW 2" DOMESTIC WATER SERVICE PER CITY OF SAN BERNARDINO STD. PLAN W1.2
- (DW2) INSTALL REDUCED PRESSURE BACKFLOW PREVENTOR PER CITY OF SAN BERNARDINO STD. PLAN W4.1, W4.3
- (DW3) CAP END FOR CONNECTION BY BUILDING PLUMBER
- (DW4) INSTALL 2" PVC SCH80 PRIVATE WATER LINE

FIRE SERVICE KEY NOTES

- (FW1) CONNECT TO EXISTING 12" WATER MAIN PER CITY OF SAN BERNARDINO STD. PLAN W3.5
- (FW2) INSTALL 8" AWWA PVC C-900 DR18 PRIVATE FIRE
- (FW3) INSTALL NEW 8" RPDA PER CITY OF SAN BERNARDINO STD. PLAN W1.14
- (FW4) INSTALL PRIVATE THRUST BLOCK PER CITY OF SAN BERNARDINO STD. PLAN W6.4A, W6.11
- (FW5) INSTALL FIRE HYDRANT ASSEMBLY PER CITY OF SAN BERNARDINO STD. PLAN W2.2

STORM WATER CONSTRUCTION NOTES

1. CONSTRUCT 36X36 BROOKS CATCH BASIN PER DETAIL 8, SHEET C2.0
2. INSTALL DURASLOPE TRENCH DRAIN SYSTEM W/ HS-20 TRAFFIC RATED GRATE PER DETAIL 9, SHEET C2.0
3. INSTALL 12" HDPE STORM DRAIN PIPE
4. CONSTRUCT BROW DITCH PER DETAIL 7, SHEET C2.0
5. CONSTRUCT STORM DRAIN CLEAN OUT PER COUNTY OF SAN BERNARDINO STD. PLAN 208
6. CONSTRUCT CURB INLET PER CITY OF SAN BERNARDINO STD. PLAN 403
7. INSTALL BIOCLEAN MODULAR WETLAND SYSTEM
8. INSTALL PSI STORM WATER LIFT STATION
9. INSTALL BIOCLEAN URBANPOND DETENTION SYSTEM
17. BIOFILTRATION BASIN PER DETAIL 4, SHEET C6.4

WM

0 10 20 40
SCALE: 1" = 20'

UTILITY PLAN FOR

Underground Service Alert
Call: TOLL FREE 1–800 422–4133
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CIVIL ENGINEERING
3391 sorrento valley blvd. suite 120 san diego, ca 92121
p 858.638.7277 waremalcomb.com

ENGINEER'S SEAL
REGISTERED PROFESSIONAL ENGINEER — SAMUEL MICHAEL BELLOMIO — No. 90818 — CIVIL — STATE OF CALIFORNIA

ENGINEER'S INFORMATION
PREPARED BY:
WARE MALCOMB
3391 SORRENTO VALLEY BLVD. SUITE 120
SAN DIEGO, CA 92121

SAMUEL BELLOMIO
R.C.E. NO. 90818
EXP. DATE: 12/31/2023

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:
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ELEV = 1068.52
DATUM: NAVD88

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY: ALO
CHECKED BY: LS
RECOMMENDED BY:

CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES–PUBLIC WORKS/ENGINEERING
GRADING PLAN
FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

FOR CITY USE ONLY: FILE NO. W.O. NO.

DRAWING NO. XXXX
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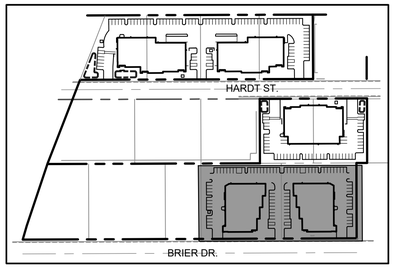

KEY MAP
N.T.S.

SEE SHEET C5.1
MATCHLINE

PROPERTY LINE

PROPERTY LINE

EXISTING HYDRANT

PROPERTY LINE

PROPERTY LINE

BUILDING D1
FF=1053.10

BUILDING D2
FF=1053.40

8"X8"X6" TEE W/ T.B.

8"X8"X6" TEE W/ T.B.

PROPOSED TRANSFORMER PER ELECTRICAL PLANS

EXISTING 15" VCP SANITARY LINE

HMP-2
1052.12 TOP
1048.50 IE

SEE PLUMBING PLANS FOR CONTINUATION

SEE PLUMBING PLANS FOR CONTINUATION

ROW

PROPOSED CURB OUTLET STRUCTURE

BRIER ST.

5.00' PUBLIC UTILITY EASEMENT
REC. 10/24/1980,
DOC. NO. 80-243406 O.R.
5.00' ELECTRIC AND COMMUNICATION EASEMENT
REC. 1/5/1981,
DOC. NO. 81-010125 O.R.

PROPOSED CURB OUTLET STRUCTURE

EXISTING WATER LINE

EXISTING 8" VCP SANITARY LINE

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WM

0 10 20 40
SCALE: 1" = 20'

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ENGINEER'S SEAL
REGISTERED PROFESSIONAL ENGINEER
SAMUEL MICHAEL BELLOMIO
No. 90818
CIVIL
STATE OF CALIFORNIA

ENGINEER'S INFORMATION

PREPARED BY:
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3391 SORRENTO VALLEY BLVD. SUITE 120
SAN DIEGO, CA 92121

SAMUEL BELLOMIO
R.C.E. NO. 90818
EXP. DATE: 12/31/2023

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:

CONTROL POINT NO. L-523RS, 3" BRASS DISC STAMPED "L-523RS" AT INTERSECTION OF 3RD & TIPPICANOE

ELEV = 1068.52
DATUM: NAVD88

APPROVED _____ 2007

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DRAWN BY: ALO

CHECKED BY: LS

RECOMMENDED BY:

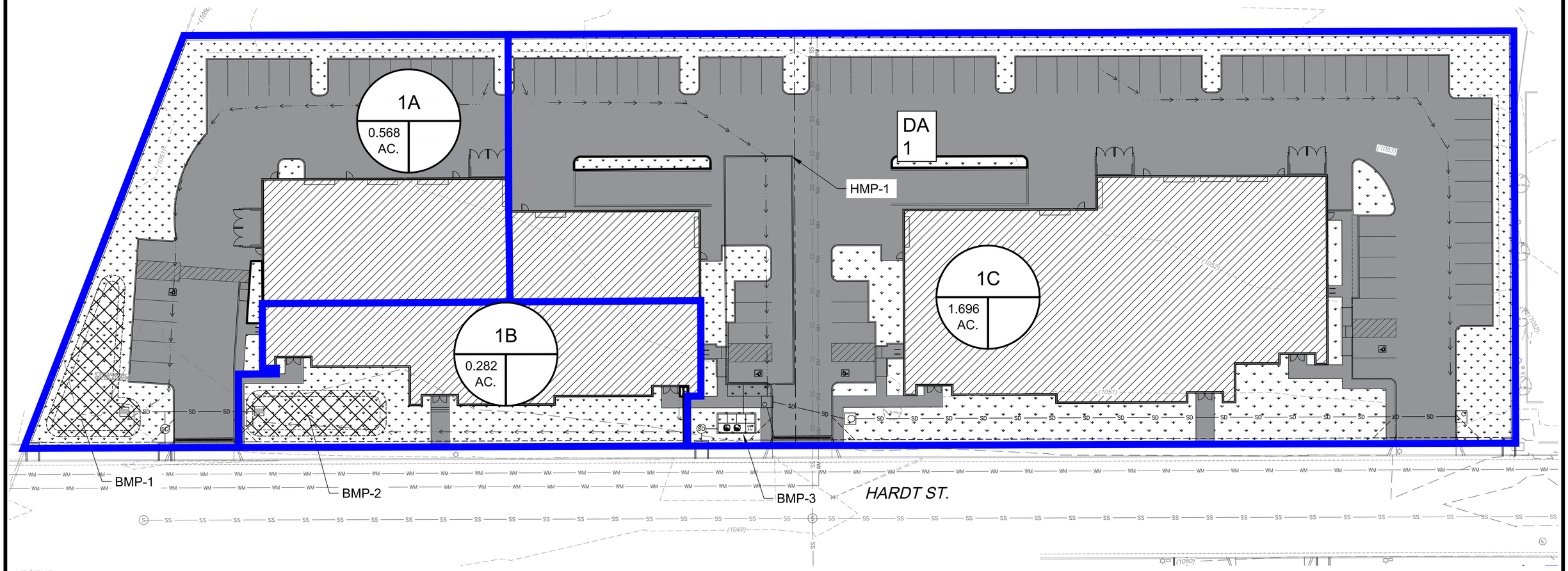
FOR CITY USE ONLY: FILE NO. W.O. NO.

CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES–PUBLIC WORKS/ENGINEERING

GRADING PLAN
FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

DRAWING NO. XXXX

SHEET C5.2 OF 24 SHEETS



LEGEND

- IMPERVIOUS
- ROOF
- LANDSCAPE
- BIO BASIN
- DMA BOUNDARY
- FLOW PATH

PROJECT SITE INFO
UNDERLYING HYDROLOGIC SOIL GROUP: B
EXISTING NATURAL HYDROLOGIC FEATURES: NONE
CRITICAL COURSE SEDIMENT AREAS TO BE PROTECTED: NONE
APPROXIMATE DEPTH TO GROUNDWATER: 20 FT±

FEATURES TO MINIMIZE IMPERVIOUSNESS:
PAVEMENT WIDTHS ARE KEPT TO MINIMUM DESIGN STANDARDS
RUNOFF IS TREATED BY BIOFILTRATION AND BY PROPRIETARY BIOFILTRATION

DMA SUMMARY TABLE

DMA ID	AREA (ACRES)	AREA (SF)	IMPERVIOUS AREA (SF)	PERVIOUS LANDSCAPE AREA (SF)	IMPERVIOUS PERCENTAGE (%)	METHOD OF TREATMENT	BMP ID	DRAINS TO	SOIL TYPE	BASIN AREA PROVIDED (SF)	MWS TREATMENT VOLUME PROVIDED (CF)	UNDERGROUND VAULT ID	VAULT VOLUME PROVIDED (CF)
1A	0.569	24,773	17,660	7,113	71.3%	BIOFILTRATION	BMP-1	POC-1	B	1,486	-	-	-
1B	0.282	12,277	7,650	4,627	62.3%	BIOFILTRATION	BMP-2	POC-1	B	621	-	-	-
1C	1.696	73,869	53,972	19,897	73.1%	MODULAR WETLAND (MWS) AND UNDERGROUND VAULT	BMP-3	POC-1	B	-	6,875	HMP 1	9,563
TOTAL	2.546	110,919	79,282	31,637	71.5%								

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SCALE: 1" = 20'

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SAMUEL MICHAEL BELLOMIO No. 90818 REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA

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DRAWING NO. XXXX
SHEET C6.0 OF 24 SHEETS

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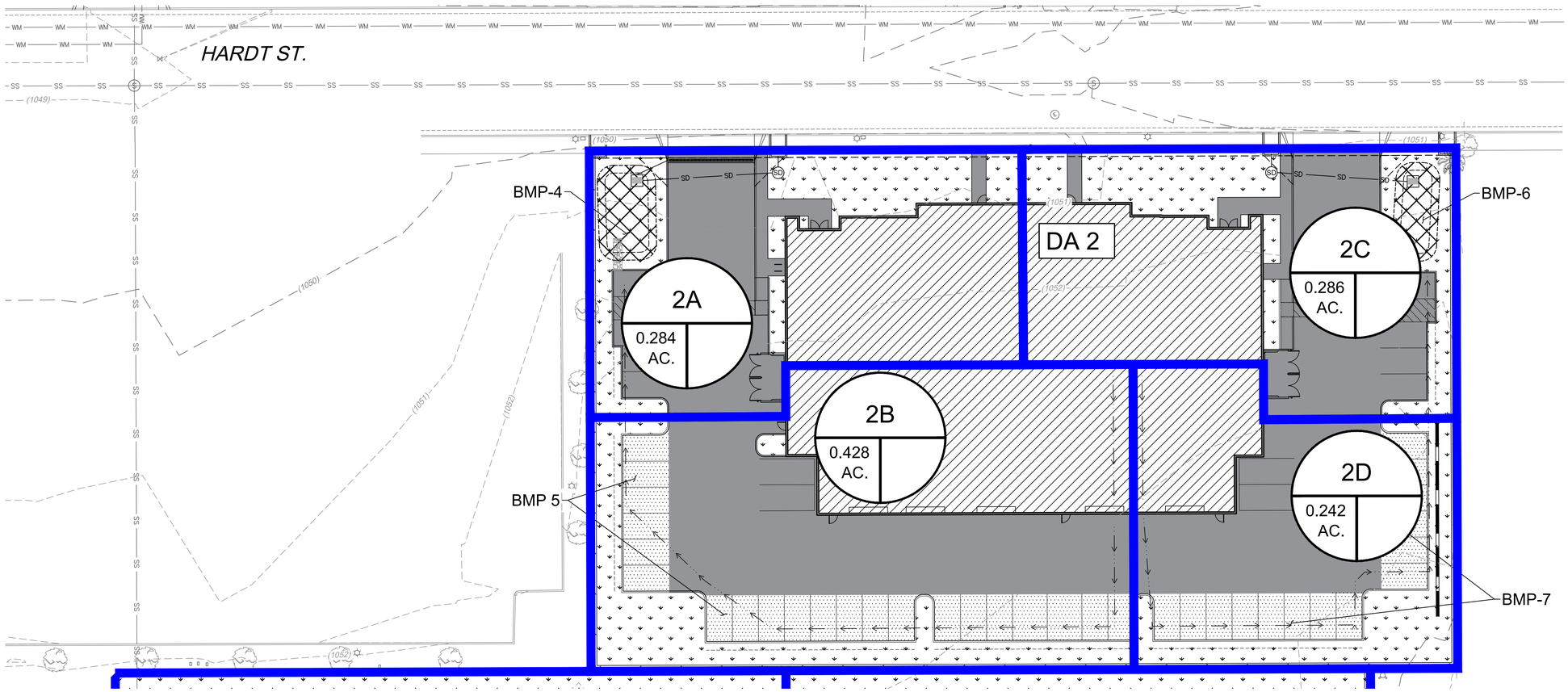

LEGEND

- IMPERVIOUS
- ROOF
- LANDSCAPE
- PERMEABLE CONCRETE
- BIO BASIN
- DMA BOUNDARY
- FLOW PATH

PROJECT SITE INFO

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RUNOFF IS TREATED BY BIOFILTRATION WITH PARTIAL RETENTION

DMA SUMMARY TABLE

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2A	0.284	12,373	8,790	3,583	-	71.0%	BIOFILTRATION W/ PARTIAL RETENTION	BMP-4	POC-2	B	395	-
2B	0.428	18,652	11,975	3,542	3,135	64.2%	PERMEABLE PAVEMENT	BMP-5	POC-2	B	-	3,135
2C	0.286	12,469	8,693	3,776	-	69.7%	BIOFILTRATION W/ PARTIAL RETENTION	BMP-6	POC-2	B	281	-
2D	0.242	10,547	6,009	2,466	2,072	57.0%	PERMEABLE PAVEMENT	BMP-7	POC-2	B	-	2,072
TOTAL	1.241	54,041	35,467	13,367		65.6%						

0 10 20 40
SCALE: 1" = 20'

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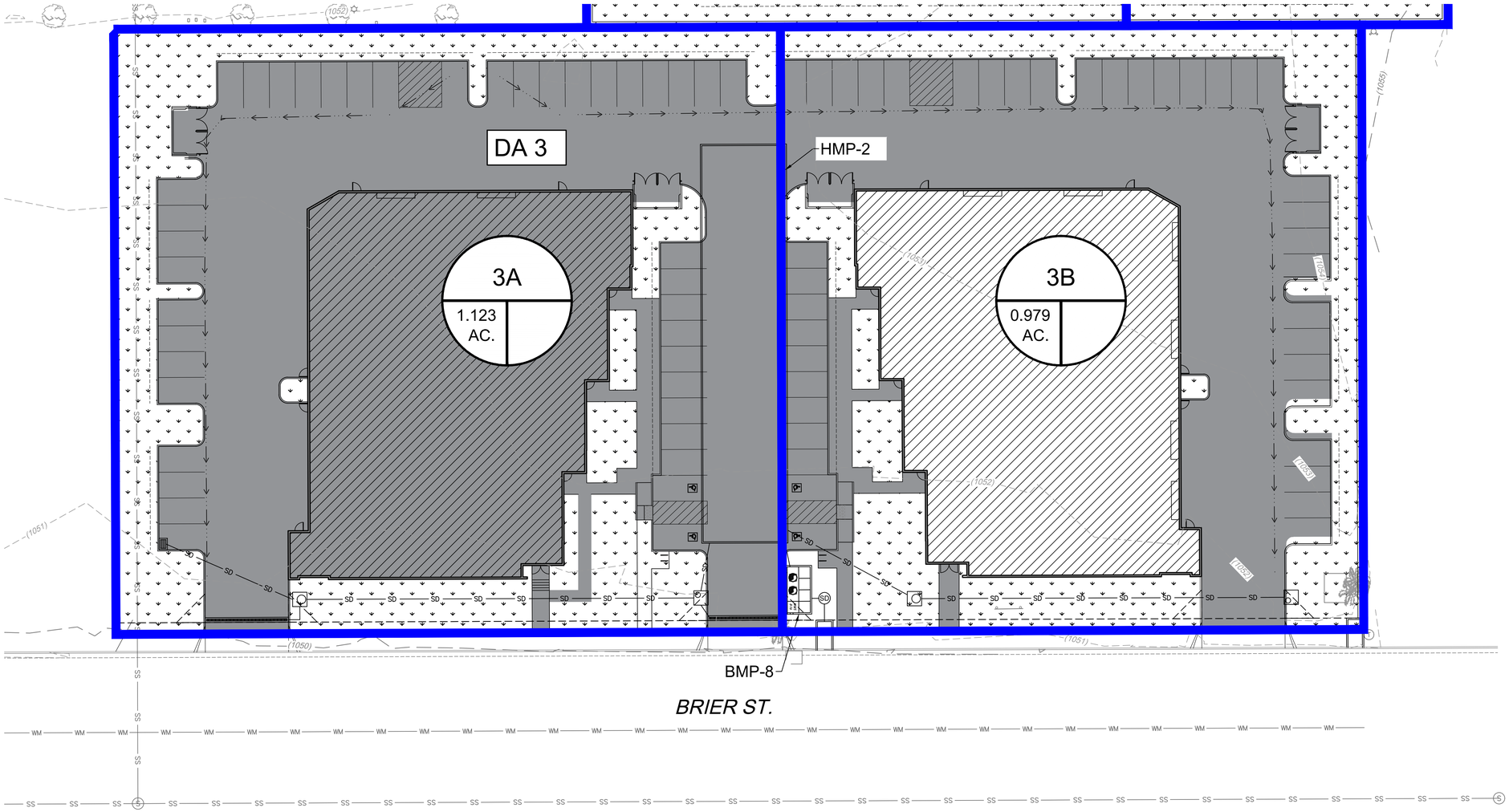

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3A	1.123	48,921	36,604	12,317	74.8%	MODULAR WETLAND (MWS) AND UNDERGROUND VAULT	BMP-8	POC-3	B	8,859	HMP-2	13,388
3B	0.979	42,638	32,141	10,497	75.4%							
TOTAL	2.102	91,559	68,745	22,814	75%							

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WM

0 10 20 40

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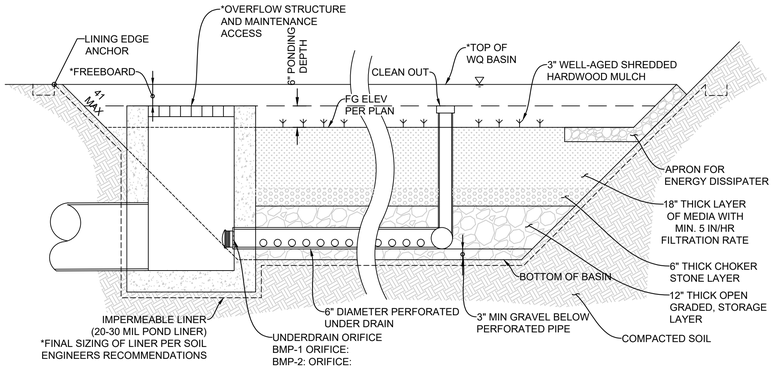
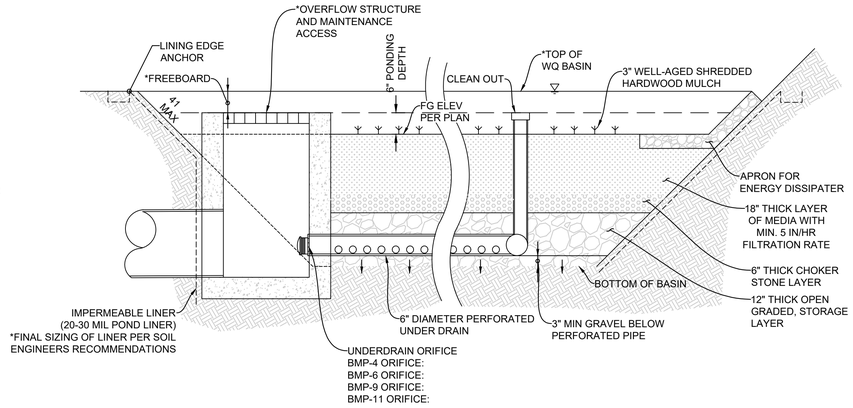


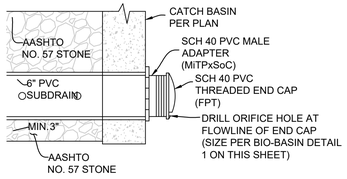
BIOFILTER BASIN DETAIL - BMP-1 & BMP-2 (1)

SCALE: N.T.S.



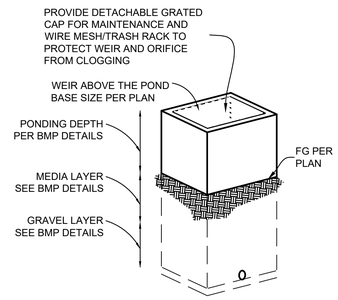
BIOFILTRATION BASIN W/ PARTIAL RETENTION DETAIL - BMP-4 & BMP-6 (4)

SCALE: N.T.S.



UNDERDRAIN ORIFICE DETAIL (2)

SCALE: N.T.S.



CATCH BASIN DETAIL (3)

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0 20 40 80

SCALE: 1" = 40'

BMP DETAILS FOR

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p 858.638.7277 waremalcomb.com

ENGINEER'S SEAL

REGISTERED PROFESSIONAL ENGINEER SAMUEL MICHAEL BELLOMIO No. 90818 CIVIL STATE OF CALIFORNIA

ENGINEER'S INFORMATION

PREPARED BY:
WARE MALCOMB
3391 SORRENTO VALLEY BLVD. SUITE 120
SAN DIEGO, CA 92121

SAMUEL BELLOMIO
R.C.E. NO. 90818
EXP. DATE: 12/31/2023

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:

CONTROL POINT NO. L-523RS, 3" BRASS DISC STAMPED "L-523RS" AT INTERSECTION OF 3RD & TIPPICANOE

ELEV = 1068.52
DATUM: NAVD88

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY: ALO

CHECKED BY: LS

RECOMMENDED BY:

CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES~PUBLIC WORKS\ENGINEERING
GRADING PLAN
FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

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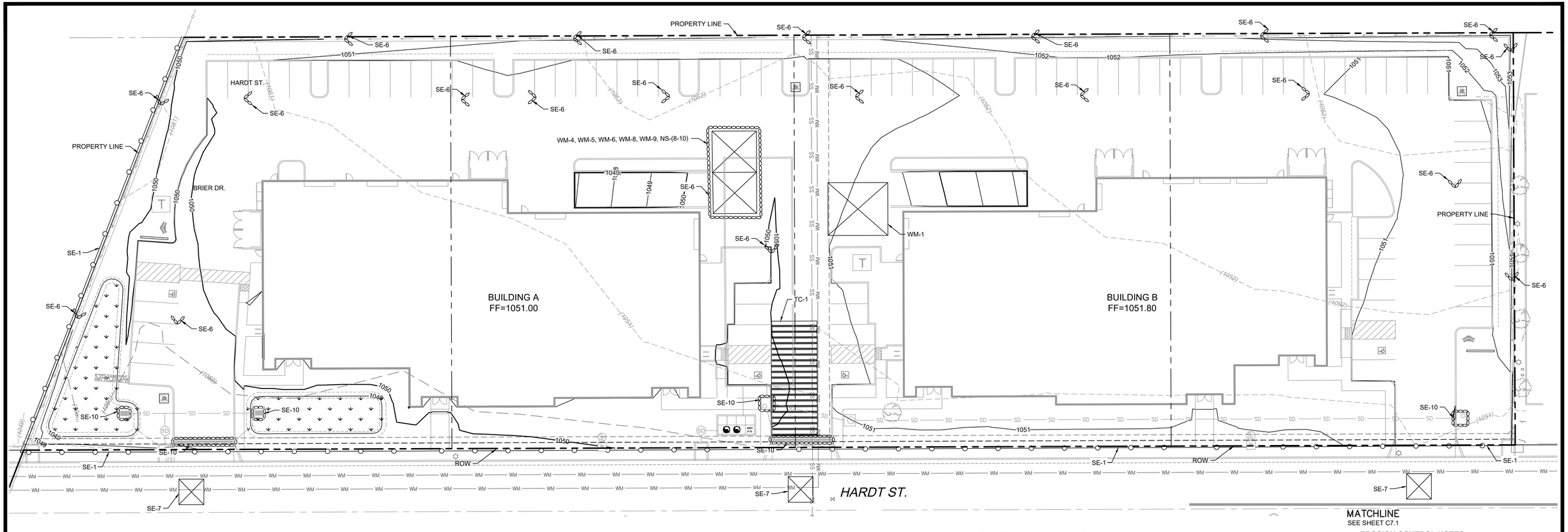
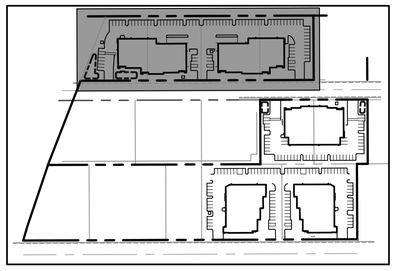
DRAWING NO. XXXX

SHEET C6.3 OF 24 SHEETS



MATCHLINE
SEE SHEET C7.1



KEY MAP
N.T.S.

CONSTRUCTION BMP LEGEND

BMP	TITLE	SYMBOL	QUANTITY
EC-1	SCHEDULING		
EC-3	BONDED FIBER MATRIX		
SE-1	SILT FENCE		848 LF
SE-6	GRAVEL BAG BERM		304 LF
SE-7	STREET SWEEPING AND VACUUMING		
SE-10	STORM DRAIN INLET PROTECTION		5 EA
TC-1	STABILIZED CONSTRUCTION ENTRANCE/EXIT		1000 SF
WE-1	WIND EROSION CONTROL		
NS-(8-10)	EQUIPMENT FUELING, CLEANING AND MAINTENANCE		
WM-1	MATERIAL DELIVERY & STORAGE		
WM-2	MATERIAL USE		
WM-3	STOCKPILE AREA		
WM-4	SPILL PREVENTION AND CONTROL		
WM-5	SOLID WASTE MANAGEMENT		
WM-6	HAZARDOUS WASTE MANAGEMENT		
WM-8	CONCRETE WASTE MANAGEMENT		
WM-9	SANITARY/SEPTIC WASTE MANAGEMENT		
	PERMANENT BMP/BIOFILTRATION BASIN/MWS		

EROSION CONTROL NOTES

1. CONTRACTOR TO INSPECT AND MAINTAIN EROSION CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION, INCLUDING INSTALLING, REPAIRING, REPLACING, RELOCATING, AND MODIFYING AS NECESSARY FOR CONSTRUCTION AND TO ENSURE THE SITE IS IN COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS.
2. ADDITIONAL EROSION CONTROL MEASURES NOT SHOWN ON THIS PLAN MAY BE NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
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5. ALL INLETS WITHIN 100' OF SITE WILL BE PROTECTED

WM

0 10 20 40
SCALE: 1" = 20'

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SAMUEL MICHAEL BELLOMIO
No. 90818
CIVIL
STATE OF CALIFORNIA

ENGINEER'S INFORMATION

PREPARED BY:
WARE MALCOMB
3391 SORRENTO VALLEY BLVD. SUITE 120
SAN DIEGO, CA 92121

SAMUEL BELLOMIO
R.C.E. NO. 90818
EXP. DATE: 12/31/2023

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:

CONTROL POINT NO. L-523RS, 3" BRASS DISC STAMPED "L-523RS" AT INTERSECTION OF 3RD & TIPPICANOE

ELEV = 1068.52
DATUM: NAVD88

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY: ALO

CHECKED BY: LS

RECOMMENDED BY:

EROSION CONTROL PLAN FOR
CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES--PUBLIC WORKS/ENGINEERING
GRADING PLAN
FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

DRAWING NO. XXXX

SHEET C7.0 OF 24 SHEETS

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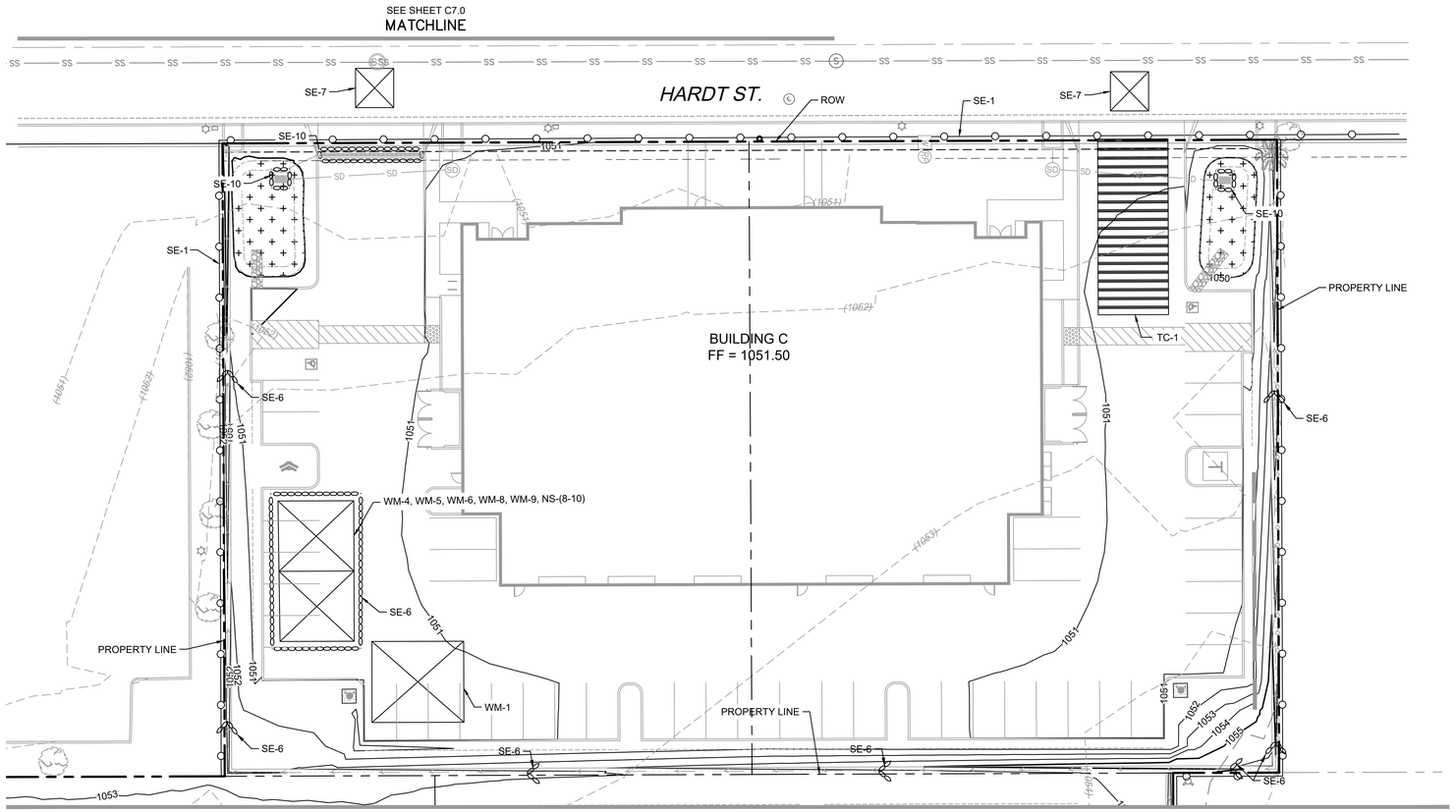

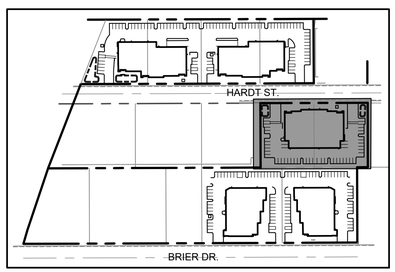

KEY MAP
N.T.S.

CONSTRUCTION BMP LEGEND

BMP	TITLE	SYMBOL	QUANTITY
EC-1	SCHEDULING		
EC-3	BONDED FIBER MATRIX		
SE-1	SILT FENCE		517 LF
SE-6	GRAVEL BAG BERM		203 LF
SE-7	STREET SWEEPING AND VACUUMING		
SE-10	STORM DRAIN INLET PROTECTION		1 EA
TC-1	STABILIZED CONSTRUCTION ENTRANCE/EXIT		1000 SF
WE-1	WIND EROSION CONTROL		
NS-3	PAVING, SEALING, SAWCUTTING & GRINDING OPERATIONS		
NS-(8-10)	EQUIPMENT FUELING, CLEANING AND MAINTENANCE		
WM-1	MATERIAL DELIVERY & STORAGE		
WM-2	MATERIAL USE		
WM-3	STOCKPILE AREA		
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WM-6	HAZARDOUS WASTE MANAGEMENT		
WM-8	CONCRETE WASTE MANAGEMENT		
WM-9	SANITARY/SEPTIC WASTE MANAGEMENT		
	PERMANENT INFILTRATION BASIN		

EROSION CONTROL NOTES

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No. 90818
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STATE OF CALIFORNIA

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SAN DIEGO, CA 92121

SAMUEL BELLOMIO
R.C.E. NO. 90818
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APPROVED _____ 2007

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REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY: ALO
CHECKED BY: LS
RECOMMENDED BY:

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CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES~PUBLIC WORKS/ENGINEERING
GRADING PLAN
FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

DRAWING NO. XXXX
SHEET C7.1 OF 24 SHEETS

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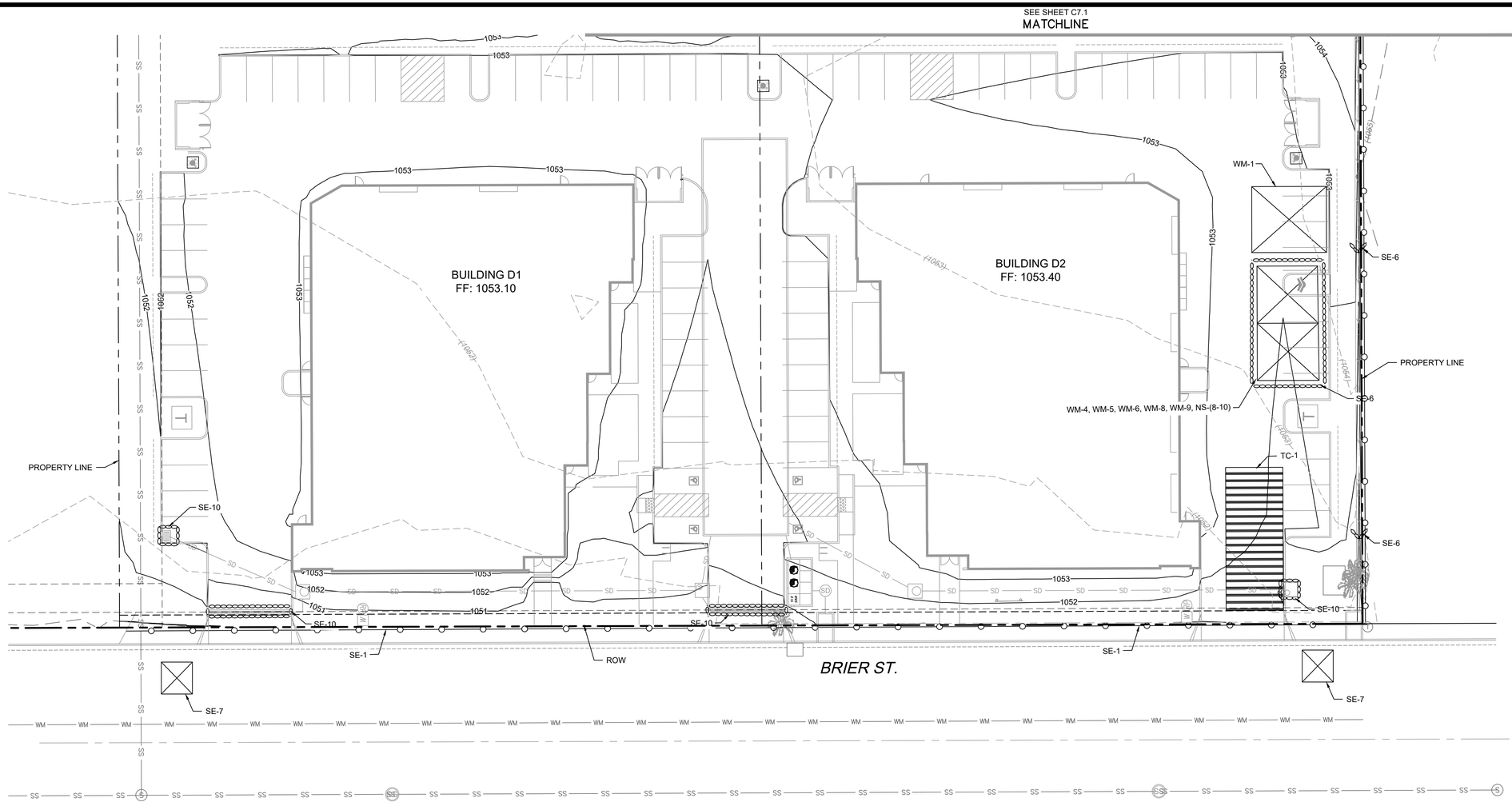

CONSTRUCTION BMP LEGEND

BMP	TITLE	SYMBOL	QUANTITY
EC-1	SCHEDULING		
EC-3	BONDED FIBER MATRIX		
SE-1	SILT FENCE		450 LF
SE-6	GRAVEL BAG BERM		158 LF
SE-7	STREET SWEEPING AND VACUUMING		
SE-10	STORM DRAIN INLET PROTECTION		1 EA
TC-1	STABILIZED CONSTRUCTION ENTRANCE/EXIT		1000 SF
WE-1	WIND EROSION CONTROL		
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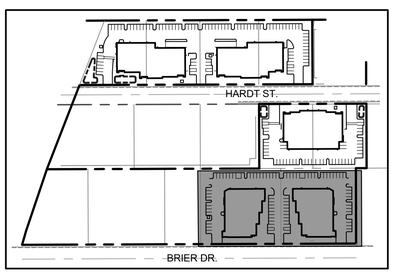

KEY MAP
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DEVELOPMENT SERVICES~PUBLIC WORKS/ENGINEERING
GRADING PLAN
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FROM
HARDT STREET TO BRIER DRIVE

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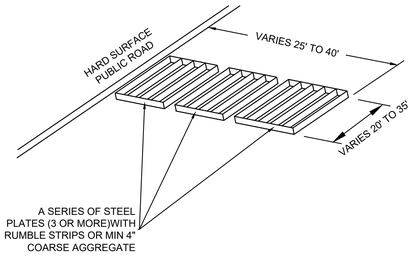
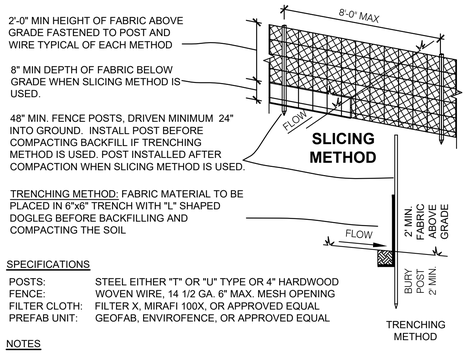


STABILIZED ENTRANCE/EXIT DETAIL — TC-1

SCALE: N.T.S.



SPECIFICATIONS

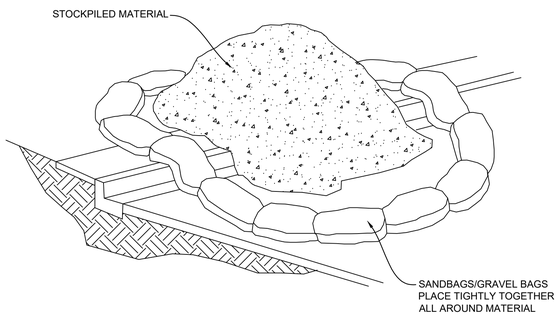
POSTS:	STEEL EITHER "T" OR "U" TYPE OR 4" HARDWOOD
FENCE:	WOVEN WIRE, 14 1/2 GA. 6" MAX. MESH OPENING
FILTER CLOTH:	FILTER X, MIRAFI 100X, OR APPROVED EQUAL
PREFAB UNIT:	GEOFAB, ENVIROFENCE, OR APPROVED EQUAL

NOTES

A. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS W/ WIRE TIES OR STAPLES.
B. FABRIC FASTENED SECURELY TO FENCE W/ TIES SPACED AT 24" AT TOP AND MID SECTION.
C. OVERLAP FABRIC BY 6 INCHES.
D. LOCATE POSTS DOWN SLOPE OF FABRIC FOR SUPPORT.
E. MAINTENANCE SHALL BE PERFORMED AFTER EACH RAINFALL AND AS NEEDED. SEDIMENT TO BE REMOVED WHEN "BULGES" DEVELOP.

SILT FENCE PER CASQA STD. SC-1 — SC-1

SCALE: N.T.S.



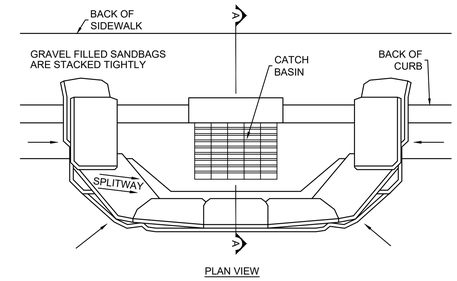
MATERIAL STORAGE

DIRT AND OTHER CONSTRUCTION RELATED MATERIALS PLACED IN THE STREET OR ON OTHER IMPERVIOUS SURFACES MUST BE CONTAINED WITH SANDBAGS OR OTHER MEASURES TO PREVENT TRANSPORT TO THE STORMDRAIN SYSTEM.

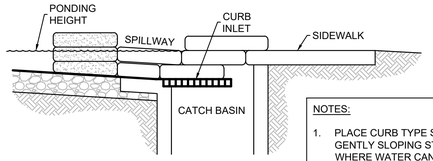
ANY CONSTRUCTION MATERIAL STORED OR STOCKPILED ON-SITE SHALL BE PROTECTED FROM BEING TRANSPORTED BY THE FORCE OF WIND OR WATER.

MATERIAL STORAGE — WM-1

SCALE: N.T.S.



PLAN VIEW



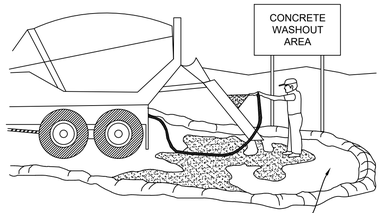
SECTION A-A

NOTES:

1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. SANDBAGS, OF EITHER BURLAP OR WOVEN GEOTEXTILE FABRIC, ARE FILLED WITH GRAVEL, LAYERED AND PACKED TIGHTLY.
3. LEAVE ONE SANDBAG GAP IN THE TOP ROW TO PROVIDE A SPILLWAY FOR OVERFLOW.
4. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

CURB INLET/CATCH BASIN SEDIMENT BARRIER — SE-10

SCALE: N.T.S.

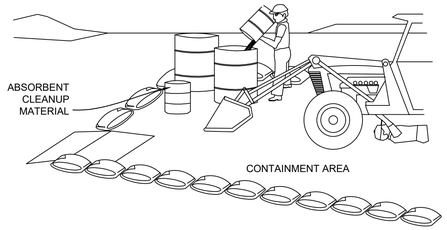


NOTES:

1. EXCESS AND WASTE CONCRETE SHALL NOT BE WASHED INTO STREET OR A DRAINAGE SYSTEM
2. FOR WASHOUT OF CONCRETE AND MORTAR PRODUCTS, A DESIGNATED CONTAINMENT FACILITY OF SUFFICIENT CAPACITY TO RETAIN LIQUID AND SOLID WASTE SHALL PROVIDED ON SITE.
3. SLURRY FROM CONCRETE AND ASPHALT SAW CUTTING SHALL BE VACUUMED OR CONTAINED, DRIED, PICKED UP AND DISPOSED OF PROPERTY.

CONCRETE WASTE MANAGEMENT — WM-8

SCALE: N.T.S.

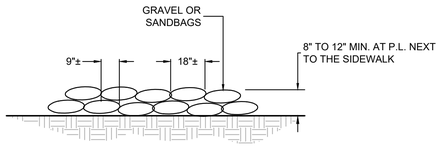


NOTES:

1. LEAKING VEHICLES AND EQUIPMENT SHALL NOT BE ALLOWED ON-SITE. EQUIPMENT AND VEHICLES SHALL BE INSPECTED FREQUENTLY FOR LEAKS AND SHALL BE REPAIRED IMMEDIATELY. CLEAN UP SPILLS AND LEAKS PROMPTLY WITH ABSORBENT; DO NOT FLUSH WITH WATER.
2. VEHICLES AND EQUIPMENT SHALL BE MAINTAINED AND REPAIRED ON-SITE ONLY IN DESIGNATED AREAS. PREVENT RUN-ON AND RUN-OFF FROM DESIGNATED AREAS.CONTAINMENT DEVICES SHALL BE PROVIDED AND AREAS SHALL BE COVERED IF NECESSARY.
3. DESIGNATE ON-SITE VEHICLE AND EQUIPMENT MAINTENANCE AREAS, WAY FROM STORM DRAIN INLETS AND WATERCOURSES.
4. ALWAYS USE SECONDARY CONTAINMENT, SUCH AS A DRAIN PAN OR DROP CLOTH, TO CATCH SPILLS AND LEAKS WHEN REMOVING OR CHANGING FLUIDS.
5. LEGALLY DISPOSE OF USED OILS, FLUIDS, AND LUBRICANTS.
6. PROVIDE SPILL CONTAINMENT DIKES OR SECONDARY CONTAINMENT AROUND STORED OIL, FUEL, AND CHEMICAL DRUMS.
7. MAINTAIN ON ADEQUATE SUPPLY OF ABSORBENT SPILL CLEANUP MATERIALS IN DESIGNATED AREA.

EQUIPMENT REPAIR & MAINTENANCE — NS-(8-10)

SCALE: N.T.S.



TWO BAG HIGH

TYPICAL GRAVEL BAGGING DETAILS — SE-6

SCALE: N.T.S.

EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL ALL EROSION CONTROL FACILITIES AS SHOWN ON THE APPROVED EROSION CONTROL PLAN OR AS DIRECTED BY THE CITY ENGINEER AT THE END OF EACH WORKING DAY:

2. THE CONTACT PERSON RESPONSIBLE FOR EROSION CONTROL IS THE OWNER INDICATED HERE: _____.
24 HOUR CONTACT TELEPHONE NUMBER:
_____.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AN EMERGENCY WORK CREW AT ALL TIMES. THE CONTRACTOR SHALL STOCKPILE THE NECESSARY EROSION CONTROL MATERIALS ON SITE TO FACILITATE RAPID INSTALLATION OF EROSION CONTROL FACILITIES.

4. THE CONTRACTOR SHALL CONSTRUCT DE-SILTING FACILITIES AS NECESSARY FOR THE DURATION OF THE PROJECT.

5. THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT RUNOFF OVER THE TOP SLOPES.

6. AFTER RAINSTORM:
   A. THE CONTRACTOR SHALL REMOVE ALL SILT, STANDING WATER, AND DEBRIS FROM EROSION CONTROL FACILITIES;

   B. THE CONTRACTOR SHALL BE RESPONSIBLE TO PREVENT PUBLIC ACCESS INTO AREAS WHERE STANDING WATER POSES A POTENTIAL HAZARD.

7. IN HIGH WIND AREA THE CONTRACTOR SHALL WATER SPRAY-GRADED AREAS ON A DAILY BASIS TO CONTROL DUST DURING WINDY PERIODS. WHEN NECESSARY, THE CONTRACTOR SHALL TAKE MEASURES TO CONTROL DUST OR WIND BLOWN DEBRIS BY INSTALLING DEBRIS FENCES, ADDITIONAL TRASH ENCLOSURE, CHEMICAL TREATMENT, GEO-MATS, ETC. THE CONTRACTOR SHALL IMPLEMENT LONG-TERM WIND EROSION CONTROL MEASURES FOR ANY AREA THAT IS NOT IMPROVED IN A TIMELY MANNER FOLLOWING GRADING. LONG-TERM WIND EROSION CONTROL MEASURES INCLUDE BUT NOT LIMITED TO: PERIMETER WALLS, WIND BARRIERS, SOILS DUST PALLIATIVES, SOIL MATS, HYDRO-SEEDING AND IRRIGATION SYSTEM.

8. THE CITY ENGINEER RESERVES THE RIGHT TO REQUIRE ALTERNATIVE OR ADDITIONAL EROSION CONTROL FACILITIES, AS HE DEEMS
NECESSARY.

WM

0 20 40 80
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CIVIL
STATE OF CALIFORNIA

ENGINEER'S INFORMATION

PREPARED BY:
WARE MALCOMB
3391 SORRENTO VALLEY BLVD. SUITE 120
SAN DIEGO, CA 92121

SAMUEL BELLOMIO
R.C.E. NO. 90818
EXP. DATE: 12/31/2023

MARK	REVISIONS	BY	APPR.	DATE

BENCHMARK:

CONTROL POINT NO. L-523RS, 3" BRASS DISC STAMPED "L-523RS" AT INTERSECTION OF 3RD & TIPPICANOE

ELEV = 1068.52
DATUM: NAVD88

APPROVED _____ 2007

SENIOR CIVIL ENGINEER _____
REGISTERED CIVIL ENGINEER NO. _____

DRAWN BY: ALO

CHECKED BY: LS

RECOMMENDED BY:

EROSION CONTROL DETAILS FOR

CITY OF SAN BERNARDINO
DEVELOPMENT SERVICES--PUBLIC WORKS/ENGINEERING

GRADING PLAN
FOR
HARDT & BRIER BUSINESS PARK
FROM
HARDT STREET TO BRIER DRIVE

FOR CITY USE ONLY: FILE NO. W.O. NO.

DRAWING NO. XXXX

SHEET C7.3 OF 24 SHEETS