

SITE DEVELOPMENT PLAN
FOR COUNTY OF SAN DIEGO
K A R V E - SKI PARK
APN 187-630-12

TITLE
SHEET 1 OF 10 SHEETS

SURVEYOR OF WORK

EXCEL ENGINEERING
440 STATE PLACE
ESCONDIDO, CA 92029
PHONE (760) 745-8118
FAX (760) 745-1890

MICHAEL D. LEVIN, P.L.S. NO. 6896



ENGINEER OF WORK

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ESCONDIDO, CA 92029
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ROBERT D. DENTINO, R.C.E. NO. 45629



PRELIMINARY GRADING PLAN PREPARATION DATE
OCTOBER 2023

FEMA INFORMATION

PER THE FEMA MAP NO. 06073C0803G PANEL 803 OF 2375 WITH AN EFFECTIVE DATE OF MAY 16, 2012, THE SITE IS IN AREA OF MINIMAL FLOOD HAZARD.

LEGAL DESCRIPTION

A PORTION OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER & A PORTION OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 30, TOWNSHIP 11 SOUTH, RANGE 2 WEST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA ACCORDING TO THE RECORD OF SURVEY NO. 22732 RECORDED IN THE COUNTY RECORDER'S OFFICE AS FILE NO 2017-7000324 & DATED AUGUST 17, 2017.

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE SAN DIEGO COUNTY REAL TIME NETWORK USING CALIFORNIA COORDINATE SYSTEM 83, ZONE 6, NAD 83, EPOCH 2017.50, AS DETERMINED LOCALLY BY A LINE BETWEEN CONTINUOUS GLOBAL POSITIONING STATIONS (CGPS) AND/OR CONTINUOUS OPERATING REFERENCE STATIONS (CORS) VTOP AND P478, BEING NORTH 84° 30' 26" EAST AS DERIVED FROM GEODETIC VALUES PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (CSRC) AND/OR NATIONAL GEODETIC SURVEY (NGS), RESPECTIVELY AND MEETS ALL THE REQUIREMENTS OF THE CALIFORNIA PUBLIC RESOURCES CODE.

REFERENCED BEARINGS FROM OTHER DOCUMENTS/DEEDS MAY OR MAY NOT BE IN TERMS OF SAID SYSTEM.

PROJECT BENCHMARK

THE BENCHMARK USED FOR THIS PROJECT IS CITY OF ESCONDIDO SURVEY CONTROL POINT NO. 1021, A 2" IRON PIPE WITH 2.5" BRASS DISK STAMPED "EGCS 1982 - 1021", LOCATED ON MESA ROCK ROAD APPROXIMATELY 0.15 MILES SOUTH OF THE INTERSECTION OF MESA ROCK ROAD AND WHITING WOODS DRIVE, SET NEAR THE EAST EDGE OF PAVEMENT, RECORD PER ROS 14236, RECORDED 07/02/1993 AS FILE NO. 93-428510.

ELEVATION: 1045.829 DATUM: NGVD29

SOURCE OF TOPOGRAPHY

THE TOPOGRAPHY SHOWN IS BASED ON AN AERIAL DRONE SURVEY PERFORMED BY CAPTO DRONE SERVICES ON 08/19/2022.

STORM WATER MANAGEMENT PLAN

PLEASE SEE THE SWMP PREPARED BY EXCEL ENGINEERING FOR THIS PROJECT & IS MADE A PART OF THE ENTITLEMENT PACKAGE.

EARTHWORK QUANTITIES

THE PRISMoidal VOLUME METHOD WAS USED TO CALCULATE THE VALUES SHOWN HEREON. SECTIONS OF STREETS, BIO BASINS & UTILITIES WERE CONSIDERED IN THIS EARTHWORK QUANTITY.

ADJUSTED CUT VOLUME = 17,700 CY
ADJUSTED FILL VOLUME = 17,700 CY
EXPORT = 0 CY

AREA OF DISTURBANCE
6.30 ACRES

PARCEL(S) AREA
GROSS = 10.45 ACRES
NET = 9.00 ACRES

OWNER'S CERTIFICATE

I HEREBY CERTIFY THAT I AM THE RECORD OWNER OF THE PROPERTY SHOWN ON THIS TENTATIVE SUBDIVISION MAP AND THAT SAID MAP SHOWS MY ENTIRE CONTIGUOUS OWNERSHIP. I UNDERSTAND THAT THE PROPERTY IS CONSIDERED CONTIGUOUS EVEN IF IT IS SEPARATED BY ROADS, STREETS, UTILITY EASEMENTS OR RAILROAD RIGHTS OF WAY.

OWNER
LOVATO EMPIRE LLC
807 MISSION RD
SAN MARCOS, CA 92069

DATE

OWNER / DEVELOPER
SD SKI PARTNERS
9520 PATHWAY ST
SANTEE, CA 92071

DEVELOPER ADDRESS
9520 PATHWAY ST
SANTEE, CA 92071

SITE ADDRESS

1507 TIERRA LIBERTIA RD, ESCONDIDO CA

GENERAL PLAN DESIGNATION

SEMI RURAL (SR-1)

PRESENT & PROPOSED USE:

PRESENT: RECREATION
PROPOSED: RECREATION

PUBLIC UTILITIES & DISTRICTS

SEWER - SEPTIC/LEACH
WATER - VALLEY CENTER MUNICIPAL WATER DISTRICT
GAS & ELECTRIC - S.D.G.E.
TELEPHONE - AT&T
FIRE - DEER SPRINGS FIRE PROTECTION DISTRICT
SCHOOLS - GEN ELEMENTARY ESCONDIDO UNION
HIGH ESCONDIDO UNION

SETBACKS FOR SCHEDULE C

FRONT YARD SETBACK - 100 FT FROM CENTERLINE
SIDE YARD INTERIOR SETBACK FROM LOT LINE - 15'
SIDE YARD EXTERIOR SETBACK FROM CENTERLINE - 35'
REAR YARD SETBACK FROM LOT LINE - 25'

SETBACKS FOR SCHEDULE C

FRONT YARD SETBACK - 100 FT FROM CENTERLINE
SIDE YARD INTERIOR SETBACK FROM LOT LINE - 15'
SIDE YARD EXTERIOR SETBACK FROM CENTERLINE - 35'
REAR YARD SETBACK FROM LOT LINE - 25'

JURISDICTIONAL WATERS OF THE US & STATE NOTE:

NOTICE: THE SUBJECT PROPERTY CONTAINS WETLANDS, A LAKE, A STREAM, AND/OR WATERS OF THE U.S. AND/OR STATE WHICH MAY BE SUBJECT TO REGULATION BY STATE AND/OR FEDERAL AGENCIES, INCLUDING, BUT NOT LIMITED TO, THE REGIONAL WATER QUALITY CONTROL BOARD, U.S. ARMY CORPS OF ENGINEERS AND THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE. IT IS THE APPLICANT'S RESPONSIBILITY TO CONSULT WITH EACH AGENCY TO DETERMINE IF A PERMIT, AGREEMENT OR OTHER APPROVAL IS REQUIRED AND TO OBTAIN ALL NECESSARY PERMITS, AGREEMENTS OR APPROVALS BEFORE COMMENCING ANY ACTIVITY WHICH COULD IMPACT THE WETLANDS, LAKE, STREAM, AND/OR WATERS OF THE U.S. ON THE SUBJECT PROPERTY. THE AGENCY CONTACT INFORMATION IS PROVIDED BELOW.

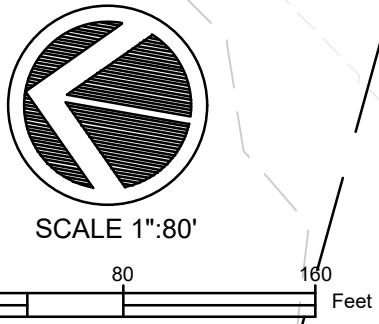
U.S. ARMY CORPS OF ENGINEERS
915 WILSHIRE BLVD., SUITE 1101
LOS ANGELES, CA 90017
(213) 452-3333
HTTP://WWW.USACE.ARMY.MIL/

REGIONAL WATER QUALITY CONTROL BOARD
2375 NORTHSIDE DRIVE, SUITE 100
SAN DIEGO, CA 92108
RB9_DREDGETFILL@WATERBOARDS.CA.GOV
HTTP://WWW.WATERBOARDS.CA.GOV/SANDIEGO/

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
3883 RUFFIN RD., SAN DIEGO, CA 92123
(858) 636-3160
ASRRS@WILDLIFE.CA.GOV
HTTP://WWW.DFG.CA.GOV/

SHEET INDEX

SHEET 1 - TITLE
SHEET 2 - EXISTING CONDITION
SHEET(S) 3 TO 5 - GRADING PLAN
SHEET 6 - SITE GRADING SECTIONS
SHEET 7 - CIRCULATION
SHEET 8 - UTILITIES
SHEET 9 - DMA-SHEET 1
SHEET 10 - DMA-SHEET 2



APN: 187-630-12

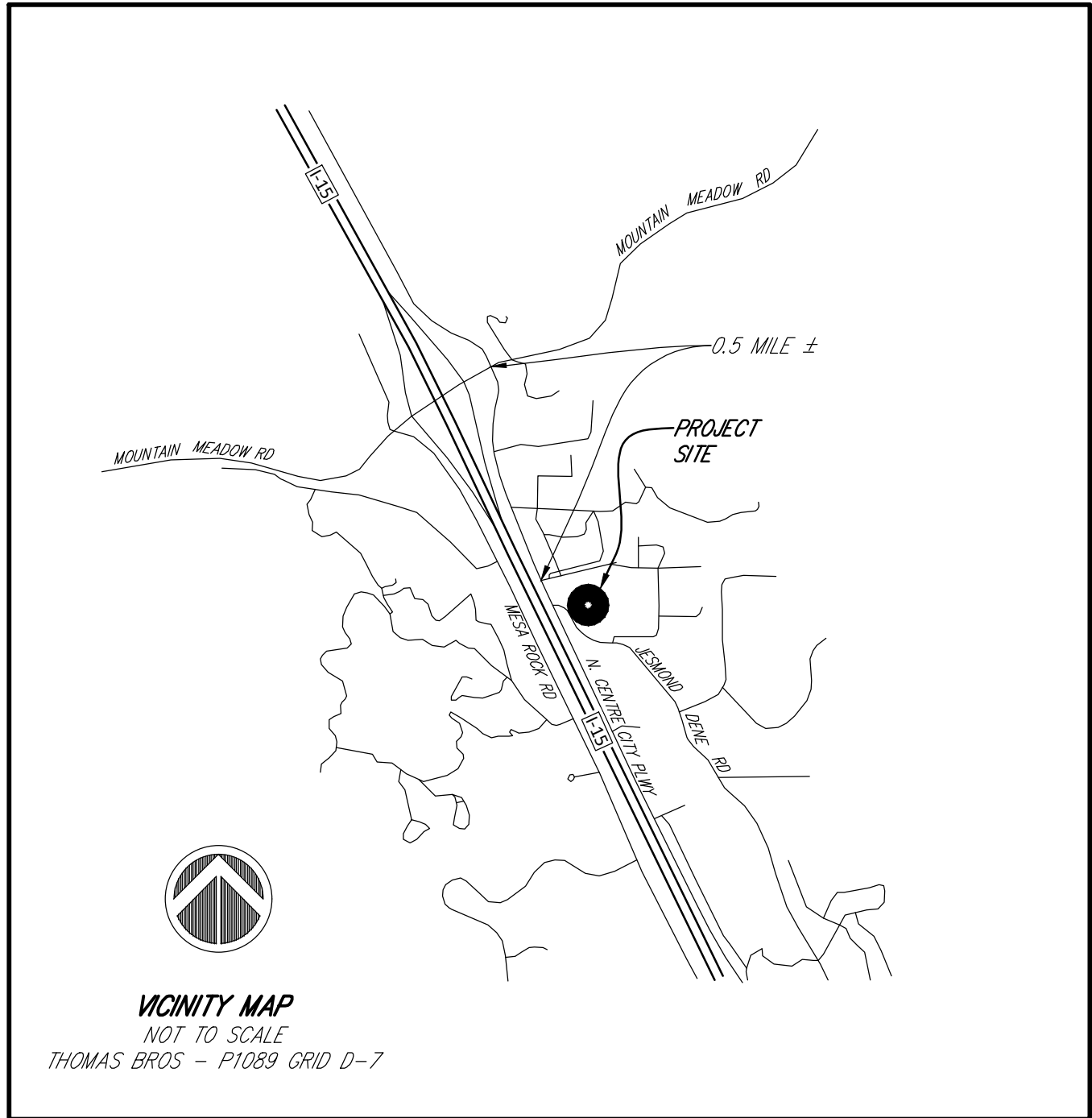
USE REGULATIONS	A70
ANIMAL REGULATIONS	L
DENSITY	NA
LOT SIZE	TAC
BUILDING TYPE	C
MAXIMUM FLOOR AREA	NA
HEIGHT	G
LOT COVERAGE	NA
SETBACK	C
OPEN SPACE	NA
SPECIAL AREA REGULATIONS	B/B,C

APN: 187-322-29

USE REGULATIONS	A70
ANIMAL REGULATIONS	L
DENSITY	NA
LOT SIZE	TAC
BUILDING TYPE	C
MAXIMUM FLOOR AREA	NA
HEIGHT	G
LOT COVERAGE	NA
SETBACK	C
OPEN SPACE	NA
SPECIAL AREA REGULATIONS	B/B,C

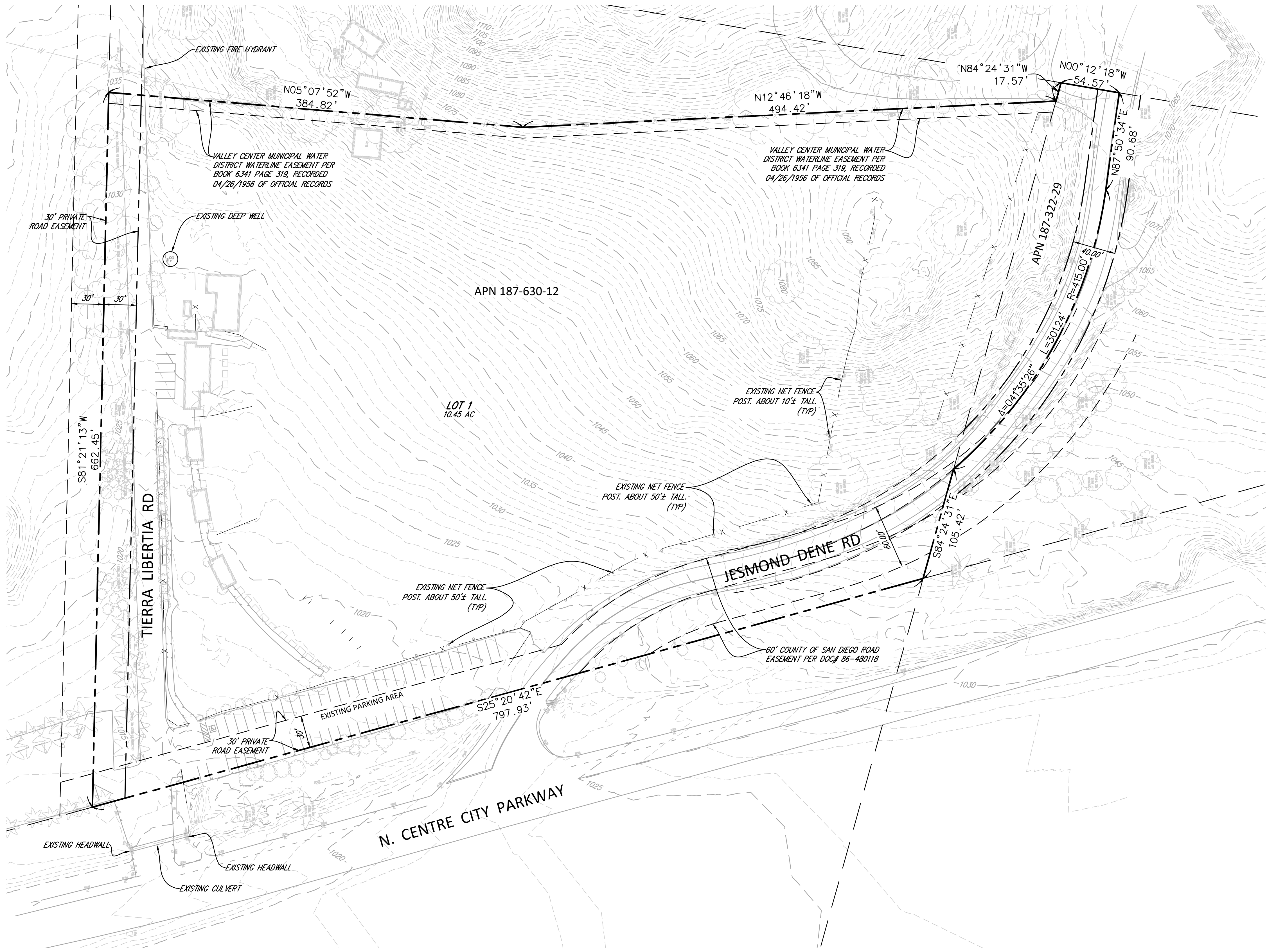
NOTE:

THIS PLAN IS PROVIDED TO ALLOW FOR FULL AND ADEQUATE DISCRETIONARY REVIEW OF THE PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THAT ACCEPTANCE OR APPROVAL OF THIS PLAN DOES NOT CONSTITUTE APPROVAL TO PERFORM AND GRADING SHOWN HEREON, AND AGREES TO OBTAIN VALID GRADING PERMISSIONS BEFORE COMMENCING SUCH ACTIVITY.



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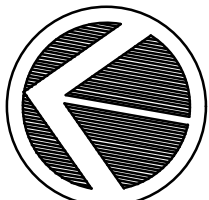
EXISTING CONDITION
SHEET 2 OF 10 SHEETS



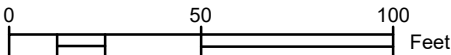
EXISTING STRUCTURE REMOVAL NOTE:
ALL EXISTING STRUCTURES WITHIN THE PROJECT AREA WILL BE REMOVED. THE EXISTING DEEP WELL IS THE ONLY FACILITY THAT WILL REMAIN. A DEMOLITION PLAN WILL BE PROVIDED AS PART OF THE CONSTRUCTION DOCUMENT.

LEGEND	
PROJECT BOUNDARY	---
PROPERTY LINE	-PL-
RIGHT OF WAY	-RW-
EXIST. MAJOR CONTOUR	---100---
EXIST. MINOR CONTOUR	---
EXIST. GEOGRID TYPE RETAINING	=====
EXIST. CMU TYPE RETAINING	=====
EXIST. SOIL NAIL TYPE RETAINING	=====
EXIST. WATER MAIN	W
EXIST. SEWER MAIN	S
EXIST. FLOW LINE	←
EXIST. PCC BROW DITCH	⇒⇒⇒⇒
EXIST. FIRE LINE	F
EXIST. FIRE HYDRANT	⊙
EXIST. STREET/PARKING LIGHT	⊙
EXIST. STORM DRAIN INLETS/CLEANOUTS	□
EXIST. WATER SERVICE LATERAL	⊙
EXIST. SEWER SERVICE LATERAL	⊙
EXIST. FIRE SERVICE LATERAL	⊙
EXIST. PCC CURB	=====
EXIST. PCC CURB & GUTTER	=====

\\221220209\engineering\SDP\Sheets - sub\22009 EXISTING.dwg 6/20/2025 12:59 PM ORIGINAL PLOT SIZE: -----



SCALE 1"=50'



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GRADING
SHEET 3 OF 10 SHEETS

CONSTRUCTION NOTES
SURFACE IMPROVEMENTS

- ST-01 AC PAVEMENT
- ST-02 PCC DRIVEWAY PER SDPSD 14B & 14E
- ST-03 6" PCC CURB
- ST-04 6" PCC CURB & GUTTER
- ST-05 PCC SIDEWALK
- ST-06 PCC RAMP
- ST-07 PCC STAIRS
- ST-08 SIGNAGE. SEE SEPARATE SIGNAGE PLAN.
- ST-09 CMU WALL
- ST-10 NOT USED
- ST-11 3' CURB CUTS W/ ROCK VELOCITY DISSIPATER
- ST-12 BIOFILTRATION BASIN CURB CUT PER GS-5.02

STORM DRAIN/WATER QUALITY
IMPROVEMENTS

- SD-01 STORM DRAIN INLET
- SD-02 GRAVEL TRENCH DRAIN. SEE DETAIL "A".
- SD-03 STORM DRAIN PIPE
- SD-04 AREA DRAIN PIPE
- SD-05 U TYPE HEADWALL
- SD-06 WATER QUALITY BASIN. SEE DETAILS ON SHEET.
- SD-07 48" DETENTION PIPE
- SD-08 DISPERSION SWALE PER GS-2.07, MINIMUM AREA=165 SF
- SD-09 CISTERN
- SD-10 SD IN-LINE TRASH SEPARATOR

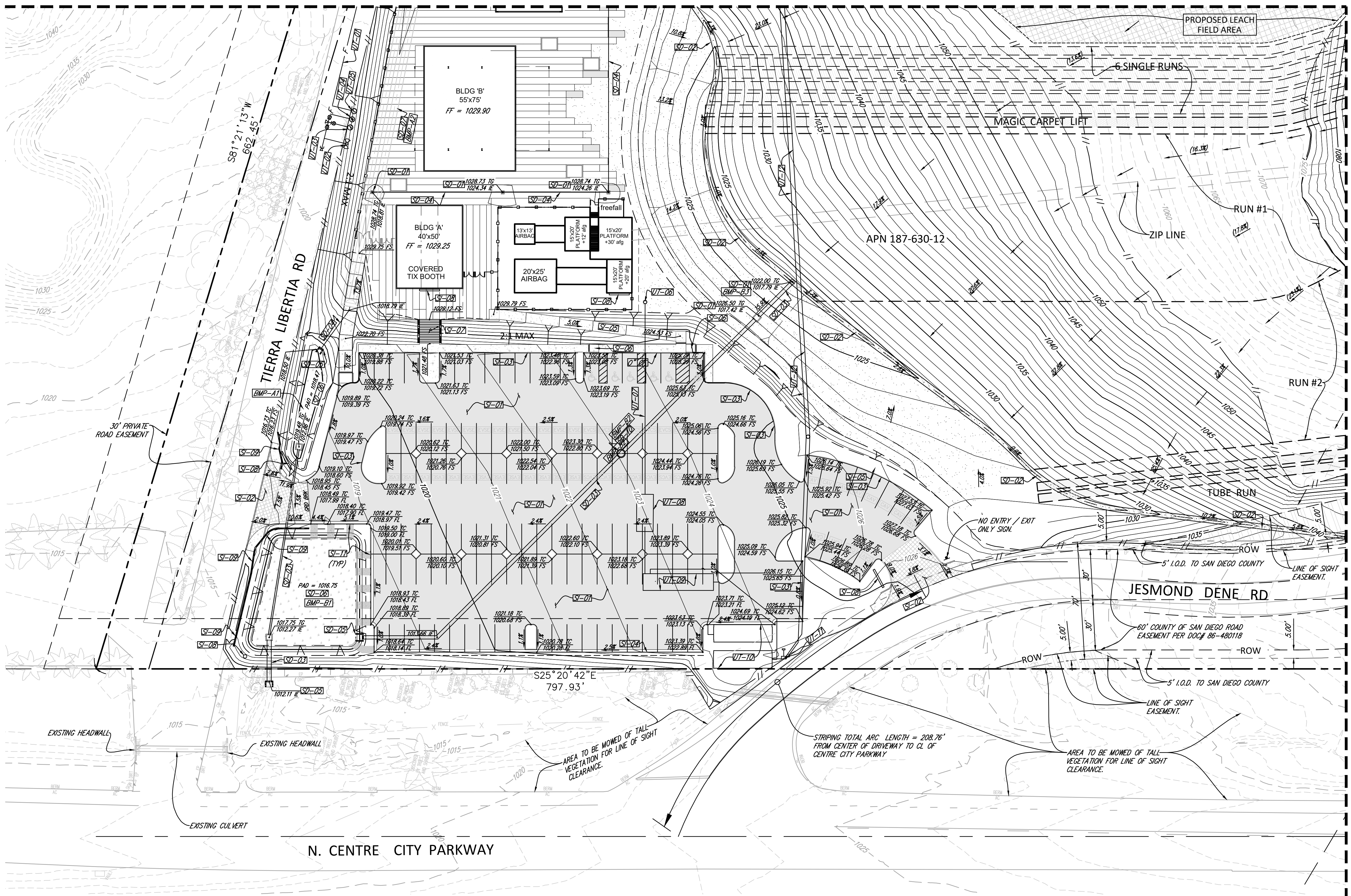
UTILITY IMPROVEMENTS

- UT-01 FIRELINE MAIN
- UT-02 FIRE HYDRANT
- UT-03 FIRE SERVICE LATERAL
- UT-04 DOMESTIC WATER SERVICE LATERAL
- UT-05 IRRIGATION WATER SERVICE LATERAL
- UT-06 PRIVATE SEWER LINE CONNECTION POINT FOR THE BLDGS ON THE UPPER PAD
- UT-07 PRIVATE ON-SITE SEWER LINE
- UT-08 9,000 GALS GREASE TRAP
- UT-09 20,000 GALS SEPTIC TANK
- UT-10 STS TANKS
- UT-11 PUMP TO CONVEY SEWAGE TO LEACH FIELD
- UT-12 PRIVATE ON-SITE PRESSURE & RETURN SEWER LINES

LEGEND

- PROJECT BOUNDARY
- PROPERTY LINE
- RIGHT OF WAY
- EXIST MAJOR CONTOUR
- EXIST MINOR CONTOUR
- PROPOSE MAJOR CONTOUR
- PROPOSE MINOR CONTOUR
- GEOGRID TYPE RETAINING
- CMU TYPE RETAINING
- SOIL NAIL TYPE RETAINING
- EXIST WATER MAIN
- EXIST SEWER MAIN
- NEW WATER MAIN
- NEW SEWER MAIN
- FLOW LINE
- PCC BROW DITCH
- EXIST. FIRE LINE
- FIRE HYDRANT
- STREET/PARKING LIGHT
- STORM DRAIN INLETS/CLEANOUTS
- WATER SERVICE LATERAL
- SEWER SERVICE LATERAL
- FIRE SERVICE LATERAL
- PCC CURB
- PCC CURB & GUTTER
- 10' HIGH ACOUSTIC FENCE

MATCHLINE SEE SHEET 4 FOR CONTINUATION



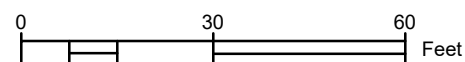
22-009 EARTHWORKS SKI (04/13/2023)

EARTHWORK CALCULATION TABLE

LINE ID	ITEM DESCRIPTION	AREA (SF)	SECTION/LENGTH (FT)	VOL (CY)	ROUNDED
1	RAW CUT			16153.01	16,160.00
2	PARKING	8,605.00	0.75	239.03	240.00
3	BLDG FLOOR SECTION	8,605.00	0.75	239.03	240.00
4	WQ BASINS	3,990.65	5.00	739.01	740.00
5	TOTAL CUT			17,370.08	17,380.00
6					
7	RAW FILL			17,761.53	17,770.00
8	SHRINKAGE 0% (APPLIED TO RAW CUT)	16,153.01	0.00	0.00	0.00
9	TOTAL FILL			17,761.53	17,770.00
10	IMPORT			-391.45	-390.00
11	FOR PERMITTING PURPOSES, SAY BALANCE AT (CY)			17,700.00	



SCALE 1"=30'



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GRADING
SHEET 4 OF 10 SHEETS

CONSTRUCTION NOTES
SURFACE IMPROVEMENTS

- GS-01 AC PAVEMENT
GS-02 PCC DRIVEWAY PER SORSO 14B & 14E
GS-03 6" PCC CURB
GS-04 6" PCC CURB & GUTTER
GS-05 PCC SIDEWALK
GS-06 PCC RAMP
GS-07 PCC STAIRS
GS-08 SIGNAGE: SEE SEPARATE SIGNAGE PLAN.
GS-09 CMU WALL
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GS-11 3' CURB CUTS W/ ROCK VELOCITY DISSIPATER
GS-12 BIOFILTRATION BASIN CURB CUT PER GS-5.02

STORM DRAIN/WATER QUALITY
IMPROVEMENTS

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UTILITY IMPROVEMENTS

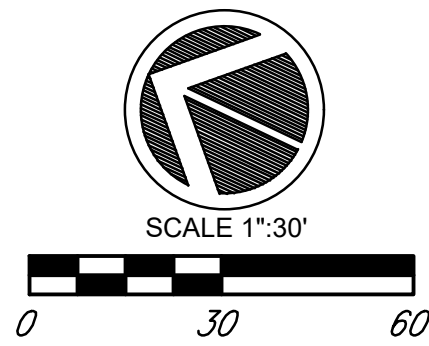
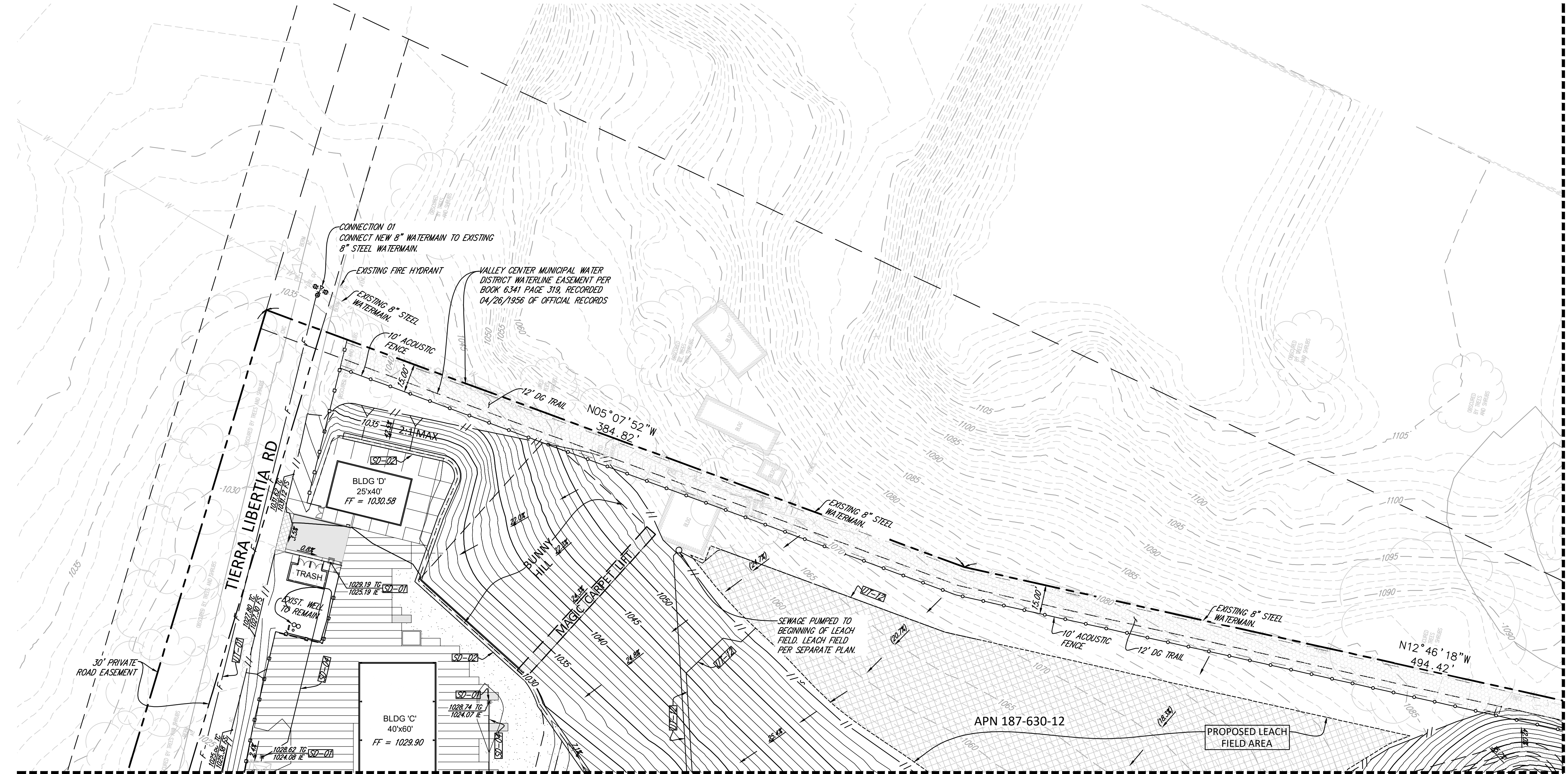
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UT-12 PRIVATE ON-SITE PRESSURE & RETURN SEWER LINES

MATCHLINE SEE SHEET 3 FOR CONTINUATION

MATCHLINE SEE SHEET 5 FOR CONTINUATION

LEGEND

PROJECT BOUNDARY	---
PROPERTY LINE	-PL-
RIGHT OF WAY	-RW-
EXIST MAJOR CONTOUR	---100---
EXIST MINOR CONTOUR	---100---
PROPOSE MAJOR CONTOUR	---100---
PROPOSE MINOR CONTOUR	---100---
GEOGRID TYPE RETAINING	---
CMU TYPE RETAINING	---
SOIL NAIL TYPE RETAINING	---
EXIST WATER MAIN	W
EXIST SEWER MAIN	S
NEW WATER MAIN	W
NEW SEWER MAIN	S
FLOW LINE	---
PCC BROW DITCH	---
EXIST. FIRE LINE	---
FIRE HYDRANT	---
STREET/PARKING LIGHT	---
STORM DRAIN INLETS/CLEANOUTS	---
WATER SERVICE LATERAL	---
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GRADING
SHEET 5 OF 10 SHEETS

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STORM DRAIN/WATER QUALITY IMPROVEMENTS

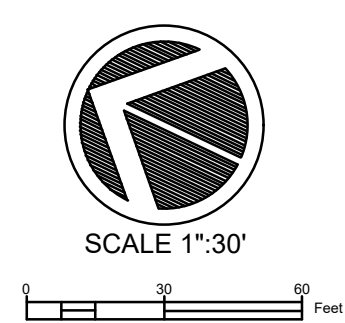
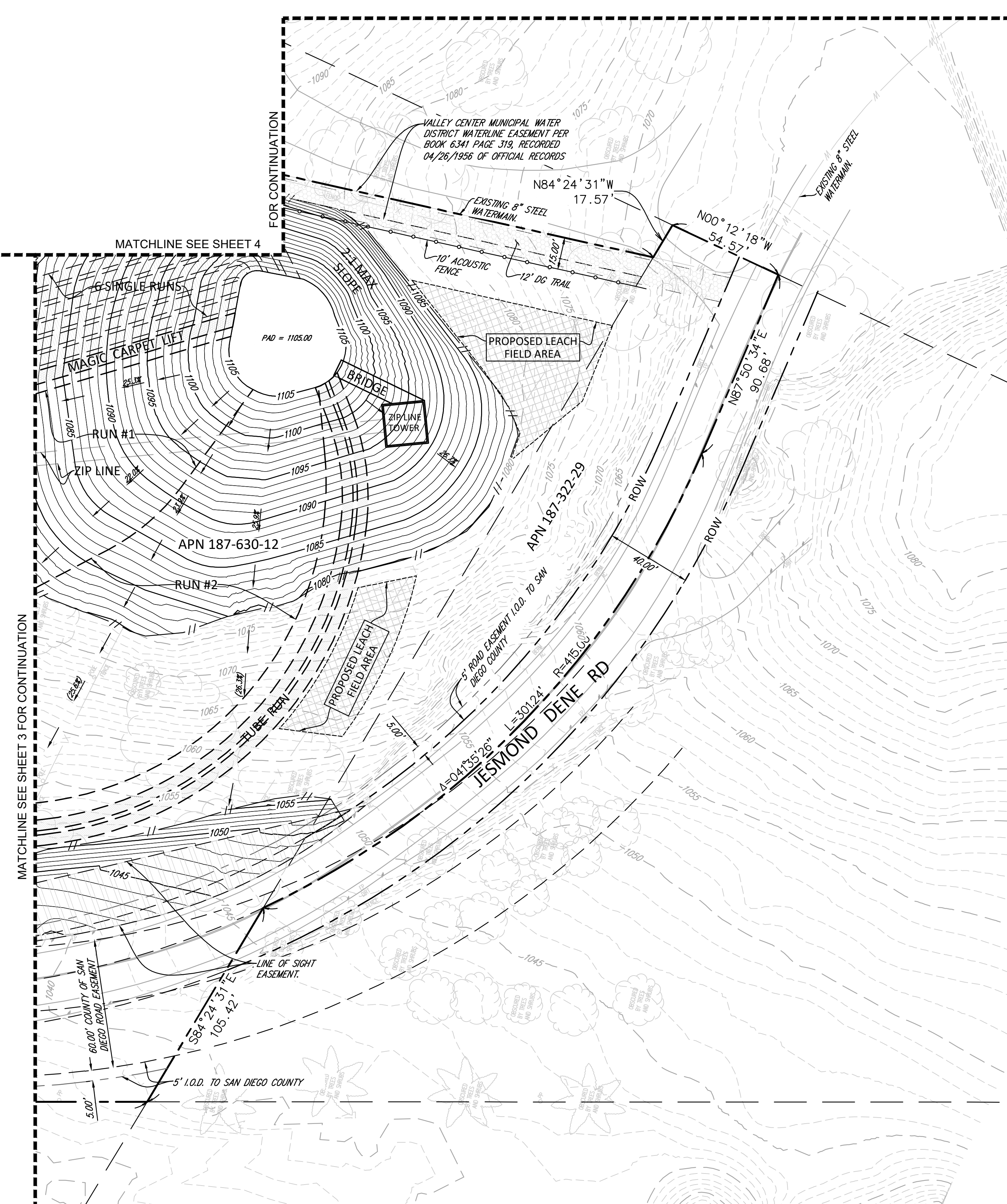
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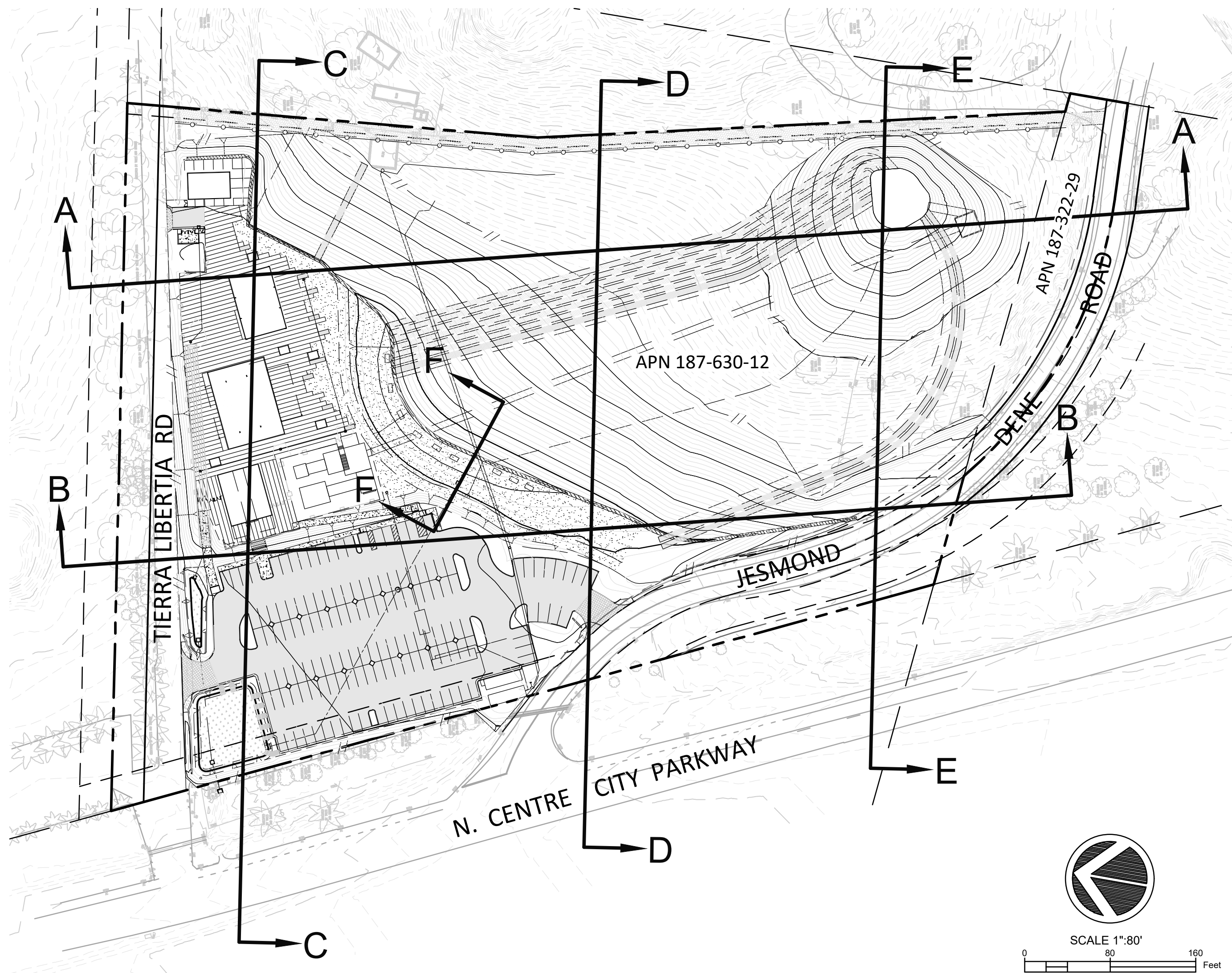
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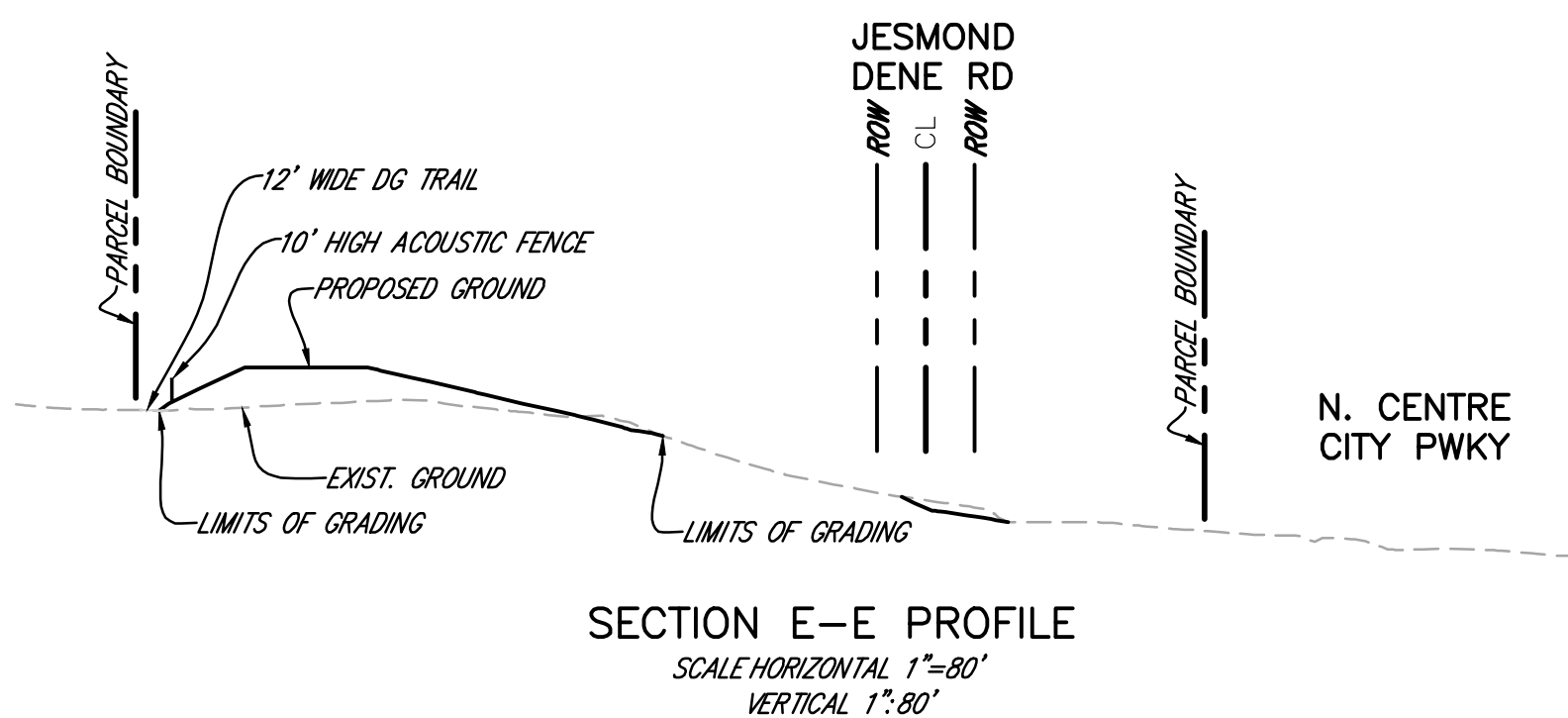
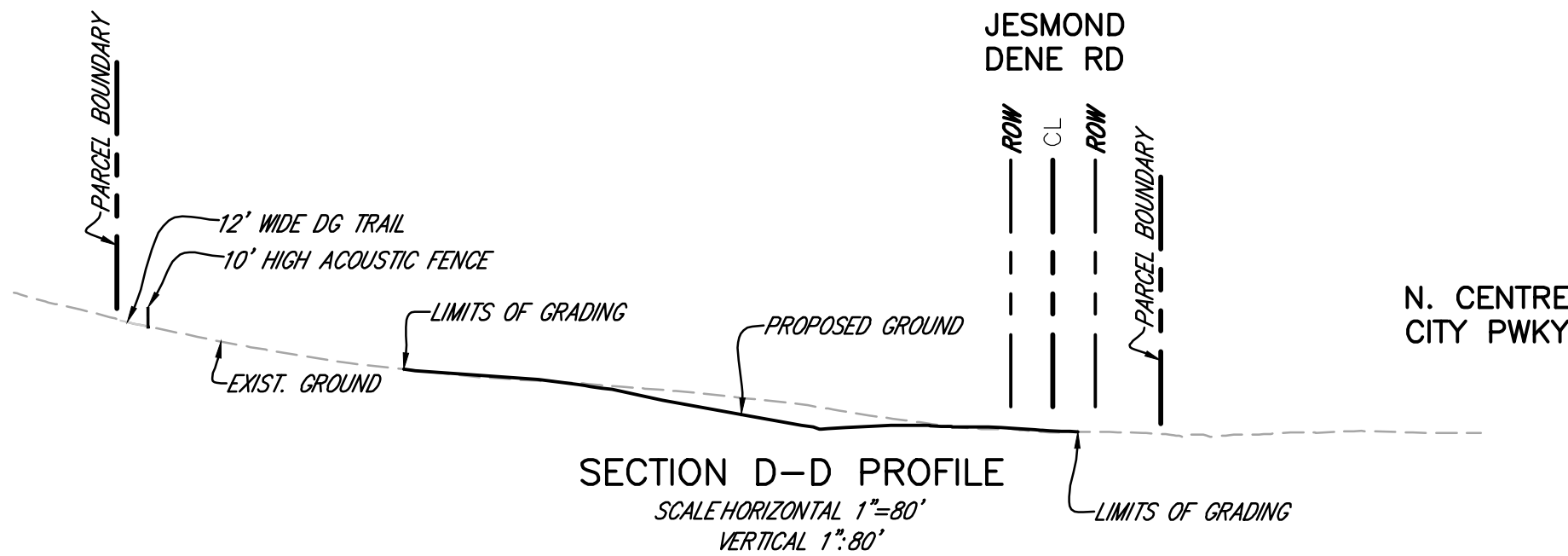
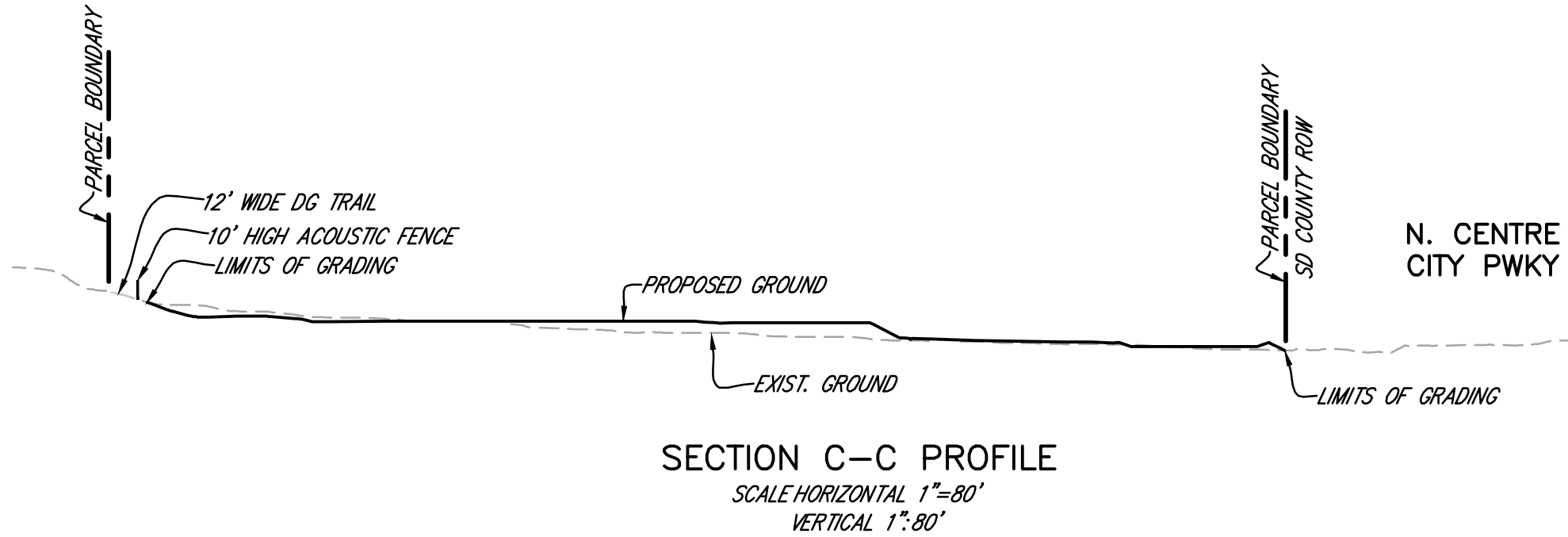
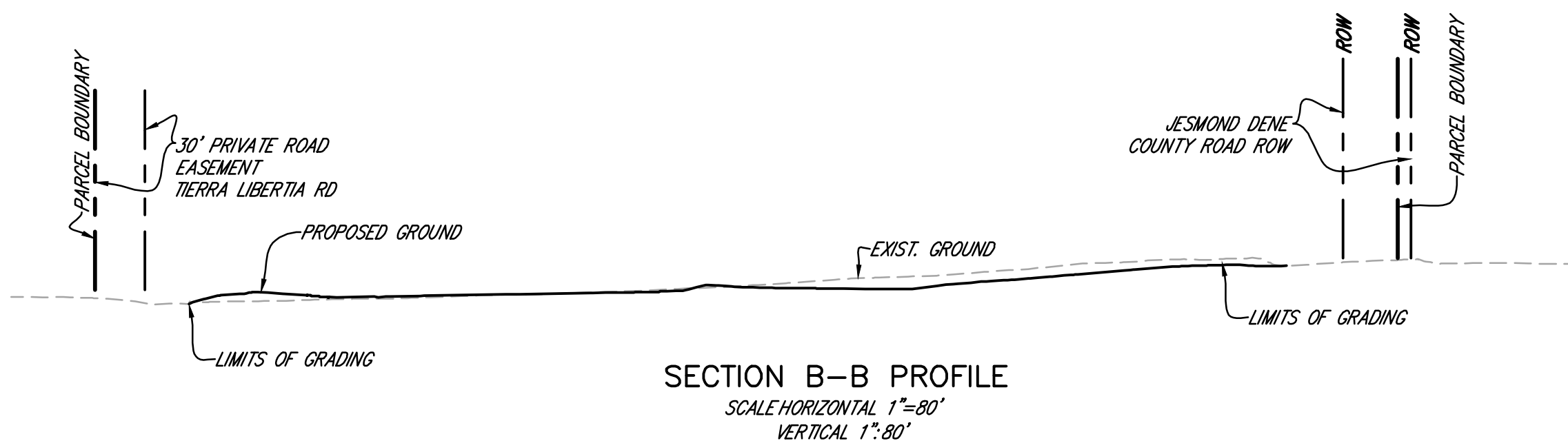
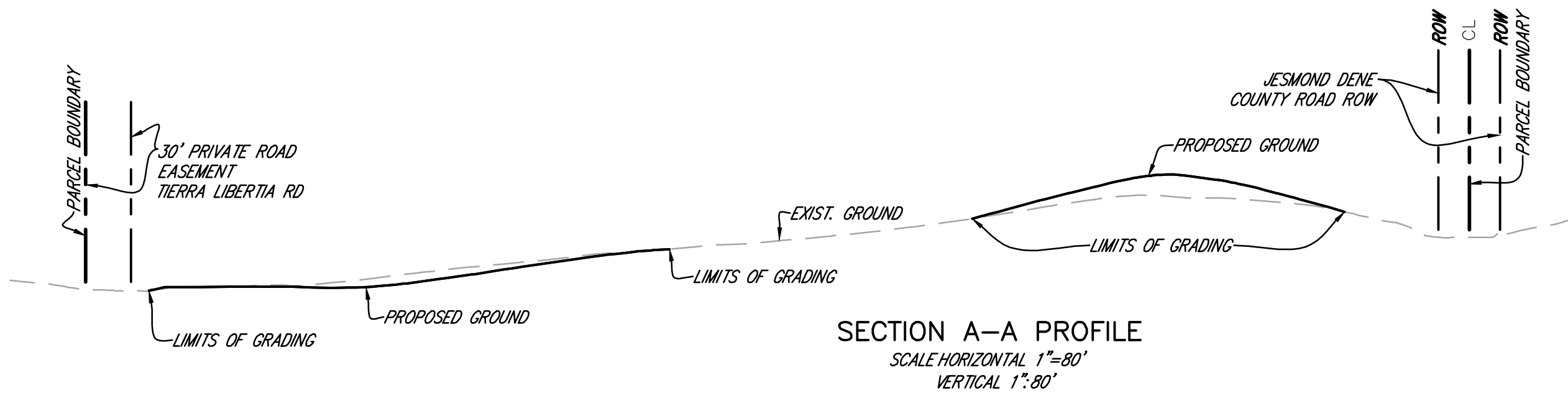
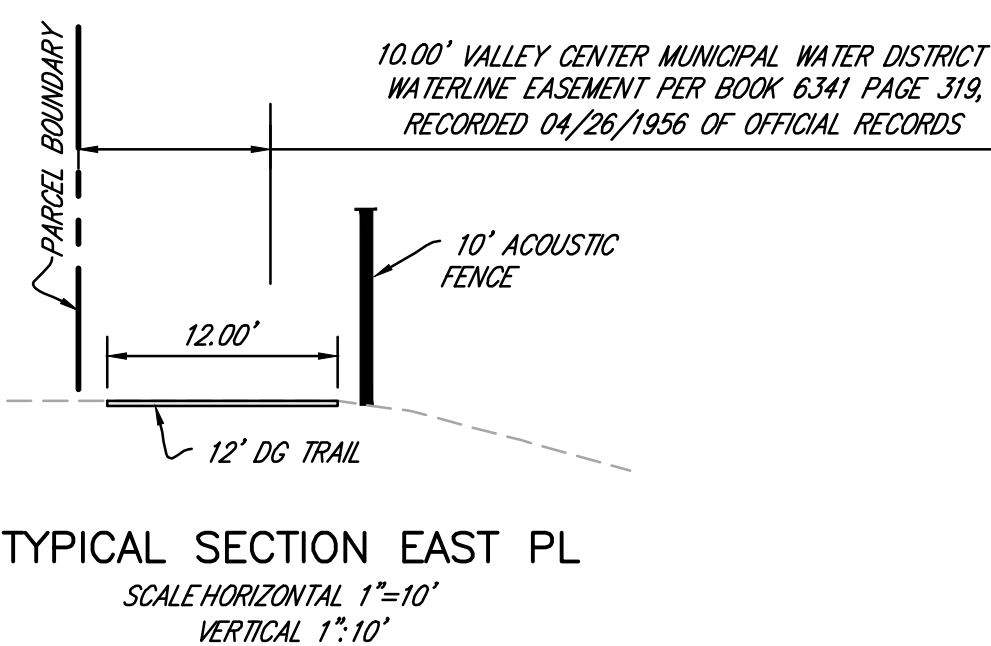
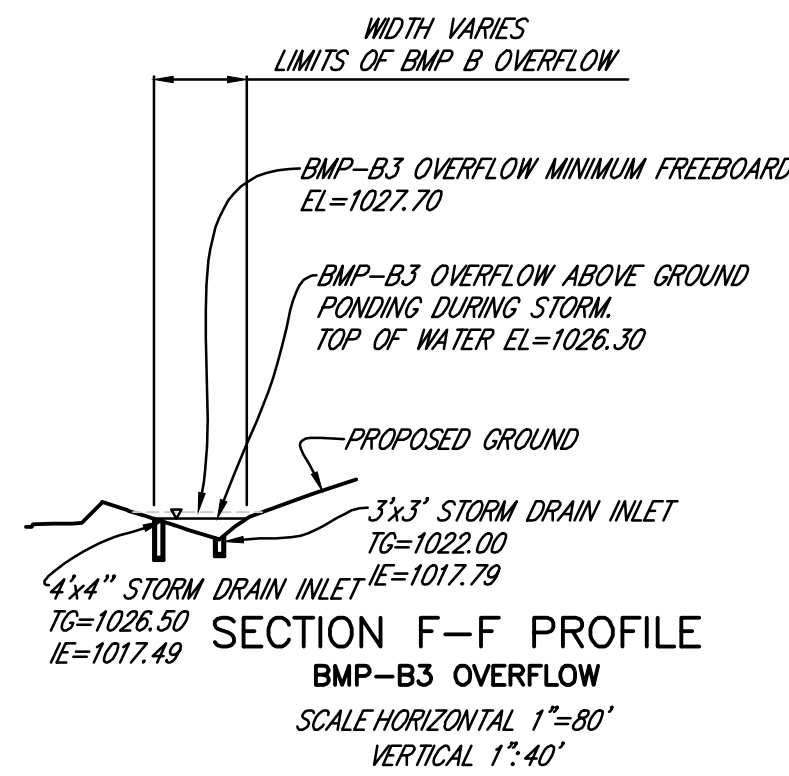
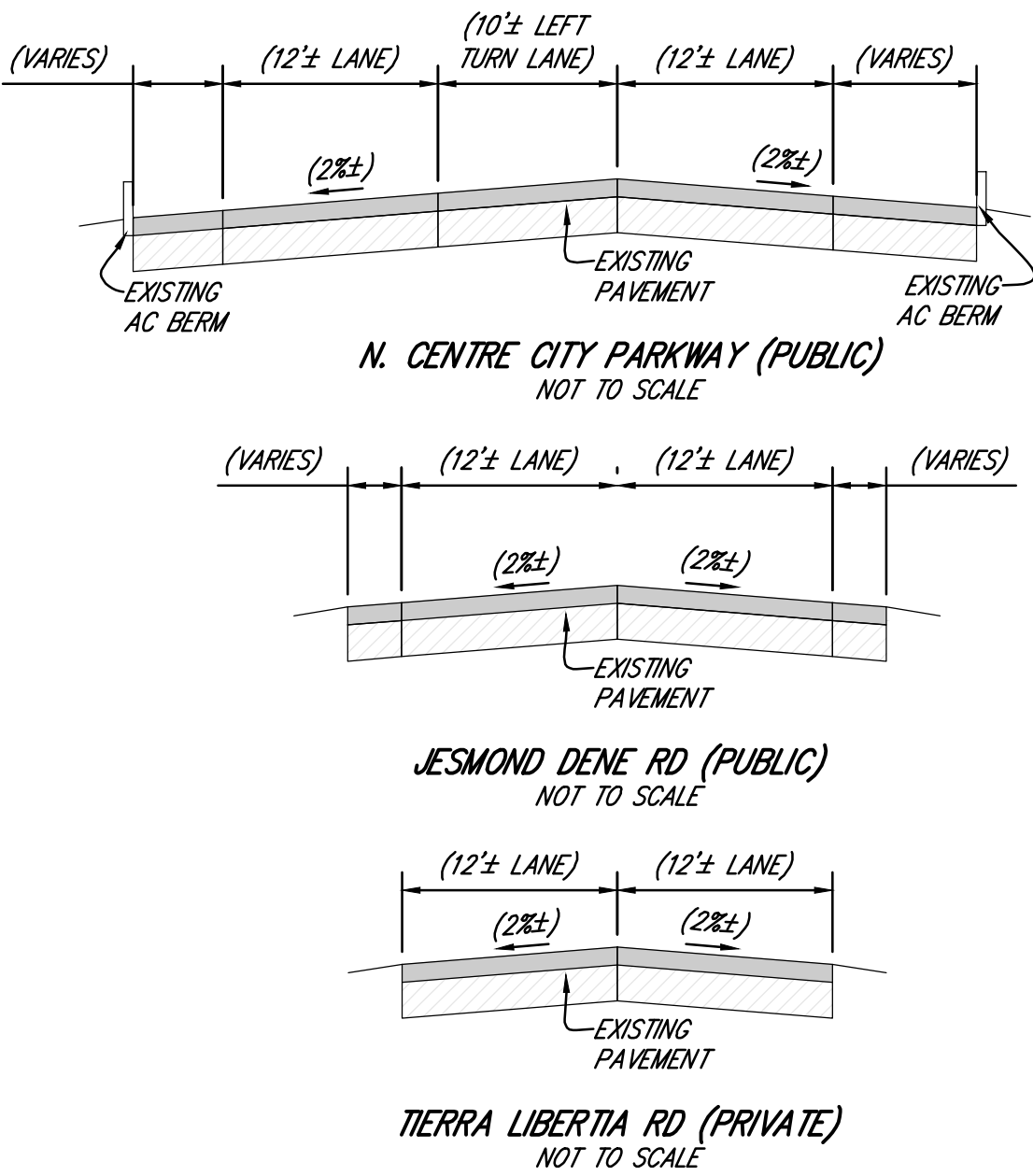


SITE DEVELOPMENT PLAN
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SITE GRADING SECTIONS
SHEET 6 OF 10 SHEETS



SITE GRADING SECTION(S) PLAN VIEW

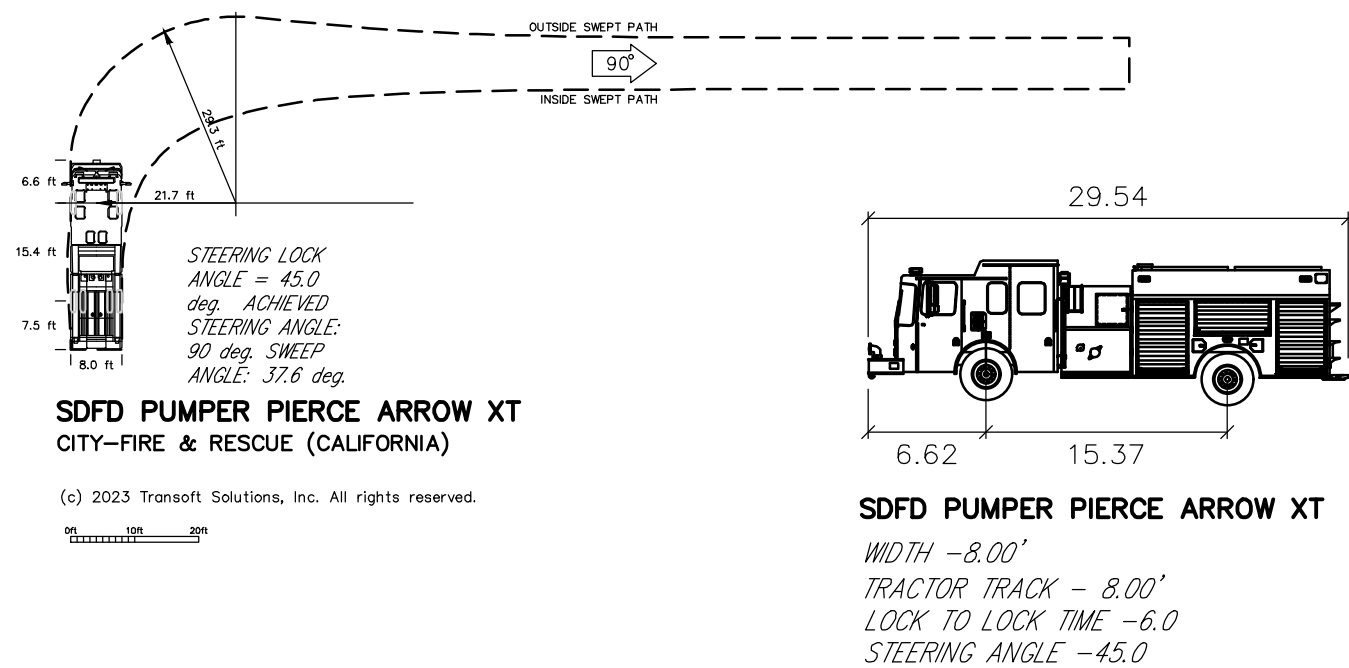


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CIRCULATION
SHEET 7 OF 10 SHEETS

- UTILITY IMPROVEMENTS
- UT-01 FIRELINE MAIN
 - UT-02 FIRE HYDRANT
 - UT-03 FIRE SERVICE LATERAL
 - UT-04 DOMESTIC WATER SERVICE LATERAL
 - UT-05 IRRIGATION WATER SERVICE LATERAL

- FIRE NOTES:
1. NO SPEED BUMPS SHALL BE ALLOWED.
 2. DRIVEWAY SURFACING SHALL BE DESIGN TO HANDLE A 75,000 LBS LOAD.
 3. 100 FEET OF DEFENSIBLE SPACE AWAY FROM NATURAL VEGETATION SHALL BE PROVIDED.
 4. ALL NEW BUILDINGS WILL BE REQUIRED TO BE EQUIPPED WITH AUTOMATIC FIRE SPRINKLER SYSTEMS.
 5. PROPER SIGNAGE AND ADDRESS SIGNS SHALL BE PROVIDED AND SHOWN ON THE BUILDING PLANS.
 6. GATES AT THE ENTRANCE/EXIT OF THE FRONT PARKING LOTS WILL REQUIRE KNOX BOXES AND OPTICOM CONTROL.



EMERGENCY VEHICLE USED IN THIS AUTOTURN SIMULATION

SITE DEVELOPMENT PLAN
FOR COUNTY OF SAN DIEGO
K A R V E - SKI PARK
APN 187-630-12

UTILITIES
SHEET 8 OF 10 SHEETS

CONSTRUCTION NOTES
STORM DRAIN/WATER QUALITY
IMPROVEMENTS

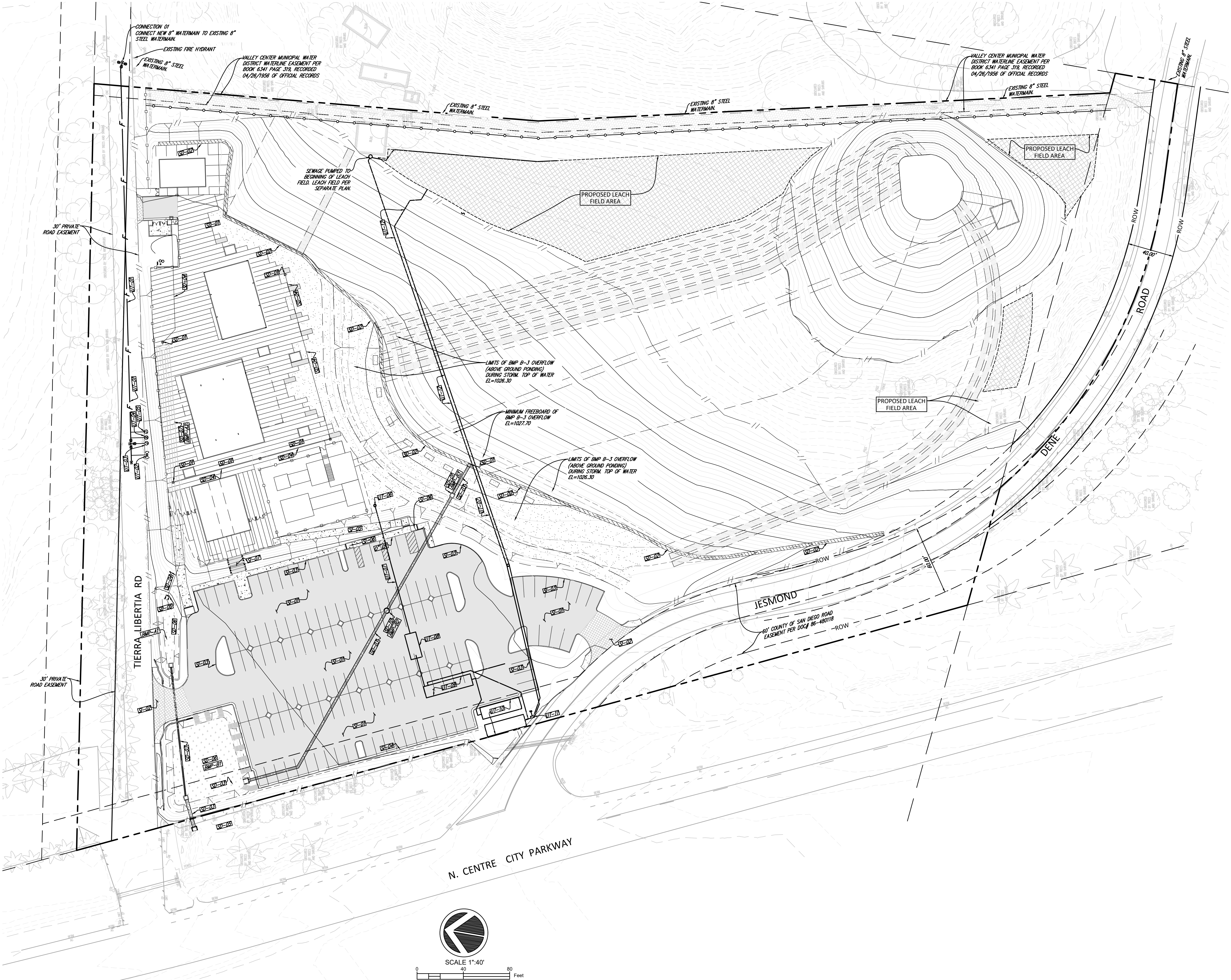
- SD-01 STORM DRAIN INLET
- SD-02 GRAVEL TRENCH DRAIN. SEE DETAIL "A".
- SD-03 STORM DRAIN PIPE
- SD-04 AREA DRAIN PIPE
- SD-05 U TYPE HEADWALL
- SD-06 WATER QUALITY BASIN. SEE DETAILS ON SHEET.
- SD-07 48" DETENTION PIPE
- SD-08 BMP ROCK SWALE
- SD-09 CISTERN
- SD-10 SD IN-LINE TRASH SEPARATOR

UTILITY IMPROVEMENTS

- UI-01 FIRELINE MAIN
- UI-02 FIRE HYDRANT
- UI-03 FIRE SERVICE LATERAL
- UI-04 DOMESTIC WATER SERVICE LATERAL
- UI-05 IRRIGATION WATER SERVICE LATERAL
- UI-06 PRIVATE SEWER LINE CONNECTION POINT FOR THE BLDGS ON THE UPPER PAD
- UI-07 PRIVATE ON-SITE SEWER LINE
- UI-08 9,000 GALS GREASE TRAP
- UI-09 20,000 GALS SEPTIC TANK
- UI-10 STS TANKS
- UI-11 PUMP TO CONVEY SEWAGE TO LEACH FIELD
- UI-12 PRIVATE ON-SITE PRESSURE & RETURN SEWER LINES

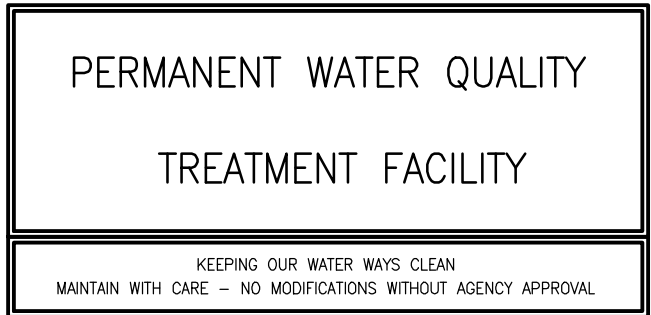
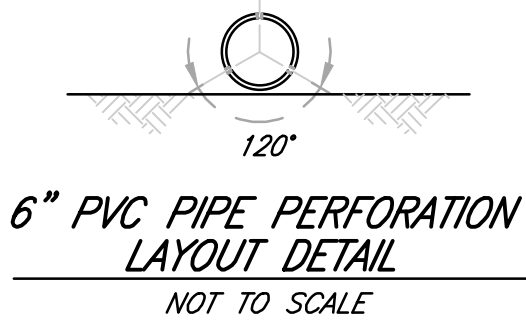
LEGEND

PROJECT BOUNDARY	---
PROPERTY LINE	-PL-
RIGHT OF WAY	-RW-
EXIST MAJOR CONTOUR	---100---
EXIST MINOR CONTOUR	---100---
PROPOSE MAJOR CONTOUR	---100---
PROPOSE MINOR CONTOUR	---100---
GEOGRID TYPE RETAINING	=====
CMU TYPE RETAINING	=====
SOIL NAIL TYPE RETAINING	=====
EXIST WATER MAIN	W
EXIST SEWER MAIN	S
NEW WATER MAIN	W
NEW SEWER MAIN	S
FLOW LINE	====>====>====>====>
PCC BROW DITCH	====>====>====>====>
EXIST. FIRE LINE	F
FIRE HYDRANT	⊗
STREET/PARKING LIGHT	⊙
STORM DRAIN INLETS/CLEANOUTS	□ □ □
WATER SERVICE LATERAL	W
SEWER SERVICE LATERAL	S
FIRE SERVICE LATERAL	F
PCC CURB	=====
PCC CURB & GUTTER	=====

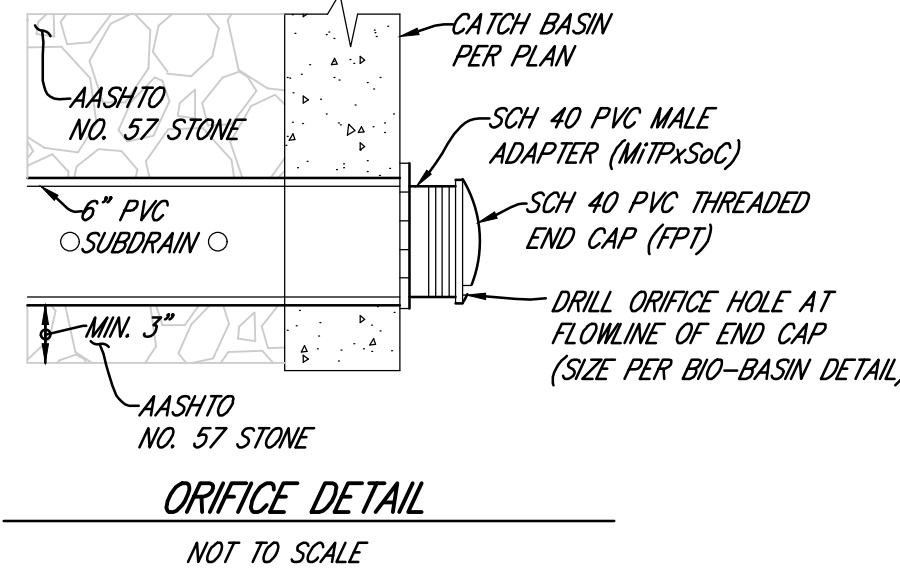


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\\122122009\engineering\SPD\sheet1 - sdp\22009_DMA2.dwg 6/20/2025 1:00 PM ORIGINAL PLOT SIZE: -----
\\122122009\engineering\SPD\sheet1 - sdp\22009_DMA2.dwg 6/20/2025 1:00 PM ORIGINAL PLOT SIZE: -----

DMA	TYPE OF DMA	DMA AREAS				ROUTED TO BMP	
		AREA IMPERVIOUS	AREA ENGINEERED PERVIOUS	AREA PERVIOUS	AREA TOTAL		
		SQFT	SQFT	SQFT	SQFT		
DMA1	STANDARD	17,346	31,858	0	49,204	BMP-C	BMP-A
DMA-2	STANDARD	52,928	13,491	0	234,756		
DMA-4		91,941	0	76,396		BMP-E	BMP-I
DMA-8	STANDARD	983	6,634	0	938		BMP-D
DMA-3	STANDARD	996	2085	0	3081	BMP-F	BMP-F
DMA-5	SELF-MITIGATION	0	0	5075	5075		NONE
DMA-6	SELF-MITIGATION	0	0	370	370		NONE
DMA-7	SELF-MITIGATION	0	0	3745.437	3745.4		NONE
DMA-9	SELF-MITIGATION	700	0	14197	14897		NONE

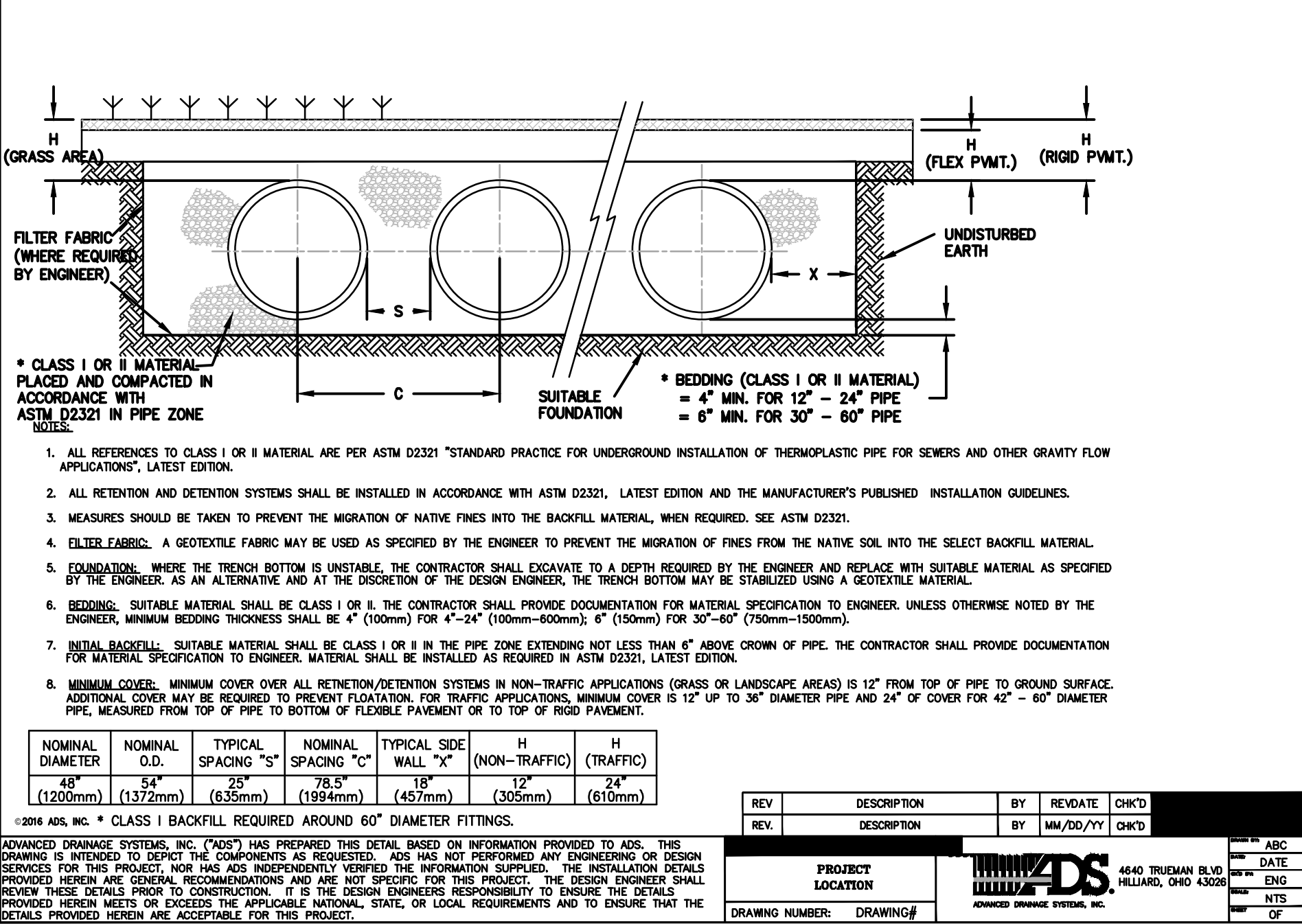


NOTE: ALL BIOFILTRATION AREAS WILL HAVE A SIGN POSTED TO BE VISIBLE AT ALL TIMES.



SITE DEVELOPMENT PLAN FOR COUNTY OF SAN DIEGO K A R V E - SKI PARK APN 187-630-12

SHEET 9 OF 10 SHEETS



1. ALL REFERENCES TO CLASS I OR II MATERIAL ARE PER ASTM D2321 "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.
2. ALL RETENTION AND DETENTION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, LATEST EDITION AND THE MANUFACTURER'S PUBLISHED INSTALLATION GUIDELINES.
3. MEASURES SHOULD BE TAKEN TO PREVENT THE MIGRATION OF NATIVE FINES INTO THE BACKFILL MATERIAL, WHEN REQUIRED. SEE ASTM D2321.
4. FILTER FABRIC: A GEOTEXTILE FABRIC MAY BE USED AS SPECIFIED BY THE ENGINEER TO PREVENT THE MIGRATION OF FINES FROM THE NATIVE SOIL INTO THE SELECT BACKFILL MATERIAL.
5. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
6. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I OR II. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER. MINIMUM BEDDING THICKNESS SHALL BE 4 inch (100mm) FOR 4 inch - 24 inch (100mm-600mm); 6 inch (150mm) FOR 30 inch - 60 inch (750mm-1500mm).
7. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I OR II IN THE PIPE ZONE EXTENDING NOT LESS THAN 6 inch ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
8. MINIMUM COVER: MINIMUM COVER OVER ALL RETENTION/DETENTION SYSTEMS IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12 inch FROM TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLATULANCE. FOR TRAFFIC APPLICATIONS, MINIMUM COVER IS 12 inch UP TO 36 inch DIAMETER PIPE AND 24 inch OF COVER FOR 42 inch - 60 inch DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

NOMINAL DIAMETER	NOMINAL O.D.	TYPICAL SPACING "S"	NOMINAL SPACING "C"	TYPICAL SIDE WALL "X"	H (NON-TRAFFIC)	H (TRAFFIC)
48 (1200mm)	54 (1372mm)	72 (1829mm)	78 (1981mm)	18 (457mm)	12 (305mm)	24 (610mm)

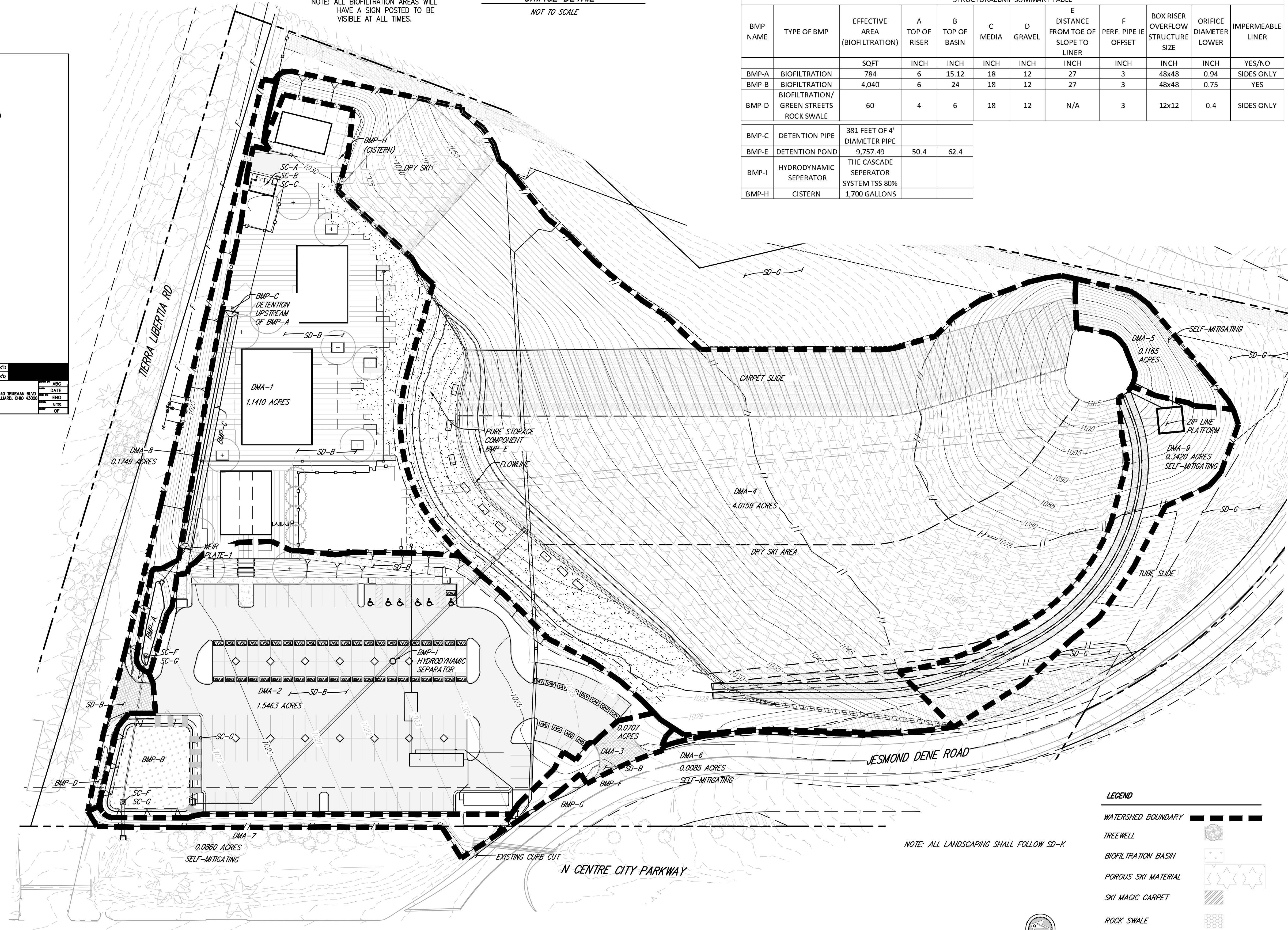
©2014 ADS, INC. * CLASS I BACKFILL REQUIRED AROUND 60" DIAMETER FITTINGS.

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEET OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

REV	DESCRIPTION	BY	REDATE	CHK'D
1	DESCRIPTION	BY	DATE	CHK'D

HYDROLOGIC SOIL GROUP:

THE HYDROLOGIC SOIL GROUP FOR THE PROJECT SITE IS SOIL GROUP C.

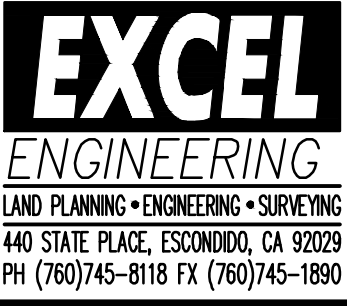


STRUCTURAL BMP SUMMARY TABLE											
BMP NAME	TYPE OF BMP	EFFECTIVE AREA (BIOFILTRATION)	A TOP OF RISER	B TOP OF BASIN	C MEDIA	D GRAVEL	E DISTANCE FROM TOE OF SLOPE TO LINER	F PERF. PIPE IE OFFSET	BOX RISER OVERFLOW STRUCTURE SIZE	ORIFICE DIAMETER LOWER	IMPERMEABLE LINER
BMP-A	BIOFILTRATION	784	6	15.12	18	12	27	3	48x48	0.94	SIDES ONLY
BMP-B	BIOFILTRATION	4,040	6	24	18	12	27	3	48x48	0.75	YES
BMP-D	BIOFILTRATION/ GREEN STREETS ROCK SWALE	60	4	6	18	12	N/A	3	12x12	0.4	SIDES ONLY
BMP-C	DETENTION PIPE	381 FEET OF 4' DIAMETER PIPE									
BMP-E	DETENTION POND	9,757.49	50.4	62.4							
BMP-I	HYDRODYNAMIC SEPARATOR	THE CASCADE SEPARATOR SYSTEM TSS 80%									
BMP-H	CISTERN	1,700 GALLONS									

- LEGEND
- WATERSHED BOUNDARY
 - TREEMELL
 - BIOFILTRATION BASIN
 - POROUS SKI MATERIAL
 - SKI MAGIC CARPET
 - ROCK SWALE



KARVE SKI PARK DMA EXHIBIT
SHEET 1 OF 2



SITE DEVELOPMENT PLAN
FOR COUNTY OF SAN DIEGO
K A R V E - SKI PARK
APN 187-630-12

SHEET 10 OF 10 SHEETS

STRUCTURALBMP SUMMARY TABLE											
BMP NAME	TYPE OF BMP	EFFECTIVE AREA (BIOFILTRATION)	A TOP OF RISER	B TOP OF BASIN	C MEDIA	D GRAVEL	E DISTANCE FROM TOE OF SLOPE TO LINER	F PERF. PIPE IE OFFSET	BOX RISER OVERFLOW STRUCTURE SIZE	ORIFICE DIAMETER LOWER	IMPERMEABLE LINER
		SOFT	INCH	INCH	INCH	INCH	INCH	INCH	INCH	INCH	YES/NO
BMP-A	BIOFILTRATION	784	6	15.12	18	12	27	3	48x48	0.94	SIDES ONLY
BMP-B	BIOFILTRATION	4,040	6	24	18	12	27	3	48x48	0.75	YES
BMP-D	BIOFILTRATION/ GREEN STREETS ROCK SWALE	60	4	6	18	12	N/A	3	12x12	0.4	SIDES ONLY
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BMP-I	HYDRODYNAMIC SEPARATOR	THE CASCADE SEPARATOR SYSTEM TSS 80%									
BMP-H	CISTERN	1,700 GALLONS									

WATER QUALITY BASIN INSTALLATION NOTES:

- 3 INCHES OF WELL-AGED, SHREDDED HARDWOOD MULCH.
- AN UNDERDRAIN CLEANOUT WITH A MINIMUM 6-INCH DIAMETER AND LOCKABLE CAP IS PLACED EVERY 250 TO 300 FEET AS REQUIRED BASED ON UNDERDRAIN LENGTH.
- VEGETATION USED SHOULD BE SUITABLE FOR THE CLIMATE PER LANDSCAPE PLANS
- FILTER COARSE IS A MINIMUM OF 6 INCHES PROVIDED IN TWO SEPARATE 3 INCH LAYERS. THE TOP LAYER SHALL BE MADE OF ASTM G33 CHOKER SAND AND THE BOTTOM LAYER BE OF ASTM NO. 8 AGGREGATE. MARKERS STAKES SHALL BE USED TO ENSURE UNIFORM LIFT THICKNESS.
- AASHTO NO. 57 STONE OR CLASS 2 PERMEABLE PER CAL TRANS SPECIFICATION 68-1.025 IS RECOMMENDED FOR THE AGGREGATE STORAGE LAYER. WASHED, OPEN-GRADED CRUSHED ROCK MAY BE USED, HOWEVER, A 4 INCH MINIMUM WASHED PEA GRAVEL FILTER COURSE LAYER AT THE TOP OF THE CRUSHED ROCK IS REQUIRED.
- IMPERMEABLE LINER SHALL BE INSTALLED WHEN THE BIOFILTRATION BASIN IS WITHIN 10 FEET OF RETAINING WALLS OR BUILDING FOUNDATIONS, OR AS RECOMMENDED BY THE SOILS ENGINEER, OR REQUIRED BY THESE PLANS. IMPERMEABLE LINER SHALL BE 30 MIL THICK (PER COUNTY OF SAN DIEGO GREEN STREETS DESIGN STANDARD DRAWING GS-3.00 AND COUNTY GREEN STREETS SUPPLEMENT TO CAL TRANS SPECIFICATIONS 20-11.08B) CONFIGURED TO ENTIRELY ENCOMPASS THE SIDES OF THE WATER QUALITY BASIN.
- IMPERMEABLE LINER BE CONSTRUCTED IN COMPLIANCE WITH THE COUNTY OF SAN DIEGO GREEN STREETS SUPPLEMENT TO CAL TRANS SPECIFICATIONS 20-11.08B.
- BIOFILTRATION SOIL MEDIA LAYER (BSM) SHALL CONSIST OF 60% TO 80% BY VOLUME SAND, UP TO 20% BY VOLUME TOPSOIL, AND UP TO 20% BY VOLUME COMPOST (PER COUNTY OF SAN DIEGO BMP DESIGN MANUAL SEPTEMBER 2020 APPENDIX F.2 SECTION 803-2 BLENDED BSM CRITERIA AND TESTING REQUIREMENTS) PLACED IN 6" LIFTS AND COMPACTED WITH WATER PRIOR TO THE NEXT LIFT. INITIAL PERMEABILITY SHALL BE 8" PER HOUR (WITH ASSUMED STABILIZED PERMEABILITY OF 5" PER HOUR).
- THE AGGREGATE STORAGE LAYER SHALL BE COMPACTED IN ACCORDANCE WITH SOILS ENGINEER'S RECOMMENDATIONS.
- OVERFLOW STRUCTURE TO HAVE A MINIMUM OF 2 INCHES OF FREEBOARD.
- ALL LINER INSTALLATIONS, FIELD WELDING OF SEAMS, AND OBSERVATION OF SOIL MIX PLACEMENT SHALL REQUIRE SPECIAL INSPECTION BY THE PROJECT GEOTECHNICAL ENGINEER OR OTHER QUALIFIED PERSON. A LETTER CERTIFYING PROPER INSTALLATION SHALL BE PROVIDED TO THE ENGINEER OF RECORD TO ACCEPTANCE OF THE FACILITIES.
- SPECIAL INSPECTION SHALL BE REQUIRED FOR CONSTRUCTION OF ALL BIOFILTRATION BASINS. INSPECTION SHALL BE PERFORMED BY A QUALIFIED INDIVIDUAL (SUCH AS: ENGINEER OF RECORD, QSD). INSPECTION SHALL INCLUDE:
 - VERIFICATION OF OVERALL DIMENSIONS PRIOR TO PLACEMENT OF MATERIALS;
 - PLACEMENT OF THE LINER, IF REQUIRED; AND SEAMS OR PENETRATIONS
 - PLACEMENT OF THE GRAVEL, FILTER MATERIALS, AND FILTER MEDIA;
 - ALL INLET AND OUTLET STRUCTURES INCLUDING UNDERDRAINS, IF REQUIRED;
 - CONTRACTOR SHALL TAKE PICTURES AT EACH STAGE OF INSTALLATION AND SUBMITTED TO ENGINEER FOR VERIFICATION OF INSTALL.

INSPECTOR SHALL BE GIVEN A MINIMUM OF 48 HOURS PRIOR TO INSPECTION. UPON COMPLETION THE INSPECTOR SHALL PROVIDE A CERTIFICATION TO THE ENGINEER OF WORK.

- PROPOSED MATERIALS, SUCH AS AGGREGATE, FILTER MATERIAL, AND FILTER MEDIA SHALL BE SUBMITTED TO THE ENGINEER OF WORK FOR APPROVAL.

SELF-MITIGATING DMAS:

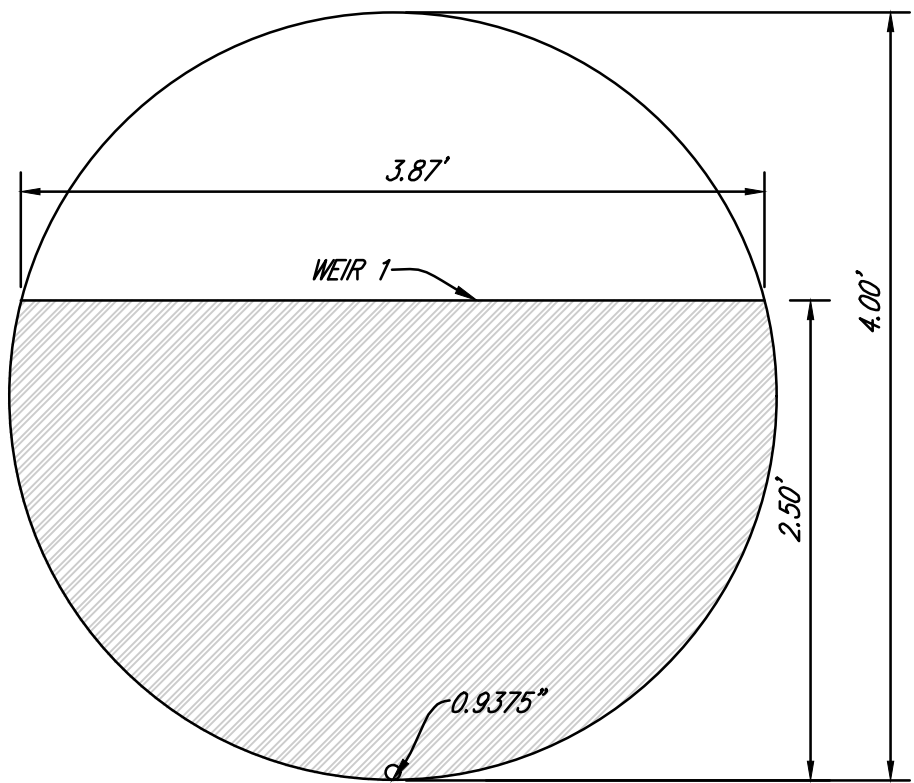
- VEGETATION IN THE NATURAL OR LANDSCAPED AREA IS NATIVE AND/OR NON-NATIVE/NON-INVASIVE DROUGHT TOLERANT SPECIES THAT DO NOT REQUIRE REGULAR APPLICATION OF FERTILIZERS AND PESTICIDES.
- SOILS ARE UNDISTURBED NATIVE TOPSOIL, OR DISTURBED SOILS THAT HAVE BEEN AMENDED AND AERATED TO PROMOTE WATER RETENTION CHARACTERISTICS EQUIVALENT TO UNDISTURBED NATIVE TOPSOIL.
- THE INCIDENTAL IMPERVIOUS AREAS ARE LESS THAN 5 PERCENT OF THE SELF-MITIGATING AREA.
- IMPERVIOUS AREA WITHIN THE SELF-MITIGATED AREA SHOULD NOT BE HYDRAULICALLY CONNECTED TO OTHER IMPERVIOUS AREAS UNLESS IT IS A STORM WATER CONVEYANCE SYSTEM (SUCH AS A BROW DITCH).
- THE SELF-MITIGATING AREA IS HYDRAULICALLY SEPARATE FROM DMAS THAT CONTAIN PERMANENT STORM WATER POLLUTANT CONTROL BMPS.

NOTES:

- MINIMUM TREE PLANTING SPACE DIMENSION 4'X6'.
- MAXIMUM WATERSHED AREA: 6 TIMES AREA OF THE TREE PLANTING BED.
- DETAIL INTENDED FOR NEW TREE PLANTINGS ON SITES WITH CONSTRAINTS TO ACHIEVE FULL SOIL VOLUME.
- TO ADAPT DETAIL TO EXISTING TREE LOCATION, PROVIDE EXPANDED SOIL VOLUMES BEYOND EXISTING TREE ROOTING AREA; DO NOT DISTURB AROUND EXISTING TREE ROOT.
- PROVIDE 18" DEEP ROOT BARRIER ON STREET SIDE OF TREE WELL AS NECESSARY.
- PROVIDE SPLASH PAD FOR TREE PLANTING SPACE PER GS-2.6b.

SITE DESIGN BMP SUMMARY TABLE

DRAINAGE BASIN ID	DMA-3
BMP TYPE	TREE WELL
BMP NAME(S)	BMP F & BMP G
TREE CANOPY DIAMETER (FT)	20
NUMBER OF IDENTICAL TREES	2
TREE WELL SOIL DEPTH (INCHES)	48
AREA OF BMP (SQFT)	157



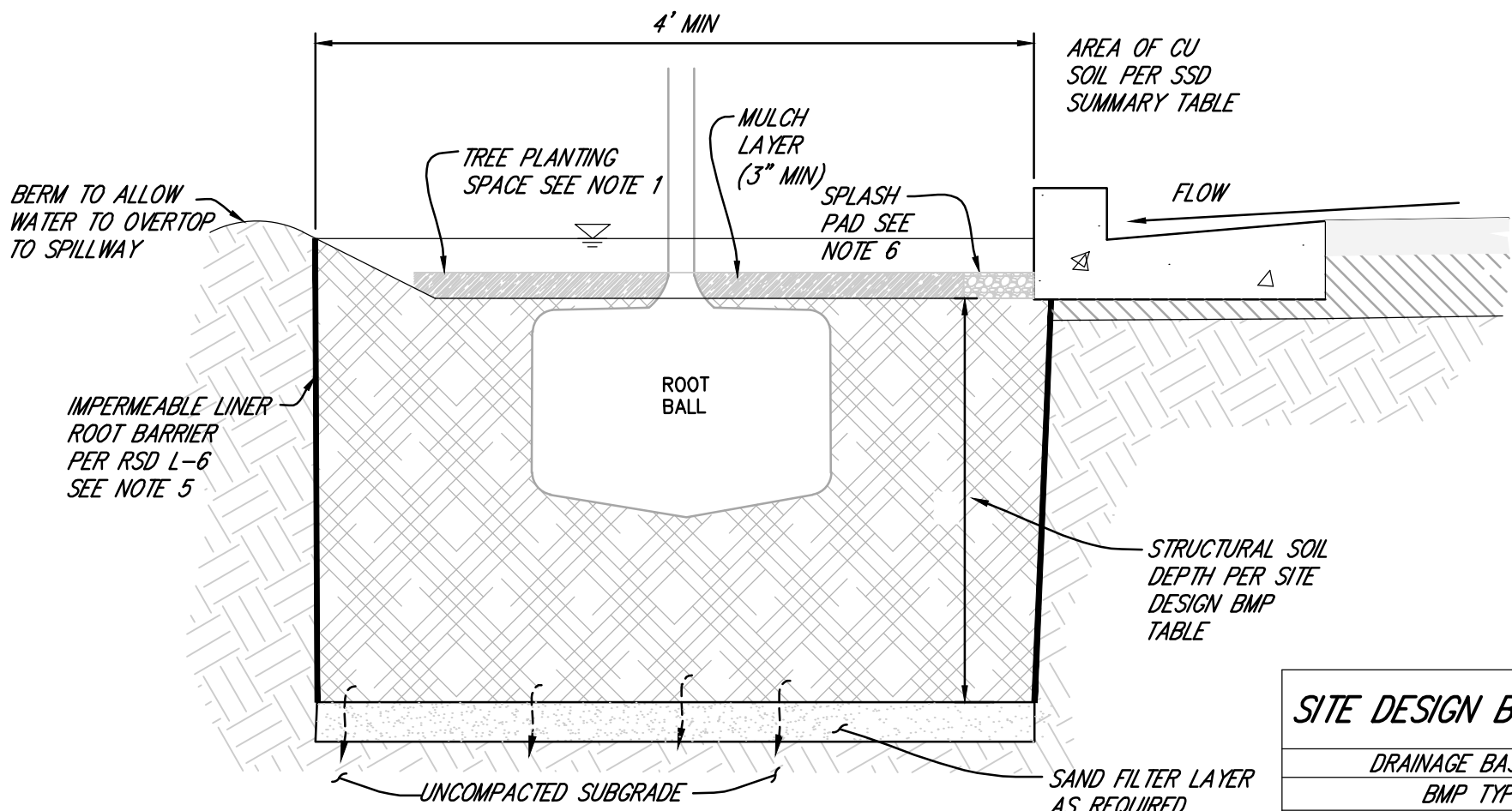
WEIR PLATE 1
NOT TO SCALE



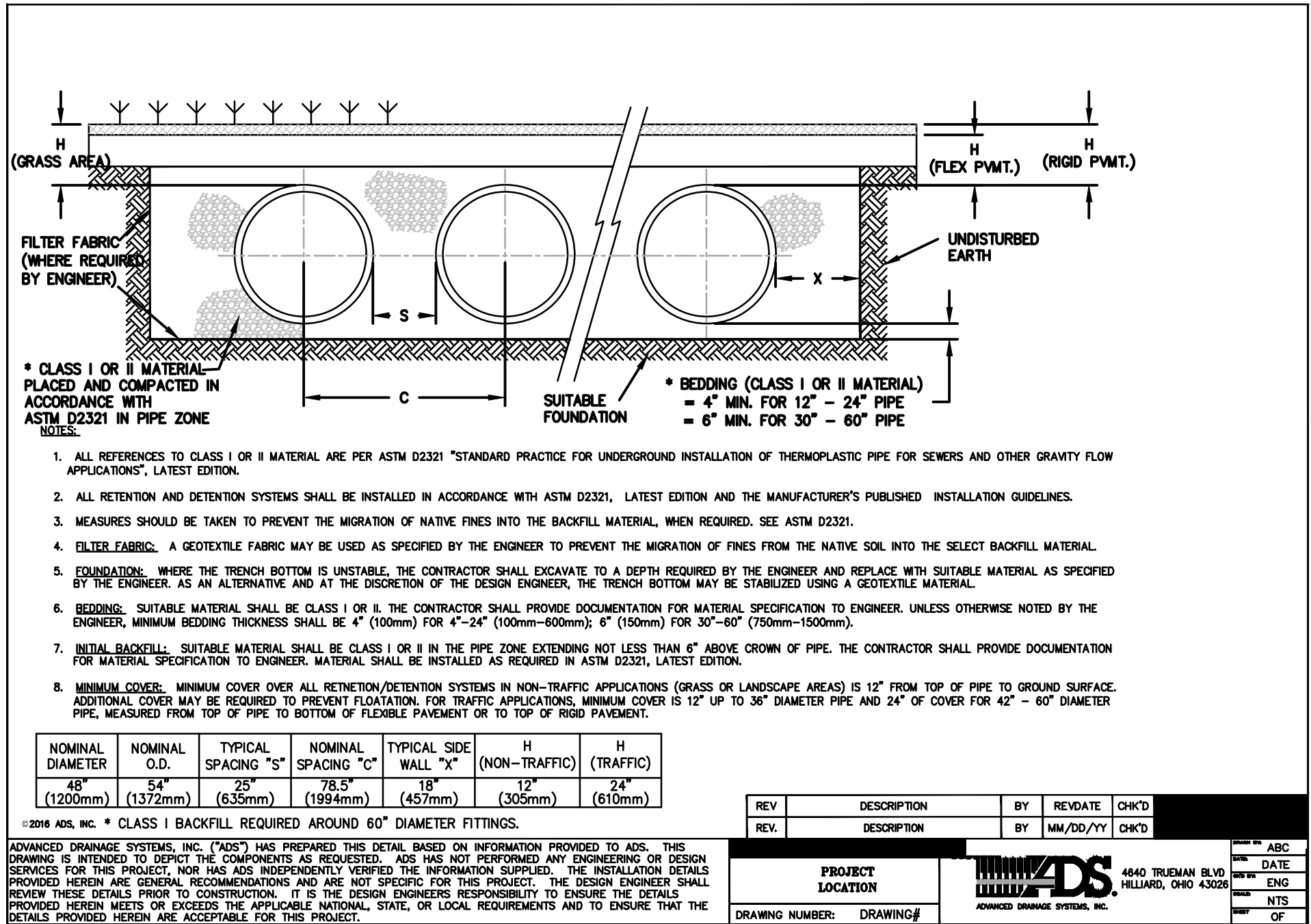
DETAIL
"NO DUMPING" AT CATCH BASINS

NOTE: ALL CATCH BASINS WITH GRATES SHALL BE STENCILED WITH CITY REQUIRED ITEM PER ABOVE DETAIL:

(DAS MANUFACTURING #SDO OR EQUIVALENT)

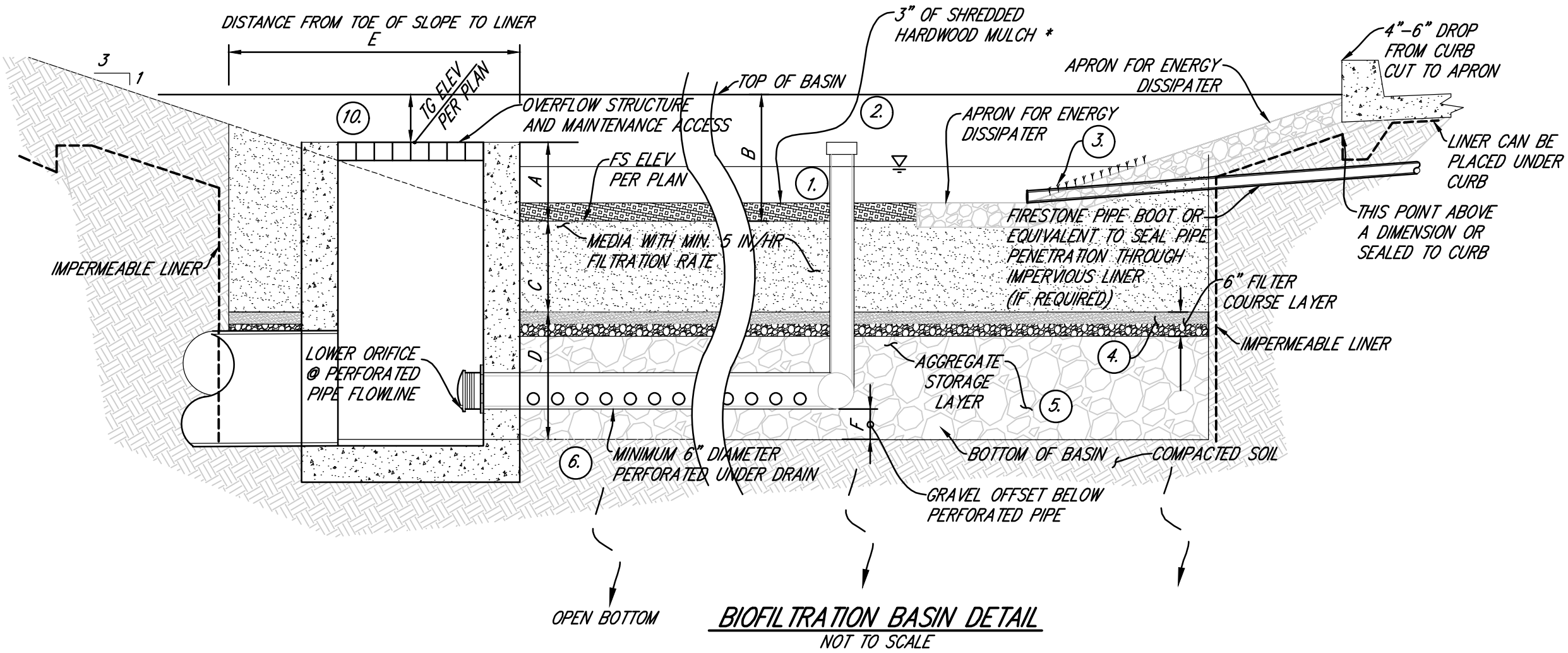


TREE WELL DETAIL
NOT TO SCALE



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REV	DESCRIPTION	BY	REDATE	CHKD
1	ADD			
2	DATE			
3	ENG			
4	NTS			
5	OF			



BIOFILTRATION BASIN DETAIL
NOT TO SCALE