PRELIMINARY DRAINAGE STUDY

100 W Sinclair St
APN # 3030-800-13, 15
Perris, Riverside County, California
September 19, 2022

Prepared for:

First Industrial Realty Trust Inc.
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310-606-1634 ph.

Report Prepared By:

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Murrieta, CA 92563

Engineer of Work/ Contact Person:
Francisco Martinez Jr., PE, QSD

This report has been prepared by or under the direction of the following registered civil engineer who attests to the technical information contained herein. The registered civil engineer has also judged the qualifications of any technical specialists providing engineering data upon which recommendations, conclusions, and decisions are based.

Francisco Martinez RCE Registered Civil Engineer	09/19/2022 Date	Seal

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FIGURES

APPENDICES

I. PURPOSE AND SCOPE

The purpose of this study is to determine the necessary drainage and increased runoff mitigation improvements required for the proposed industrial development project referred as First Industrial Sinclair, located at 100 W. Sinclair Street, Perris CA.

The scope of the preliminary study includes the following:

1. Determination of points of flow concentration and watershed subareas for onsite and offsite areas.
2. Determination of the onsite 100-year peak storm flows based upon the post-project onsite and existing condition offsite areas utilizing the Rational Method as outlined in the Riverside County Flood Control & Conservation District Manual (ref 1).
3. Determine the onsite 100-year peak storm flows based upon the post-project condition for the 1, 3, 6, & 24-hour storm duration utilizing the Unit Hydrograph Method as outlined in the Riverside County Flood Control & Water Conservation District Hydrology Manual.
4. Determine the required facilities to mitigate the onsite 100-year peak storm flows to levels that are equal or less than the existing condition flow rates and levels that do not exceed the hydraulic capacity of the existing storm drainpipe outlet (30″x19″ arch RCP).
5. Determine the required storm drain infrastructure to flood protect the project site for the 100-year storm event.
6. Preparation of a hydrology report, which consist of hydrological and analytical results and exhibits.

II. PROJECT SITE AND DRAINAGE AREA OVERVIEW

The proposed development project is comprised of two parcels with a total of 19.56 acres that currently contain two separate buildings and improvements with commercial and light industrial uses. The property will be demolished, and a parcel merger will be processed for the new development proposed as an industrial/distribution warehouse facility comprised of a single building with 427,224 square feet, 70 trailer docks, as well as trailer and auto parking, landscaped areas, storm drain infrastructure that which include dual subsurface chamber system and two bioretention basins.

The parcels are bounded by Sinclair St to the south, a vacant parcel and Perris Ave to the east, and to the north a vacant parcel and Morgan St, to the west there is an existing warehouse facility (see Figure 1). The property at 100 W. Sinclair Street is 13.66 acres (Parcel 1) with an existing 150,000 square-feet light industrial building, concrete and asphalt pavements, and minor landscaped areas. The property at 200 Sinclair Street is 5.9 acres (Parcel 2) currently operating as recycling facility with approximately 48,000 square feet building with asphalt pavement throughout and minor landscaped areas.

The existing topography for the two parcels is relatively flat and generally drains towards the east via surface improvements. In parcel 1 there are no visible onsite storm drain improvements except for an existing headwall with a single 30”x19” arch pipe that serves as an outlet to both parcels 1 and 2.

Per City record drawings, the arch pipe was designed to convey a 100-year frequency storm event flow rate of **21-cfs**, and using the parking lot to pond a maximum depth of 3-feet, which is to the top of the existing headwall of the outlet arch pipe. The outlet pipe is located near the mid-section of the easterly property line. It extends to the east across the adjoining vacant parcel for approximately 280 feet; and constructed as part of the Precise Grading plan improvements on record per City of Perris DPR no. 99-0174 and file no. P-190 (See Appendix E).

There are two drainage patterns on Parcel 2 under the existing developed conditions. The sub area to the north of approximately 2.3 acres drains on the surface in a north and east direction. Storm flows are intercepted by curb and gutter improvements along the north and east of the property and directed to a sump drop inlet and into a dual Maxwell IV drywell system located on the northeast corner within the auto parking stalls. It appears that the sump inlets and drywells are intended for water quality mitigation, therefore when storm flows exceed the capacity of the inlets, ponding would occur but eventually storm water will overtop the sump and flows would "run-on" into Parcel 1 across the parking lot towards the headwall and outlet pipe located at the low point.

The sub area to the south drains via the surface to south and to the east; roughly 2 acres drains to a trench drain at the easterly driveway, where they are directed to a second set of Maxwell IV drywell system, also assumed to be used for water quality mitigation and any excess flow (beyond the capacity of the trench drain) will be picked up and conveyed easterly by Sinclair Street (Private) via curb, and gutter improvements. Storm water developed from a small area to the west parking lot drains directly to the south towards Sinclair and appears that it is without any water quality mitigation; once on Sinclair storm flows travel east via curb and gutter improvements, and enter Parcel 1, where flows continue east until it reaches a midblock cross gutter, then they are directed to the north through Parcel 1's parking lot and to the outlet pipe located at the low point.

Therefore, for the purposes of this study, it is assumed that the existing developed design flows (e.g., 100-year) from Parcel 2 are not contained and is tributary to the existing single 30"x19" outlet arch pipe. The storm water flows developed from the existing parcels are released into an open depressed concrete apron and collected by an existing headwall with a battery of (5) 28"x18" Corrugated Metal Pipe Arch (CMPA) that cross under Perris Boulevard as shown in the storm drain Line D improvement plans, sheet 9 of 10 with city file No. P8-1027. Storm flows continue easterly and discharged to Riverside County Flood Control District's (RCFCD) Perris Valley Master Drainage Plan (MDP) Lateral "G-2"; which connects to the San Jacinto River and ultimately to Lake Elsinore Basin.

In the new proposed developed conditions, mitigated storm flows will be directed to the existing outlet pipe, mimicking the current conditions and mitigate runoff for the 100-year event to levels that are "at or below" the current conditions; and that it does not exceed the design flow rate of the existing outlet pipe.

III. HYDROLOGY

The Riverside County Flood Control and Water Conservation District Hydrology Manual (Reference 1) was used to develop the hydrological parameters for the hydrology analyses. The rational method was used for the analyses and the computations were performed using the computer program developed by Civil CADD/Civil Design.

The intensity (in/hour) for the 10-year and 100-year storm frequency and the 10-minute and 60-minute duration was obtained using Plates D-4.3-4 and E-5.1-6 of the Hydrology Manual and summarized in the table below; a copy of the district's table is included in this report in Appendix E.

Rainfall Intensity Table:

Storm Event & Duration	Rainfall (inches)
2-Year, 1-Hour	0.47
100-Year, 1-Hour	1.23
2-Year, 3-Hour	0.80
100-Year, 3-Hour	1.88
2-Year, 6-Hour	1.03
100-Year, 6-Hour	2.50
2-Year, 24-Hour	1.70
100-Year, 24-Hour	4.38

The project site is underlain by A and C type soils, as show in the Onsite Hydrologic Soil Unit Exhibit (Figure 4); this GIS exhibit is based on the U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey. A Web Soil map was generated for the project site and included in Appendix E.

For all storm events, Antecedent Moisture Condition (AMC) II shall be utilized.

The hydrology utilized the following land use covers:

Land Use Cover	Runoff Index Number (Soil "A")	Pervious Ratio
Commercial	32	0.1

The existing and proposed project condition analyzed the watershed areas as commercial. The rational method analysis used a single watershed area designated as "A" with numerical sub-designations.

Rational Method Analyses

The existing and proposed project rational method hydrology calculations have been included in Appendix A and B. The existing project rational method hydrology map has been included as Figure 2, the proposed project rational method hydrology map as Figure 3.

Here below is a summary flow rate table between existing and proposed conditions:

TABLE 2. RATIONAL METHOD - ONSITE (Q_{10} YEAR, 1-HOUR)			
WATERSHED	EXISTING Q_{10} (cfs)	PROPOSED Q_{10} (cfs)	DELTA Q_{10}
A	27.4	28.3	0.9

TABLE 1. RATIONAL METHOD - ONSITE (Q_{100} YEAR, 1-HOUR)			
WATERSHED	EXISTING Q_{100} (cfs)	PROPOSED Q_{100} (cfs)	DELTA Q_{100}
A	43.8	45.3	1.5

Unit Hydrograph Analyses

To determine the increased runoff mitigation required for the project, a Unit Hydrograph calculation was performed using a lag time that was calculated using the longest water course, the upstream length of the longest water course to the centroid and the difference in elevation between the highest and lowest point on the proposed hydrology map.

The post project condition was calculated perviousness was calculated using a unit area method to determine the average perviousness for each sub area.

The following tables summarize the unit hydrograph calculations:

TABLE 3. UNIT HYDROGRAPH ANALYSIS			
WATERSHED	STORM EVENT	PROPOSED PEAK Q (cfs)	PROPOSED TOTAL VOLUME (Acres)
A	100 YEAR, 1 HR	50.11	1.79
	100 YEAR, 3 HR	28.48	2.60
	100 YEAR, 6 HR	23.88	3.41
	100 YEAR, 24 HR	9.54	5.85

IV. HYDRAULICS

The project will utilize a combination of inlets, subsurface storm drain system, above ground retention basins, underground retention and detention chambers, and storm water lift station to collect, convey, mitigate water quality and the design peak flows, including draining the detention chambers and safely discharging storm water flows from the project site without exceeding the existing conditions.

All onsite storm water will be collected via a combination of on an onsite storm drain system and two (2) above ground bio filtration basins. Flows that are collected by the storm drainpipe system will be directed to an underground bio-retention chamber system that will be used for water quality mitigation. A CDS unit will be installed upstream of the underground bio-retention chambers and serve for pretreatment, but also to help by-pass larger storm events that will be directed to a separate underground detention chamber system. This detention chamber system will be sized to help mitigate the increase storm water runoff for the 100-year event to levels that are “at or below” the current conditions; and that it does not exceed the design flow rate of the existing outlet pipe. Lastly, due to physical constraints and the depth of the underground chambers the project will

require the use of a storm water lift station to be able to drain the underground detention chambers. The pump will be sized such that the underground detention chambers are drained within 48-hours but no more than 72-hours. It is currently anticipated that this flow rate will not exceed 1-cfs (450 gpm).

The two (2) above ground bio-filtration basins will collect and treat surface flows. They are designed with a maximum 6-inch ponding depth, and excess flows above the pond depth will enter the outlet structure and directed to the underground detention chamber system. Two separate underground pipe chamber systems are proposed; one system is a retention chamber for water quality mitigation and second system is a retention chamber for stormwater mitigation.

Both chamber systems are connected with a pipe and a manhole/weir structure. The weir in the vault structure is set to meet the elevation of the required water quality design capture volume (DCV); and once water rises beyond the DCV elevation it will overtop the weir and flow into the detention chamber. The DCV elevation in the retention chamber is 1451.87. The underground detention basin chambers are connected to a storm water lift station that will pump flows to a 6-inch force drain line; this line will extend and connect to an onsite manhole and a 24-inch gravity storm drain line that connects to the existing outlet arch pipe.

A WSPG analysis was done for the outlet pipe and determined that the max flow rate that the existing arch RCP outlet pipe can convey is **21.5**-cfs. Onsite street capacity calculations (See Appendix D) were also provided for sections D-D, E-E, F-F, G-G, H-H and I-I. These sections can be found on the conceptual grading plans (Figure 6). The assumption made was when the system failed the emergency overflow will be Sinclair St.

V. WATER QUALITY & INCREASED RUNOFF MITIGATION

As described under the Hydraulics section, to mitigate for water quality the project proposes to use two (2) above ground bio-filtration basins and one (1) underground bio-retention chamber system. A CDS unit will be installed upstream of the underground bio-retention chambers and serve for pretreatment. The above ground bio-filtration basins will collect and treat surface flows. They are designed with a maximum 6-inch ponding depth; excess flows above the pond depth will enter the outlet structure and directed to the underground detention chamber system.

The water quality calculations and discussion have been provided in the Water Quality Management Plan. The required water quality volume (DCV) for the project site is **185,130 ft^3 (0.84 acre-ft)**. The bio-filtration basins are providing **0.24 acre-ft** of storage, and **0.60 acre-feet** will be provided in the underground bio-retention chamber system. The calculation for the Design Capture Volume (DCV) has been included in Appendix E.

Infiltration testing was performed within the proposed basin location. The area in the proposed detention system provides a rate of approximately **3.1 in/hr**, which an average based on the recommendations from the geotechnical report, and after applying a safety factor in accordance with the technical guidance manual, the design infiltration rate is calculated to be **1.03 in/hr**, this rate was utilized in the design of the chamber system.

For increase storm water mitigation, the project will use an underground detention chamber system sized to mitigate the increase storm water runoff for the 100-year event for the 1, 3, 6 and 24-hour

storm duration to levels that are "at or below" the current conditions; and that it does not exceed the design flow rate of the existing outlet arch pipe, whichever is lower. In this case, the design flow rate for the existing conditions is the lower flow rate at **21-cfs**. However, a WSPG analysis was performed for the existing arch pipe and results show that the arch pipe can convey a maximum of **21.5 cfs** (vs. 21-cfs) and it is being referred in this report as the maximum allowable flow rate.

However, a storm water lift station will be required to drain the detention system due to the existing outlet pipe being at a shallow depth compared to the onsite storm drain system. The pump will be sized such that the underground detention chambers are drained within 48-hours but no more than 72-hours. It is currently anticipated that this flow rate will not exceed 1-cfs (450 gpm), and below the maximum allowable flow rate.

Furthermore, to assure that there is enough storage to mitigate the 100-year frequency storm event, we used the results from the Unit Hydrograph analysis for each of the storm durations and compared them to determine which storm events had flow rates above the **21.5-cfs** (maximum allowable) but with larger storm volume demand. In this case, the **100-year 6-hour storm** is the critical storm that was selected.

From the recess limb of the proposed condition 100-year, 6-hour storm event, the flow rate that is equal or less than the "maximum allowable discharge" of 21.5-cfs is 14.54 cfs and producing a storm water volume for this flow rate of 3.21 ac-ft and a total storm volume of 3.41 ac-ft. The volume of the underground detention chamber is 3.46 ac-ft and will capture 100% of the total storm thus a conservative approach, knowing that increase flow mitigation will be provided.

Stormwater mitigation information for watershed "A" can be seen in the table 4 provided below:

Table 4. UNIT HYDROGRAPH VOLUME ANALYSIS

WATERSHED AREA	100 YEAR STORM DURATION (hrs)	PROPOSED PEAK Q (cfs)	PROPOSED TOTAL STORM VOLUME (AF)	*MAXIMUM ALLOWABLE DISCHARGE (cfs)	MINIMUM REQUIRED DETENTION (AF)	MAXIMUM ALLOWABLE DISCHARGE (cfs)	**PROPSOED LIFT STATION DISCHARGE (cfs)	U/G RETENETION VOLUME (AF)	STORM CAPTURE
A	1	50.11	1.79	18.10	1.62	21.50	1.00	3.46	100%
	3	28.48	2.60	14.26	2.39				100%
	6	23.88	3.41	14.87	3.21				100%
	24	9.54	5.85	-	-				59%

For the 100-year, 24-hour storm, the peak flow rate is 9.54 cfs and less than the maximum allowable of 21.5-cfs, therefore flow mitigation is not required. However, the storm volume produced at the peak flow rate is 3.79 ac-ft and total storm volume is 5.85 ac-ft which both exceed the volume provided by the underground detention chamber.

The maximum pond depth in the parking lot at the lowest point is 1.5-feet (18"), the elevation is 1659.46' and located at the mid-section of the southwest bio-filtration basin. The volume provided in the trailer parking lot based is 0.29 ac-ft, the combined total volume between parking lot and underground detention chamber is 3.75 ac-ft, and less than total storm volume produced of 5.85 ac-ft.

This will result in storm water bubbling out of the drop inlet structures at a peak flow rate of 9.54 cfs, ponding in the trailer parking lot up to a depth of 1460.99', this is the high point on Sinclair private drive, then storm water will overtop and flow easterly using Sinclair Street as an emergency overflow and ultimately flowing towards Perris Boulevard.

VI. FINDINGS

The hydrology analyses evaluated the proposed development to determine the necessary drainage improvements required to mitigate flows for increased runoff. It has been concluded that:

1. Storm water attenuation/mitigation is provided.

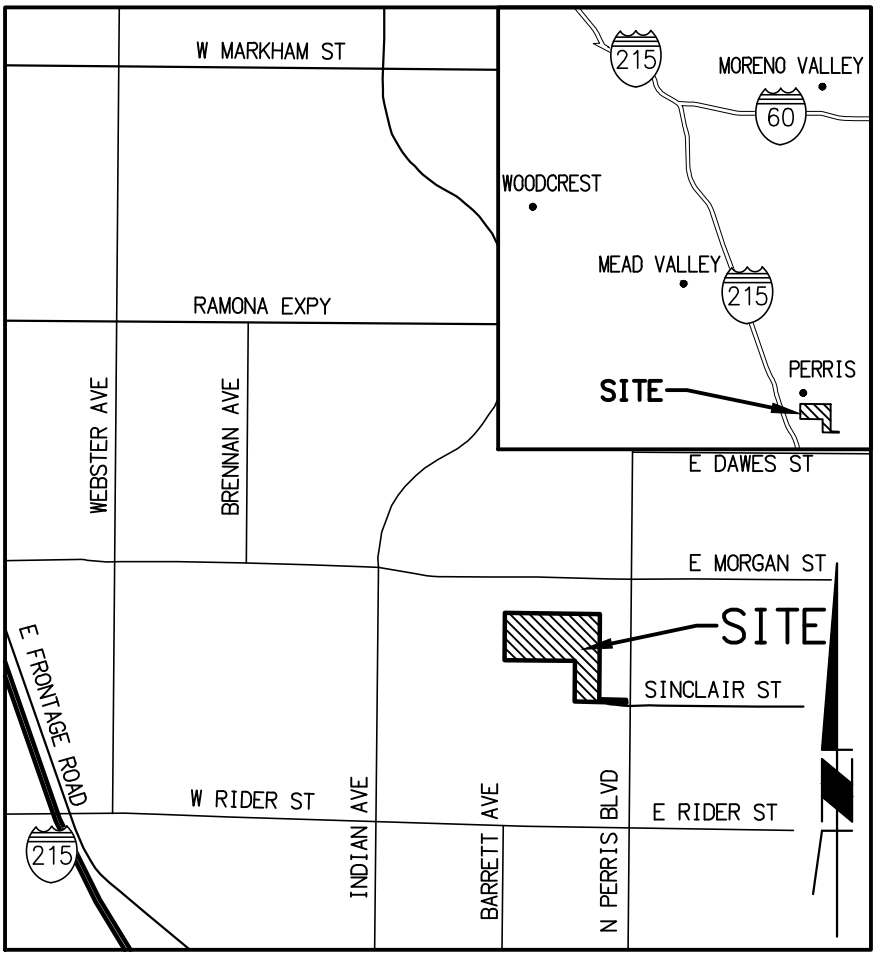
2. The proposed bio-filtration basins and bio-retention "infiltration type" subsurface system will adequately mitigate for water quality.

3. The proposed drainage facilities will adequately convey the 100-year flows and provide flood protection to the project site.

VII. REFERENCES

1. Riverside County Rational Method from RCFC & WCD Hydrology Manual, dated April 1978
2. CIVILDESIGN Engineering Software, 1989-2014; Riverside County Rational Method Module, version 9.0.

FIGURE 1:
VICINITY MAP



VICINITY MAP

NOT TO SCALE

FMCIVIL ENGINEERS INC.
29995 TECHNOLOGY DRIVE, SUITE 306 | MURRIETA | CA 92563
951.331.9873 - FMCIVIL.COM

100 W SINCLAIR ST

FIGURE 1
VICINITY MAP

H:\PDATA\22-004 SINCLAIR PERRIS\DOCS\HYDRO\1. PRELIMINARY\CAD\22-004-VICINITY-MAP.DWG DANIEL 4/5/2022 9:53 AM

FIGURE 2:
EXISTING CONDITION HYDROLOGY MAP

16
1460.2
Q_{100}=3.9 cfs

APN 3030-800-07

L=1048'

L=392'

A8
1.29

A9
4.68

APN 3030-800-17

RCFCD PERRIS VALLEY
MDP LATERAL "G-2"

(5) EX. 28"x18" CMPA
SD PIPE PER THE CITY
OF PERRIS FILE NO.
P8-1027

13
1464.3

APN
3030-800-15

APN 3030-800-19

A5
4.10

17
1455.2
Q_{100}=43.8 cfs

EX. 30"x19" ARCH RCP
PER THE CITY OF PERRIS
FILE NO. P-190

14
1458.4
Q_{100}=16.6 cfs

L=779'

L=402'

A7
1.66

EX. SD INLET

EX. SD INLET

EX. SD INLET

EX. DRY WELLS

A6
2.39

APN
3030-800-13

L=637'

APN 3030-800-18

A4
1.82

PERRIS BLVD

A2
2.66

EX. DRY WELLS

10
1463.7

L=495'

L=191'

APN 3030-800-12

SINCLAIR ST

A1
0.59

11
1459.9
Q_{100}=9.2 cfs

A3
0.30

12
1459.1
Q_{100}=9.9 cfs

LEGEND

D-2
2.16
DRAINAGE BASIN NAME
DRAINAGE BASIN AREA(AC.)

11
1027.0
NODE I.D.
ELEVATION

WATERSHED BOUNDARY

SUB-WATERSHED BOUNDARY

FLOW DIRECTION

NAP - AREA IS PICKED
UP BY SD INLETS

SCALE 1"=120'

120 60 0 120 240 360

SCALE: 1"=120'

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100 W SINCLAIR ST

EXISTING CONDITION HYDROLOGY MAP

FIGURE 3:
PROPOSED CONDITION HYDROLOGY MAP

APN 3030-800-07

APN 3030-800-19

APN 3030-800-15

APN 3030-800-13

APN 3030-800-17

APN 3030-800-18

APN 3030-800-12

PERRIS BLVD

SINCLAIR ST

11
1461.5
1457.5
Q_{100}=8.9 cfs

12
1456.4
Q_{100}=13.0 cfs

13
1455.4
Q_{100}=18.3 cfs

13.1
1462.0

10
1465.4

14.1
1462.6

13.2
1460.7
1457.2
Q_{100}=2.7 cfs

14
1453.5
Q_{100}=20.4 cfs

14.2
1460.6
1452.1
Q_{100}=1.8 cfs

15
1452.0
Q_{100}=21.5 cfs

16
1450.4
Q_{100}=26.0 cfs

16.2
1458.5
1450.5
Q_{100}=1.2 cfs

17
1450.0
Q_{100}=26.8 cfs

16.1
1464.7

17.1
1457.8
Q_{100}=14.7 cfs

18
1448.9
Q_{100}=45.3 cfs

A1
3.45

A2
1.63

A3
2.14

A4
0.89

A5
0.51

A6
2.00

A7
0.37

A8
2.86

A9
5.71

L=654'
L=209'
L=208'
L=268'
L=342'
L=19'
L=325'
L=207'
L=834'
L=94'
L=227'
L=307'
L=92'
L=19'
L=325'

PROP INLET #1
PROP INLET #2
PROP INLET #3
PROP INLET #4
PROP INLET #5
PROP INLET #6
PROP INLET #7
PROP INLET #8
PROP INLET #9
PROP INLET #10

SD PIPE #1
SD PIPE #2
SD PIPE #3
SD PIPE #4
SD PIPE #5
SD PIPE #6
SD PIPE #7
SD PIPE #8
SD PIPE #9
SD PIPE #10
SD PIPE #11

OUTLET PIPE

STORM WATER MITIGATION
UNDERGROUND CHAMBER SYSTEM

OUTLET CONTROL
WEIR STRUCTURE

WATER QUALITY UNDERGROUND
CHAMBER SYSTEM

RCFCD PERRIS VALLEY
MDP LATERAL "G-2"

(5) EX. 28"x18" CMPA
SD PIPE PER THE CITY
OF PERRIS FILE NO.
P8-1027

EX. 30"x19" ARCH RCP
PER THE CITY OF PERRIS
FILE NO. P-190

LEGEND

D-2
2.16
DRAINAGE BASIN NAME
DRAINAGE BASIN AREA(AC.)

11
1027.0
NODE I.D.
ELEVATION

WATERSHED BOUNDARY

SUB-WATERSHED BOUNDARY

FLOW DIRECTION

NAP - AREA IS PICKED
UP BY SD INLETS

SCALE 1"=120'

120 60 0 120 240 360

SCALE: 1"=120'

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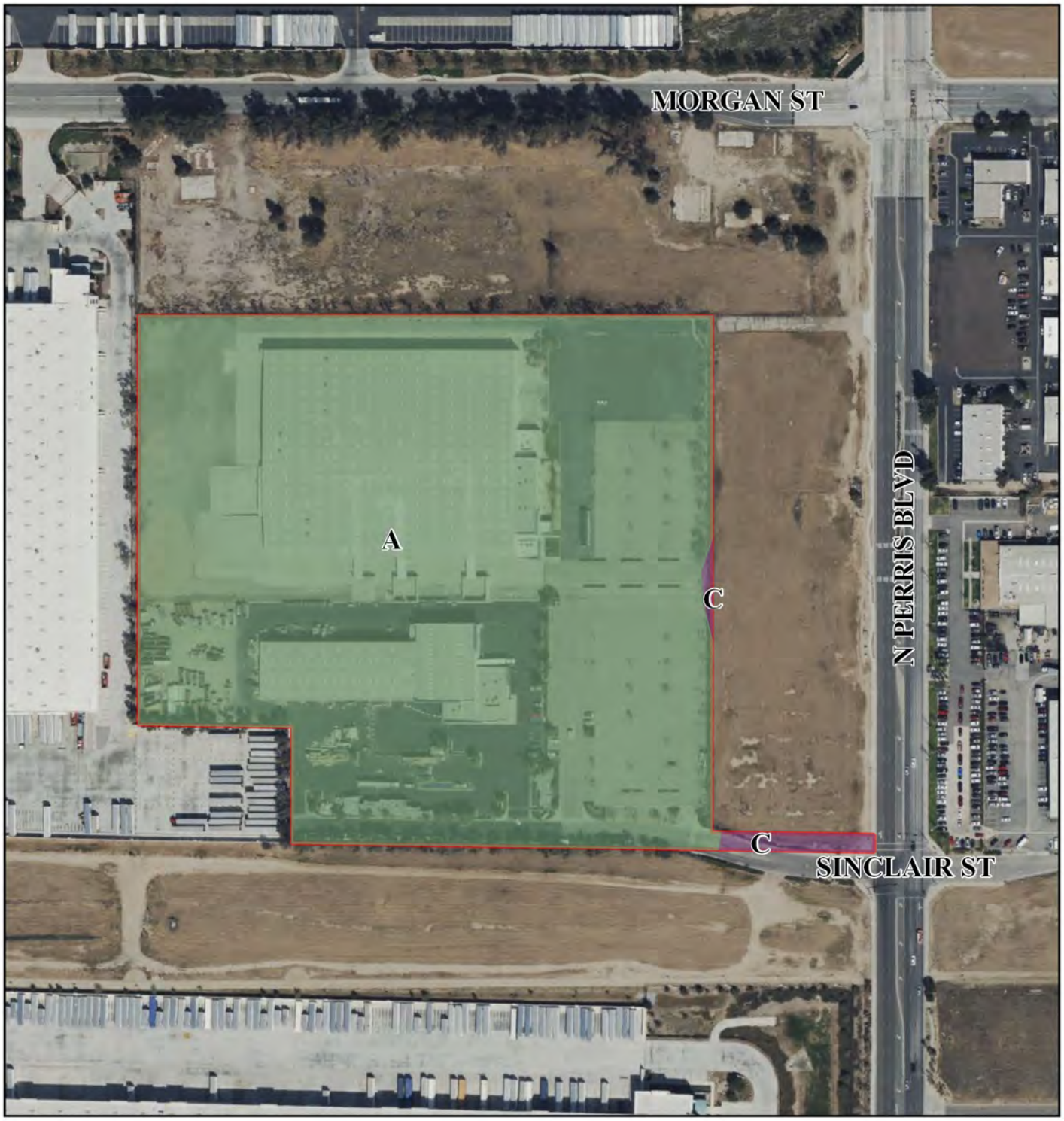
100 W SINCLAIR ST

PROPOSED CONDITION HYDROLOGY MAP

FIGURE 4:
ONSITE HYDROLOGICAL SOIL UNIT EXHIBIT



Planning Application No.

APPLICANT / LANDOWNER:
FIRST INDUSTRIAL REALTY TRUST, INC.
ONE NORTH WACKER DRIVE, SUITE 4200, CHICAGO ILLINOIS 60606
(312) 344-4300

HYDROLOGIC SOIL GROUP

- A
- C
- PROJECT BOUNDARY

0 300 600 ft

FMCIVIL ENGINEERS INC.

Source: USDA Web Soil Survey

100 W Sinclair Street

Onsite Hydrologic Soil Unit Exhibit

FIGURE 5:
HYDROLOGICAL SOIL UNIT EXHIBIT (DRAINAGE AREA)

Planning Application No.

APPLICANT / LANDOWNER:
FIRST INDUSTRIAL REALTY TRUST, INC.
ONE NORTH WACKER DRIVE, SUITE 4200, CHICAGO ILLINOIS 60606
(312) 344-4300

HYDROLOGIC SOIL GROUP

- A
- C
- Drainage Boundary

0 300 600 ft

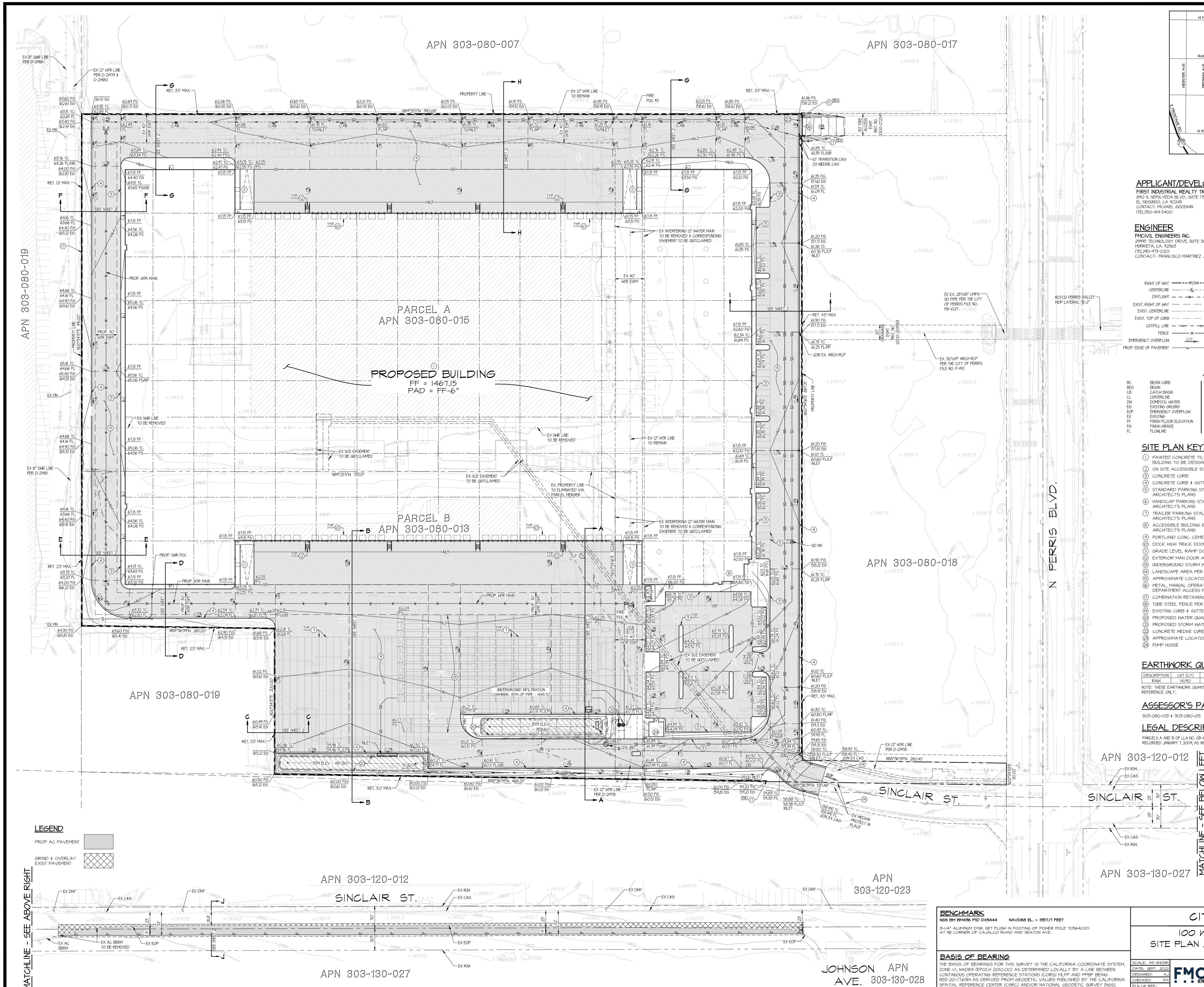
FMCIVIL ENGINEERS INC.

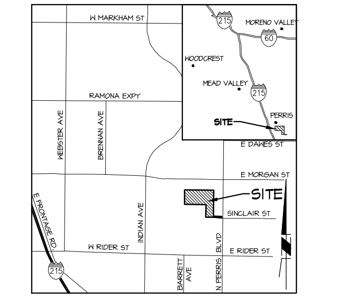
Source: USDA Web Soil Survey

100 W Sinclair Street

Onsite Hydrologic Soil Unit Exhibit

FIGURE 6:
CONCEPTUAL GRADING





VICINITY MAP

NOT TO SCALE

APPLICANT/DEVELOPER

FIRST INDUSTRIAL REALTY TRUST INC.
890 N. SEPULVEDA BLVD., SUITE 175
EL SEGUNDO, CA 90245
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(TEL)310-414-5400

ARCHITECT

HPA ARCHITECTURE
18831 BARDEEN AVE., SUITE #100
IRVINE, CA 92612
CONTACT: STEVE HONG
(TEL)949-863-1770

ENGINEER

FMCIVIL ENGINEERS INC.
29995 TECHNOLOGY DRIVE, SUITE 306
MURRIETA, CA. 92563
(TEL)951-973-0201
CONTACT: FRANCISCO MARTINEZ JR., P.E.

SOURCE OF TOPOGRAPHY

INLAND AERIAL SURVEYS, INC.
7117 ARLINGTON AVE., SUITE A
RIVERSIDE, CA 92503
(TEL)951-687-4252
COMPILED FROM AERIAL DATED: 01-27-22

LEGEND

RIGHT OF WAY	ROW	PROPOSED CONTOUR	830
CENTERLINE	℄	EXIST. CONTOUR	(830)
DAYLIGHT		RIDGE LINE	R/L
EXIST. RIGHT OF WAY		PROPOSED WATER LINE	W
EXIST. CENTERLINE		PROPOSED SEWER LINE	S
EXIST. TOP OF CURB		PROPOSED STORM DRAIN	SD
CUT/FILL LINE		EXIST. DOMESTIC WATER	W
FENCE	X	EXIST. SEWER LINE	S
EMERGENCY OVERFLOW	EOF	EXIST. STORM DRAIN	SD
PROP. EDGE OF PAVEMENT		EXIST. ELECTRIC	E
		EXIST. OVERHEAD LINES	OHL

ABBREVIATIONS

BC	BEGIN CURB	FS	FINISH SURFACE	RW	RECYCLE WATER
BEG	BEGIN	GB	GRADE BREAK	ROW, R/W	RIGHT-OF-WAY
CB	CATCH BASIN	HP	HIGH POINT	SD	STORM DRAIN
CL	CENTERLINE	INST	INSTRUMENT	SS	SANITARY SEWER
DW	DOMESTIC WATER	INV	INVERT	TC	TOP OF CURB
EG	EXISTING GROUND	NO	NUMBER	TF	TOP OF FOOTING
EOF	EMERGENCY OVERFLOW	PAD	PAD ELEVATION	TG	TOP OF GRATE
EX	EXISTING	PVMT	PAVEMENT	TW	TOP OF WALL
FF	FINISH FLOOR ELEVATION	PL	PROPERTY LINE	TYP	TYPICAL
FG	FINISH GRADE	PROP	PROPOSED	VAR	VARIES
FL	FLOWLINE	RL, R/L	RIDGE LINE		

SITE PLAN KEYNOTES

1. PAINTED CONCRETE TILT-UP WAREHOUSE / OFFICE / MANUFACTURING FACILITY. BUILDING TO BE DESIGNED PER ARCHITECT'S PLANS
2. ON SITE ACCESSIBLE SIDEWALK AND CURB RAMPS.
3. CONCRETE CURB
4. CONCRETE CURB & GUTTER
5. STANDARD PARKING STALL MIN. 9' X 19' - STRIPE PER STANDARDS SHOWN ON ARCHITECT'S PLANS
6. HANDICAP PARKING STALL MIN. 9' X 19' - STRIPE PER STANDARDS SHOWN ON ARCHITECT'S PLANS
7. TRAILER PARKING STALL MIN. 10' X 53' - STRIPE PER STANDARDS SHOWN ON ARCHITECT'S PLANS
8. ACCESSIBLE BUILDING ENTRY WITH ADJACENT BICYCLE RACKS PER ARCHITECT'S PLANS
9. PORTLAND CONC. CEMENT (PCC) PAVED TRUCK YARD ARCHITECT'S PLANS
10. DOCK HIGH TRUCK DOOR PER ARCHITECT'S PLANS
11. GRADE LEVEL RAMP DOOR PER ARCHITECT'S PLANS
12. EXTERIOR MAN DOOR AND STAIRS W/GUARD POST PER ARCHITECT'S PLANS
13. UNDERGROUND STORM WATER CHAMBER SYSTEM
14. LANDSCAPE AREA PER LANDSCAPE ARCHITECT'S PLANS
15. APPROXIMATE LOCATION OF TRASH ENCLOSURE PER ARCHITECT'S PLANS
16. METAL, MANUAL OPERATED SECURITY GATE WITH KNOX-PAD LOCK FOR FIRE DEPARTMENT ACCESS PER ARCHITECT'S PLANS
17. COMBINATION RETAINING WALL & TUBE STEEL FENCE PER ARCHITECT'S PLANS
18. TUBE STEEL FENCE PER ARCHITECT'S PLANS
19. EXISTING CURB & GUTTER, PROTECT IN PLACE
20. PROPOSED WATER QUALITY BIO-RETENTION BASIN
21. PROPOSED STORM WATER LIFT STATION
22. CONCRETE WEDGE CURB & GUTTER
23. APPROXIMATE LOCATION OF TRASH ENCLOSURE PER ARCHITECT'S PLANS
24. PUMP HOUSE

EARTHWORK QUANTITIES

DESCRIPTION	CUT (CY)	FILL (CY)	NET (CY)
RAW	14,190	121,160	106,970 (IMPORT)

NOTE: THESE EARTHWORK QUANTITIES ARE RAW AND FOR REFERENCE ONLY.

ASSESSOR'S PARCEL NUMBERS

303-080-013 & 303-080-015

LEGAL DESCRIPTION

PARCELS A AND B OF LLA NO. 08-10-0001, IN THE CITY OF PERRIS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, RECORDED JANUARY 7, 2009, AS INSTRUMENT NO. 2009-0006173 OF OFFICIAL RECORDS, RIVERSIDE COUNTY.

BENCHMARK

NGS BM BM436 PID DX5444 NAVD88 EL. = 1557.17 FEET

3-1/4" ALUMINUM DISK SET FLUSH IN FOOTING OF POWER POLE 705640/01 AT NE CORNER OF CAJALCO ROAD AND SEATON AVE.

BASIS OF BEARING

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM, ZONE VI, NAD83 (EPOCH 2010.00) AS DETERMINED LOCALLY BY A LINE BETWEEN CONTINUOUS OPERATING REFERENCE STATIONS (CORS) MLFP AND PPBF BEING N53-20-17.63W AS DERIVED FROM GEODETIC VALUES PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (CSRC) AND/OR NATIONAL GEODETIC SURVEY (NGS), RESPECTIVELY.

CITY OF PERRIS

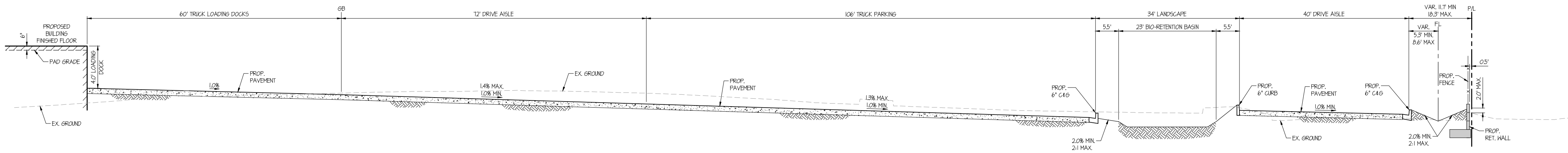
100 W. SINCLAIR STREET
SITE PLAN / CONCEPTUAL GRADING EXHIBIT

SCALE: AS SHOWN
DATE: SEPT. 2022
DESIGNED: AJ
CHECKED: FM
PLN CK REF:

FMCIVIL ENGINEERS INC.
29995 TECHNOLOGY DRIVE, SUITE 306
MURRIETA | CA 92563
951.331.9873 - FMCIVIL.COM

SHEET 1 OF 2 SHEETS

H:\PDATA\22-004 SINCLAIR PERRIS\DWGS\PLNG\ENTITLEMENT\CONCEPT\SITE-3\22-004-CG3-001.DWG



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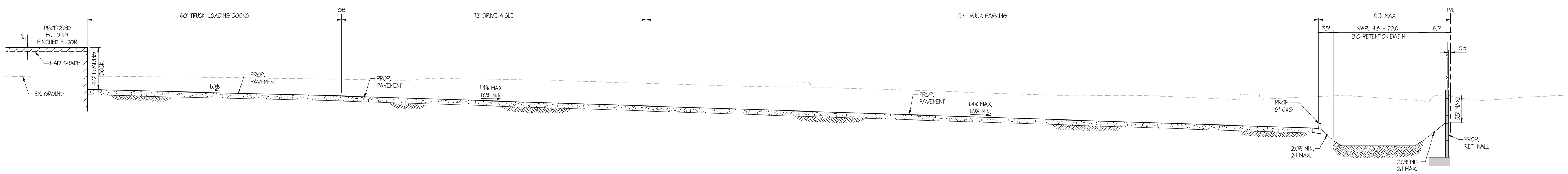

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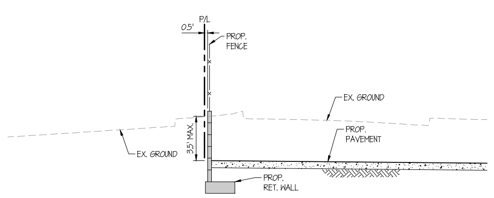

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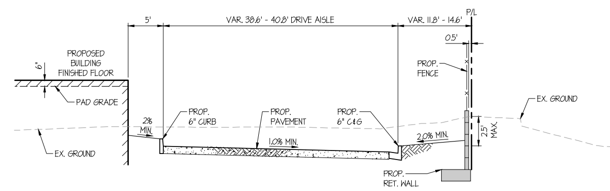

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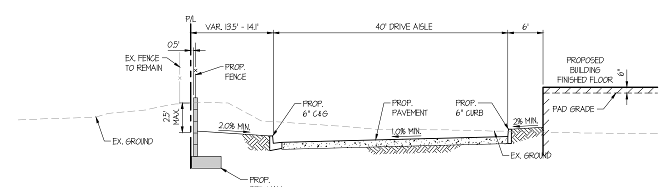

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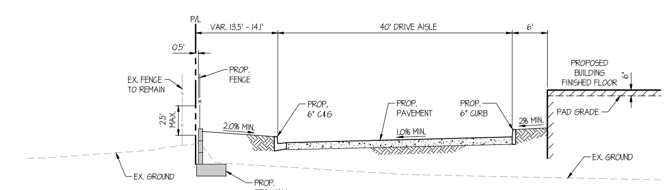

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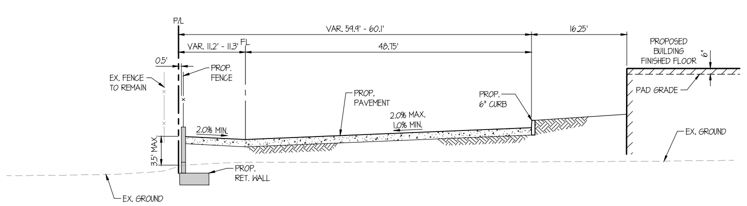

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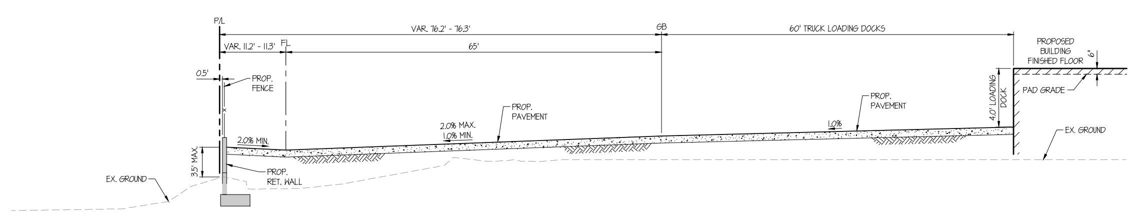

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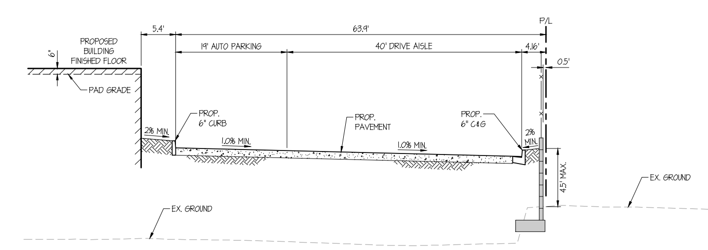

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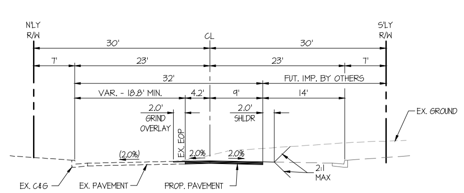
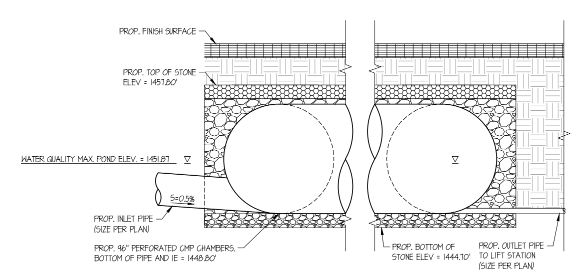
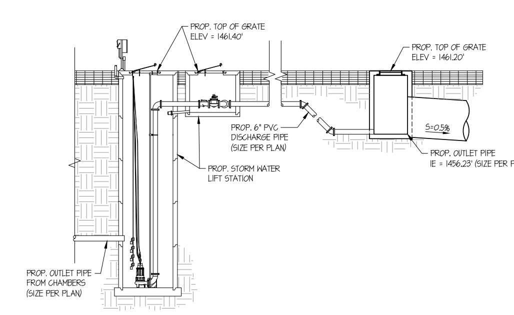


SECTION J-J - SINCLAIR STREET
HOR. SCALE: 1"=10'



UNDERGROUND CHAMBERS DETAIL
N.T.S.



STORM WATER LIFT STATION OUTLET DETAIL
N.T.S.

BENCHMARK
NGS BM BM436 PID DX5444 NAVD88 EL. = 1557.17 FEET

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CITY OF PERRIS

100 W. SINCLAIR STREET
SITE PLAN / CONCEPTUAL GRADING
TYPICAL SECTIONS

SCALE: AS SHOWN
DATE: SEPT. 2022
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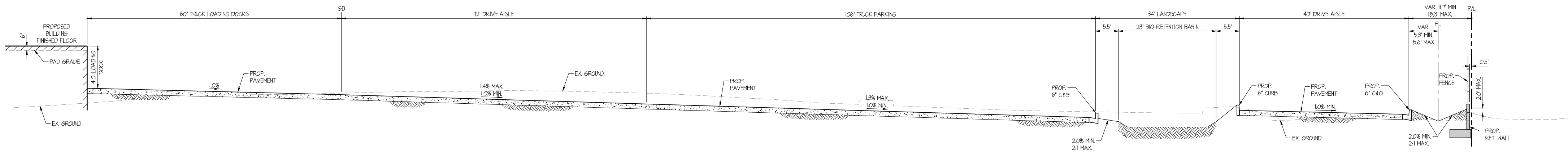
SHEET 2 OF 2 SHEETS



SECTION A-A
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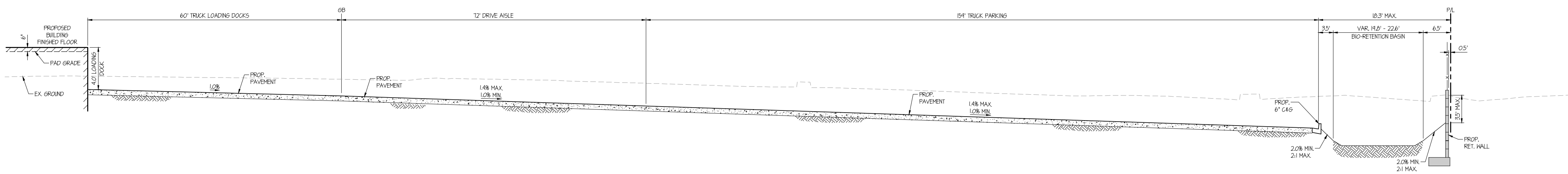

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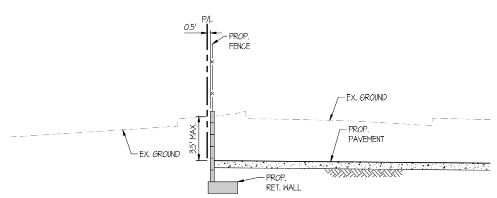

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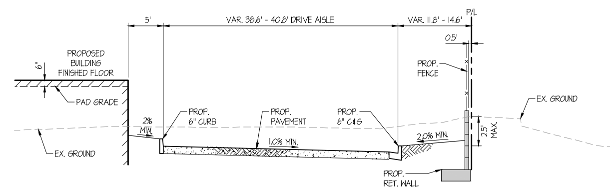

SECTION D-D
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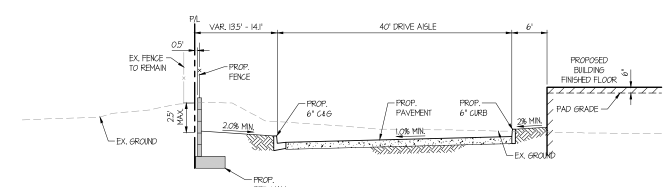

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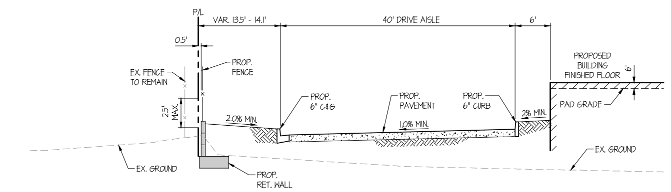

SECTION F-F
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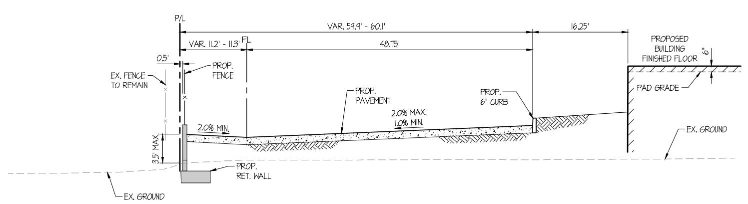

SECTION G-G
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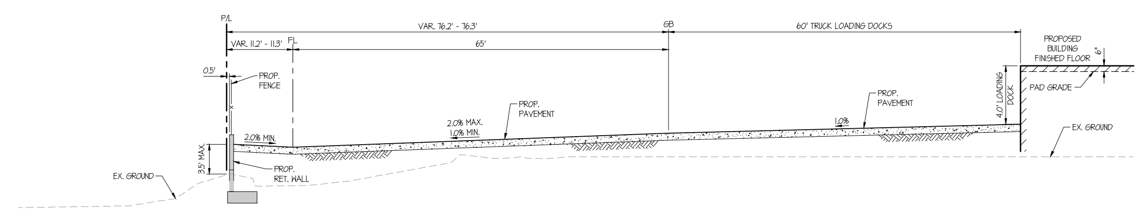

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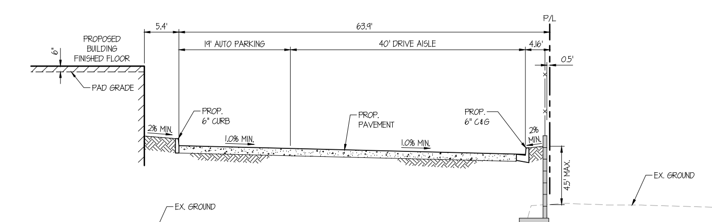

SECTION I-I
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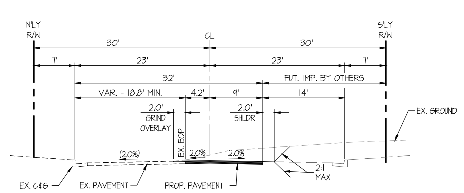

SECTION J-J - SINCLAIR STREET
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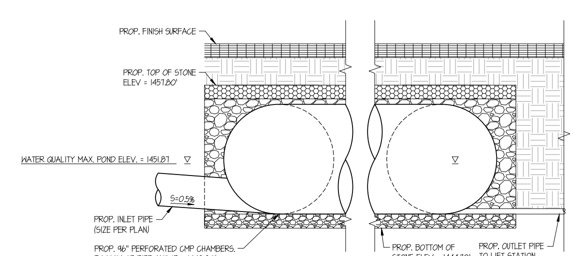
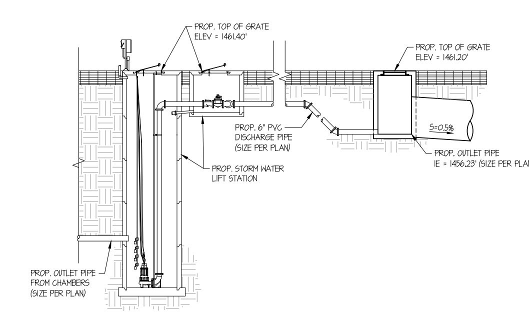


UNDERGROUND CHAMBERS DETAIL
N.T.S.



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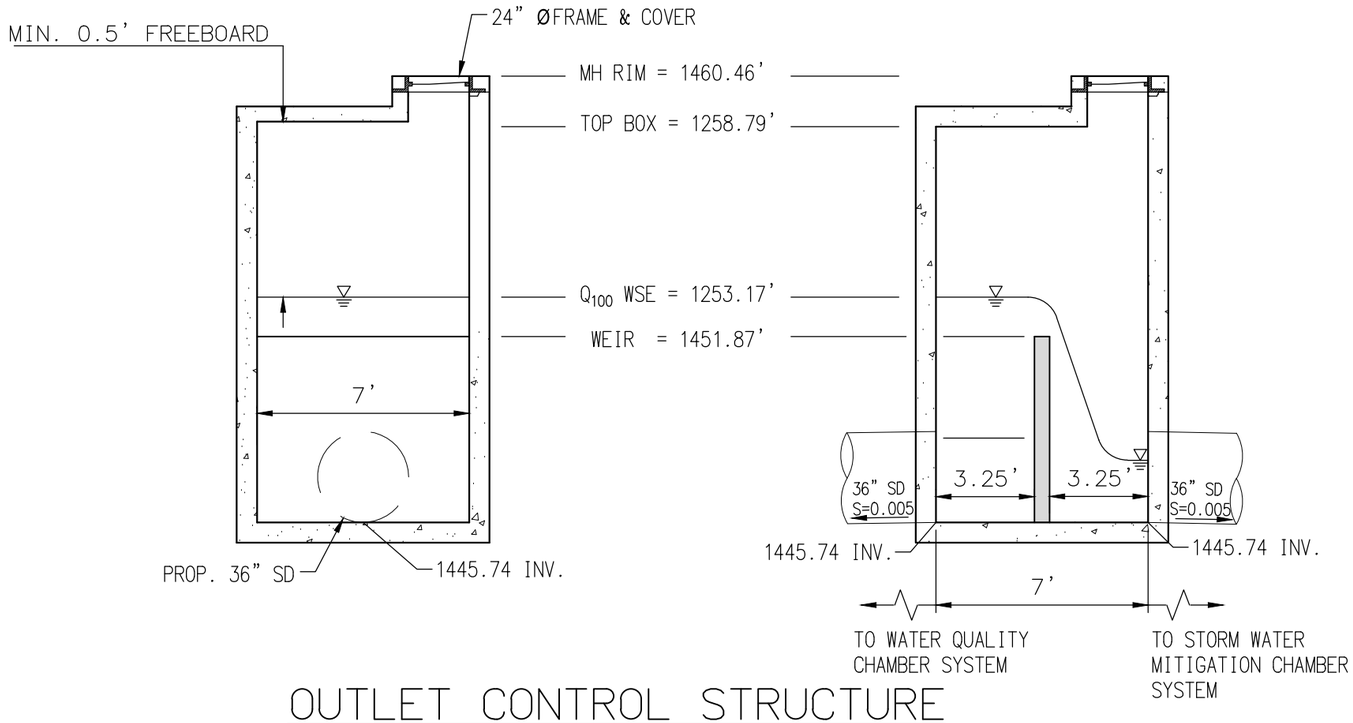
SHEET 2 OF 2 SHEETS

FIGURE 7:
OUTLET CONTROL STRUCTURE



OUTLET CONTROL STRUCTURE

UNDERGROUND CHAMBER SYSTEM BOTTOM = 1455.70

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W 100 SINCLAIR ST

OUTLET CONTROL STRUCTURE DETAIL

1

OF 1 SHEETS