

PINTO LAKE BIKE PUMP TRACK PROJECT

PROJECT #17C1-015

TECHNICAL SPECIFICATIONS

Volume II of III

**COUNTY OF SANTA CRUZ, CALIFORNIA
GENERAL SERVICES DEPARTMENT
June 12, 2018**

PROPOSALS DUE: July 13, 2018 – 2:30 P.M.
PROJECT NO.: #17C1-015

PRE-BID CONFERENCE:
June 27, 2018 @ 10:00 am
Pinto Lake Park
757 Green Valley Road, Watsonville, CA

VOLUME I: General and Supplemental Conditions
VOLUME II: Technical Specifications
VOLUME III: Bid Proposal

GRADING PERMIT PLANS

FOR

BIKE PUMP TRACK AT PINTO LAKE COUNTY PARK

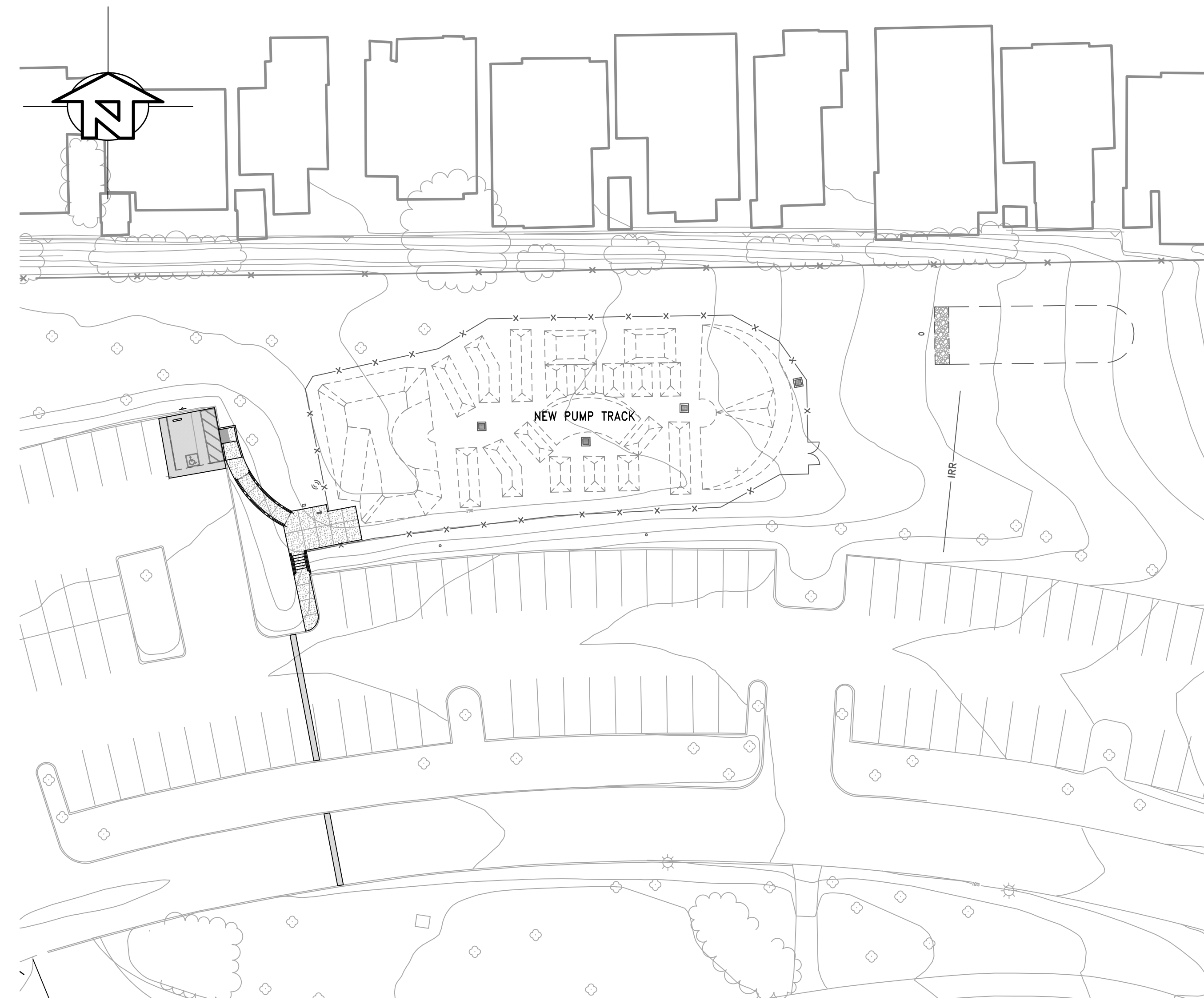
451 GREEN VALLEY ROAD
WATSONVILLE, CALIFORNIA 95076

ABBREVIATIONS

AB	AGGREGATE BASE	LP	LOW POINT
AC	ASPHALT CONCRETE	MAX	MAXIMUM
BFP	BACKFLOW PREVENTER	MH	MANHOLE
BRW	BOTTOM OF RETAINING WALL	MIN	MINIMUM
BSW	BACK OF SIDEWALK	N	NORTH
BW	BOTTOM OF WALL	NE	NORTHEAST
CB	CATCH BASIN	NW	NORTHWEST
CI	CURB INLET	(N)	NEW
CIP	CAST IRON PIPE	O.C.	ON CENTER
CL	CENTERLINE	O.D.	OUTSIDE DIAMETER
CLR	CLEAR	OH	OVERHEAD
CMP	CORRUGATED METAL PIPE	PCC	PORTLAND CEMENT CONCRETE
CMU	CONCRETE MASONRY UNIT	PL	PROPERTY LINE
CO	CLEANOUT	P.O.T.	PATH OF TRAVEL
CONC	CONCRETE	PP	POWER POLE
COTG	CLEANOUT TO GRADE	PTDF	PRESSURE TREATED DOUGLAS FIR
DIA	DIAMETER	PSI	POUNDS PER SQUARE INCH
DIP	DUCTILE IRON PIPE	PV	PAVEMENT
DTL	DETAIL	PVC	POLYVINYL CHLORIDE PIPE
DWG	DRAWING	QC	QUICK COUPLER
DWY	DRIVEWAY	R	RADIUS
E	EAST, ELECTRICAL	RCP	REINFORCED CONCRETE PIPE
EG	EXISTING GROUND	RDWD	REDWOOD
EP	EDGE OF PAVEMENT	ROW	RIGHT-OF-WAY
(E)	EXISTING	RW	RECYCLED WATER
EX.	EXISTING	S	SOUTH, SLOPE
FG	FACE OF CURB	SD	STORM DRAIN
FC	FINISH GRADE	SE	SOUTHEAST
FF	FINISH FLOOR	SDMH	STORM DRAIN MANHOLE
FH	FIRE HYDRANT	SQ	SQUARE
FL	FLOWLINE	SS	SANITARY SEWER
FNC	FENCE	SSMH	SANITARY SEWER MANHOLE
FT	FOOT/FEET	STA	STATION
GB	GRADE BREAK	STD	STANDARD
HT	HEIGHT	SW	SIDEWALK, SOUTHWEST
HDPE	HIGH-DENSITY POLYETHYLENE	T	TELEPHONE
HORIZ	HORIZONTAL	TC	TOP OF CURB
HP	HIGH POINT	TRN	TRANSFORMER
INT	INTERSECTION	TRW	TOP OF RETAINING WALL
INV	INVERT	TW	TOP OF WALL
IRR	IRRIGATION	USA	UNDERGROUND SERVICE ALERT
JB	JUNCTION BOX	W	WEST, WATER
LF	LINEAR FOOT	WM	WATER METER
LIP	LIP OF GUTTER	WV	WATER VALVE
LOG	LIMIT OF GRADING	W/	WITH

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	CATCH BASIN	
	WATER VALVE	
	IRRIGATION LINE	
	STORM DRAIN LINE	
	WATER LINE	



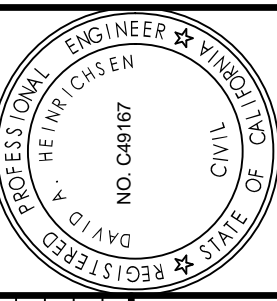
PLAN VIEW
N.T.S.



VICINITY MAP
N.T.S.

INDEX OF SHEETS

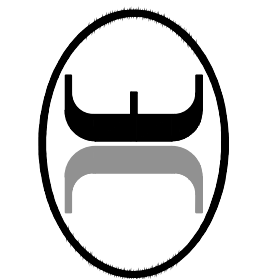
SHEET NO.	DESCRIPTION
C1.0	COVER SHEET
C2.0	NOTES
C3.0	DETAILS
C3.1	DETAILS
C4.0	SITE, GRADING, DRAINAGE & UTILITY PLAN
C5.0	EROSION CONTROL NOTES AND DETAILS



DATE	5/22/18
APPROVED BY	David Heinrichsen
REVISION	
DATE	

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COVER SHEET
PINTO LAKE - PUMP TRACK
451 GREEN VALLEY RD, WATSONVILLE, CALIFORNIA

APN 050-141-02	DRAWN DD
DATE 5/22/18	DESIGN DD

SHEET
C1.0

SANTA CRUZ COUNTY GENERAL NOTES

- ALL CONSTRUCTION SHALL COMPLY WITH APPLICABLE REQUIREMENTS IN THE CURRENT EDITION OF THE "COUNTY OF SANTA CRUZ DESIGN CRITERIA."
- WORK SHALL BE LIMITED TO 8:00 A.M. TO 5:00 P.M. WEEKDAYS. NON-NOISE PRODUCING ACTIVITIES, SUCH AS INTERIOR PAINTING, SHALL NOT BE SUBJECT TO THIS RESTRICTION.
- NO CHANGES IN THE APPROVED IMPROVEMENT PLANS SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE PARKS DEPARTMENT.
- BETWEEN OCTOBER 15 AND APRIL 15, EXPOSED SOIL SHALL BE PROTECTED FROM EROSION AT ALL TIMES. DURING CONSTRUCTION SUCH PROTECTION MAY CONSIST OF MULCHING AND/OR PLANTING OF NATIVE VEGETATION OF ADEQUATE DENSITY. BEFORE COMPLETION OF THE PROJECT, ANY EXPOSED SOIL ON DISTURBED SLOPES SHALL BE PERMANENTLY PROTECTED FROM EROSION.
- ALL CONSTRUCTION STAKING FOR CURB, GUTTER, SIDEWALK, STORM DRAINS AND WATER LINES SHALL BE DONE UNDER THE SUPERVISION OF A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER.
- THE COUNTY PARKS DIRECTOR, OR THEIR AUTHORIZED REPRESENTATIVE, SHALL HAVE THE AUTHORITY TO "STOP WORK" IF THE WORK IS NOT BEING DONE IN ACCORDANCE WITH THE APPROVED IMPROVEMENT PLANS.
- THE CONTRACTOR SHALL NOTIFY THE COUNTY PARKS DEPARTMENT PROJECT MANAGER 24 HOURS PRIOR TO START OF CONSTRUCTION (831-454-7901).
- ALL UTILITIES SHALL BE INSTALLED UNDERGROUND.
- IF SIDEWALK IS NOT PLACED MONOLITHICALLY WITH CURB AND GUTTER, PLACE #4 DOWELS 18" LONG AT 4' O.C. IN BACK OF CURB 3" BELOW TOP OF CURB, 6" INTO CONCRETE, AS PER STANDARD FIG. ST-4A.
- CONTRACTOR SHALL FIELD VERIFY ALL UNDERGROUND UTILITIES AND SUBSTRUCTURES. PRIOR TO FURTHER CONSTRUCTION, THE ENGINEER MUST BE NOTIFIED, IN WRITING, OF ANY DISCREPANCIES THAT MAY EXIST.
- PRIOR TO CONSIDERATION FOR FORMAL COUNTY ACCEPTANCE OF THE IMPROVEMENTS, AS-BUILT PLANS WILL BE PREPARED BY COUNTY STAFF. ANY CHANGES FROM THE IMPROVEMENT PLANS NOT PREVIOUSLY APPROVED BY THE PARKS DEPARTMENT WILL REQUIRE NEGOTIATION AND ADJUSTMENT TO THE SATISFACTION OF THE COUNTY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF CONSTRUCTION QUANTITIES PRIOR TO BIDDING ON ANY ITEM. QUANTITY REFERENCES SHOWN ON THESE PLANS, OR ENGINEER'S ESTIMATES ARE FOR ESTIMATING PURPOSES ONLY AND SHALL NOT BE CONSIDERED AS A BASIS FOR CONTRACTOR PAYMENT. CONSULTANT SHALL NOT BE RESPONSIBLE FOR ANY FLUCTUATIONS IN SUCH QUANTITIES AND ESTIMATES.
- THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO, OR USES OF, THESE PLANS. ALL CHANGES MUST BE IN WRITING AND MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
- UNLESS OTHERWISE NOTED, THE TERMS "INSTALL" AND "CONSTRUCT" MEAN THAT THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIALS, PRODUCTS, EQUIPMENT, AND LABOR FOR SAID INSTALLATION AND CONSTRUCTION.

ACCESSIBILITY NOTES

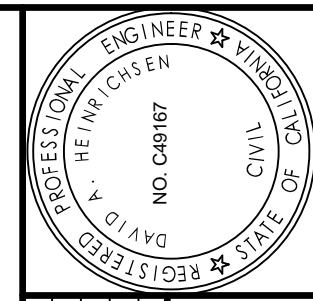
- ALL NEW WORK SHALL CONFORM TO TITLE 24 OF THE CALIFORNIA ADMINISTRATIVE CODE AND THE AMERICANS WITH DISABILITIES ACT (ADA).
- NEW CURB RAMPS SHALL NOT EXCEED A SLOPE OF 1:12 (8.33%).
- ALL NEW CONCRETE WALKS SHALL NOT EXCEED A SLOPE OF 1:20 (5%) LONGITUDINALLY UNLESS RAILINGS ARE PROVIDED IN WHICH CASE THE SLOPE SHALL NOT EXCEED 1:12 (8.33%). THESE SLOPE STANDARDS DO NOT APPLY TO THE NEW AC PATHWAY.
- RAMPS ARE DEFINED AS ANY WALKWAY WITH A LONGITUDINAL SLOPE BETWEEN 1:20 (5%) AND 1:12 (8.33%). RAMPS SHALL HAVE A MINIMUM WIDTH OF 48" AND A MAXIMUM CROSS-SLOPE OF 2%. RAMPS EXCEEDING 30" VERTICAL DROP SHALL HAVE INTERMEDIATE (2% MAXIMUM SLOPE) LANDINGS HAVING A MINIMUM LENGTH IN THE DIRECTION OF TRAVEL OF 60". LANDINGS AT THE BOTTOM OF A RAMP OR CHANGE IN RAMP DIRECTION SHALL HAVE A MINIMUM LENGTH OF 72".
- MAXIMUM CROSS-SLOPE ON ANY SIDEWALK OR RAMP SHALL BE 2%. MAXIMUM SLOPE IN ANY DIRECTION WITHIN PARKING STALLS DESIGNATED AS ACCESSIBLE PARKING STALLS SHALL BE 2%.
- CONTRACTOR SHALL ENSURE AND CONSTRUCT ALL IMPROVEMENTS WITH ADA COMPLIANCE. THIS SHALL INCLUDE BUT NOT LIMITED TO PATHWAYS, RAMPS, BUILDING ENTRANCES, ROADWAYS, ETC.

SANTA CRUZ COUNTY GRADING NOTES

- DESIGNATE A "DISTURBANCE COORDINATOR" TO RESPOND TO CITIZEN COMPLAINTS AND INQUIRIES REGARDING CONSTRUCTION NOISE AND DUST. THE NAME, PURPOSE, AND TELEPHONE NUMBER OF THE DISTURBANCE COORDINATOR SHALL BE POSTED ON A SIGN EASILY VISIBLE FROM OFF-SITE DURING THE ENTIRE TIME PROJECT GRADING AND CONSTRUCTION OCCURS. THE DISTURBANCE COORDINATOR SHALL INVESTIGATE THE CONCERN AND TAKE REMEDIAL ACTION, IF NECESSARY, WITHIN 24 HOURS OF RECEIVING A COMPLAINT OR AN INQUIRY.
- NO LAND CLEARING, GRADING, OR EXCAVATING SHALL TAKE PLACE BETWEEN OCTOBER 15 AND APRIL 15 UNLESS A SEPARATE WINTER EROSION CONTROL PLAN IS APPROVED BY THE PLANNING DIRECTOR.
- NO LAND DISTURBANCE SHALL TAKE PLACE PRIOR TO THE ISSUANCE OF BUILDING PERMITS, EXCEPT THE MINIMUM REQUIRED TO INSTALL STREET IMPROVEMENTS, PROVIDE ACCESS FOR COUNTY REQUIRED TESTS OR TO CARRY OUT OTHER WORK SPECIFICALLY REQUIRED BY ANOTHER OF THESE CONDITIONS.
- THE CONTRACTOR SHALL APPLY WATER TO ALL EXPOSED EARTH SURFACES AT INTERVALS SUFFICIENT TO PREVENT AIRBORNE DUST FROM LEAVING THE PROJECT SITE. ALL EXPOSED EARTH SHALL BE WATERED DOWN AT THE END OF THE WORK DAY.
- WHILE IN TRANSIT TO AND FROM THE PROJECT SITE, ALL TRUCKS TRANSPORTING FILL SHALL BE EQUIPPED WITH TARPS.
- PURSUANT TO SECTIONS 16.40.040 AND 16.42.100 OF THE COUNTY CODE, IF AT ANY TIME DURING SITE PREPARATION, EXCAVATION, OR OTHER GROUND DISTURBANCE ASSOCIATED WITH THIS DEVELOPMENT, ANY ARTIFACT OR OTHER EVIDENCE OF AN HISTORIC ARCHEOLOGICAL RESOURCE OR A NATIVE AMERICAN CULTURAL SITE IS DISCOVERED, THE RESPONSIBLE PERSONS SHALL IMMEDIATELY CEASE AND DESIST FROM ALL FURTHER SITE EXCAVATION AND NOTIFY THE SHERIFF-CORONER IF THE DISCOVERY CONTAINS HUMAN REMAINS, OR THE PLANNING DIRECTOR IF THE DISCOVERY CONTAINS NO HUMAN REMAINS. THE PROCEDURES ESTABLISHED IN SECTIONS 16.40.010 AND 16.42.100, SHALL BE OBSERVED.

IFLAND ENGINEERS STANDARD NOTES

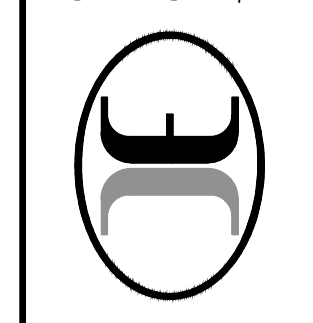
- ALL ORGANIC MATERIAL COVERING THE SITE SHALL BE STRIPPED AND STOCKPILED. THE STRIPPINGS SHALL BE USED TO BACKFILL ALL ROUGH GRADED MOUND AREAS OR LANDSCAPE PLANTERS AS APPROVED BY THE LANDSCAPE ARCHITECT, TO WITHIN 0.1' OF GRADES SHOWN. EXCESS STRIPPINGS AND EXCAVATED MATERIALS SHALL BE REMOVED FROM THE SITE BY THE GRADING CONTRACTOR IF EARTHWORK BALANCE CANNOT BE ACHIEVED.
- COMPACTION TO BE DETERMINED USING THE LATEST EDITION OF ASTM D1557.
- THE TYPES, LOCATIONS, SIZES, AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THE IMPROVEMENT PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS, AND DEPTHS OF SUCH UNDERGROUND UTILITIES. (A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES). HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF THE DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS. CONTRACTOR TO CONTACT USA AT 811 PRIOR TO START OF WORK.
- SHOULD DISCREPANCIES EXIST BETWEEN THE ACTUAL ELEVATIONS AND LOCATIONS OF EXISTING UTILITY CONNECTIONS AND THOSE AS SHOWN ON THESE PLANS, THE CONTRACTOR SHALL NOTIFY IFLAND ENGINEERS BEFORE ADJUSTING THE UTILITY DESIGN.
- CONTRACTOR SHALL UNCOVER AND EXPOSE ALL EXISTING UTILITY LINES WHERE THEY ARE TO BE CROSSED ABOVE OR BELOW BY THE NEW UTILITY LINE BEING CONSTRUCTED IN ORDER TO VERIFY THE GRADES AND CLEARANCES. IF ASSISTANCE IS REQUIRED, CONTRACTOR SHALL ARRANGE FOR A SURVEY CREW TO VERIFY THE ELEVATIONS AT THE CROSSINGS. PIPE SHALL NOT BE STRUNG NOR TRENCHING COMMENCED UNTIL ALL CROSSINGS HAVE BEEN VERIFIED FOR CLEARANCE.
- CONTRACTOR SHALL SET HIS STRING OR WIRE THROUGH AT LEAST THREE GRADE STAKES TO VERIFY THE UTILITY GRADES. IF THE STAKES DO NOT PRODUCE A UNIFORM GRADE, NOTIFY THE ENGINEER IMMEDIATELY AND HAVE THE GRADES CHECKED PRIOR TO TRENCHING.
- ALL UTILITY STRUCTURES TO REMAIN, INCLUDING BUT NOT LIMITED TO MANHOLES, CATCH BASINS, WATER VALVES, FIRE HYDRANTS, TELEPHONE AND ELECTRICAL VAULTS, AND PULL BOXES THAT REMAIN WITHIN AREAS EFFECTED BY THE CONSTRUCTION WORK ON THIS PROJECT SHALL BE ADJUSTED TO GRADE BY THE CONTRACTOR OR THE RESPECTIVE UTILITY COMPANY WHETHER SHOWN ON THESE PLANS OR NOT. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL PUBLIC OR PRIVATE UTILITY COMPANIES.
- STORM DRAIN PIPES DESIGNATED AS "SD" FROM 4" TO 24" IN DIAMETER SHALL BE SDR-35 P.V.C. OR APPROVED EQUAL, HDPE STORM DRAIN PIPE WITH SMOOTH INTERIOR AND ANNULAR EXTERIOR CORRUGATIONS, MEETING AASHTO M252, TYPE S, AASHTO M294, TYPE S, OR ASTM F2306 SPECIFICATIONS, WITH WATER-TIGHT INTEGRATED BELL JOINTS PER ASTM D3212 OR APPROVED EQUAL WITH CLASS 1 BACKFILL, OR D.I.P. (DUCTILE IRON PIPE) IF SPECIFIED ON THE PLANS. NO MATERIAL SUBSTITUTION SHALL BE ALLOWED FOR DUCTILE IRON PIPE IF DESIGNATED ON THE PLANS. ANY PIPES LARGER THAN 24" IN DIAMETER SHALL BE CLASS III REINFORCED CONCRETE PIPE (RCP). HDPE AND PVC PIPES SHALL ONLY BE USED IF DESIGNATED ON THE PLANS. NO OTHER PIPE MATERIALS MAY BE USED UNLESS APPROVED BY THE ENGINEER.
- ALL AREAS TO BE GRADED ACCORDING TO THE GRADES SHOWN ON THESE PLANS. A 1% MINIMUM SLOPE FOR DRAINAGE SHALL BE APPLIED IF NO GRADES ARE SHOWN, SUBJECT TO THE APPROVAL OF THE PROJECT ENGINEER. FLOWLINE OF CURBS AND VALLEY GUTTERS MAY BE GRADED AT LESS THAN 1% IF SLOPES ARE DESIGNATED ON THESE PLANS.
- CONTRACTOR SHALL GRADE EVENLY BETWEEN SPOT ELEVATIONS.
- PROPOSED SPOT GRADES (ELEVATIONS) SHOWN HEREON ARE FINISHED PAVEMENT GRADES OR FINISHED SURFACE GRADES, NOT TOP OF CURB GRADES, UNLESS NOTED OTHERWISE.
- WHEN A GRADING PERMIT IS ISSUED ON THIS PROJECT, THE AGENCY APPROVAL APPLIES ONLY TO GRADING. THE CONTRACTOR IS RESPONSIBLE FOR SECURING ALL OTHER NECESSARY PERMITS TO CONSTRUCT THE PROPOSED SITE WORK.
- APPROVED PLANS FOR ROADWAYS CONSTITUTE APPROVAL FOR THE CONSTRUCTION OF THE ROADWAY ONLY. ALL OTHER NECESSARY PERMITS STILL APPLY.
- ESTIMATED EARTHWORK QUANTITIES SHOWN (SHEET C4.0) ON THESE PLANS ARE APPROXIMATE ONLY AND SHOWN FOR THE PURPOSES OF CALCULATING GRADING PERMIT FEES. CONTRACTOR IS RESPONSIBLE FOR VERIFYING INDEPENDENTLY BOTH CUT AND FILL QUANTITIES. IFLAND ENGINEERS ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THESE NUMBERS.
- CONTRACTOR SHALL VERIFY THE CONTENTS AND THICKNESS OF THE BUILDING SLAB SECTION (I.E. CONCRETE, SAND, ROCK) WITH THE STRUCTURAL PLANS PRIOR TO COMMENCEMENT OF GRADING OPERATIONS.
- ALL GRADING, TRENCHING, SHORING, PAVING, AND CONSTRUCTION WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE O.S.H.A REGULATIONS.
- ALL STAKING REQUESTS SHALL REQUIRE 48-HOUR PRIOR NOTICE.
- CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF THE CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONNEL AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONTRACTOR AGREES TO DEFEND, INDEMNIFY, AND HOLD DESIGN PROFESSIONALS AND CITY REPRESENTATIVES HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.
- WHERE DRIVEWAY APPROACHES ARE TO BE CONSTRUCTED, DRIVEWAY SHALL NOT BE CONSTRUCTED UNTIL THE OFF-SITE IMPROVEMENTS ARE INSTALLED. THE ON-SITE DRIVEWAY SHALL CONFORM TO THE COMPLETED OFF-SITE DRIVEWAY APPROACH.
- NO CHANGES ON THESE PLANS SHALL BE MADE WITHOUT PRIOR APPROVAL OF IFLAND ENGINEERS AND THE COUNTY OF SANTA CRUZ.
- EROSION CONTROL PLANS AND STORM WATER POLLUTION PREVENTION PLANS SHALL BE PERMITTED AND FILED WITH THE APPLICABLE AGENCIES PRIOR TO ANY CONSTRUCTION OR GRADING OPERATIONS.
- THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO, OR USES OF, THESE PLANS. ALL CHANGES MUST BE IN WRITING AND MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
- IF A SWPPP IS REQUIRED FOR THE PROJECT, IT SHALL BE KEPT WITHIN THE JOB-SITE OFFICE AT ALL TIMES DURING CONSTRUCTION.



DATE	5/22/18
REVISION	
APPROVED BY	David Henriksen
BY	DAVID HENRIKSEN (P.E. NO. 49167)

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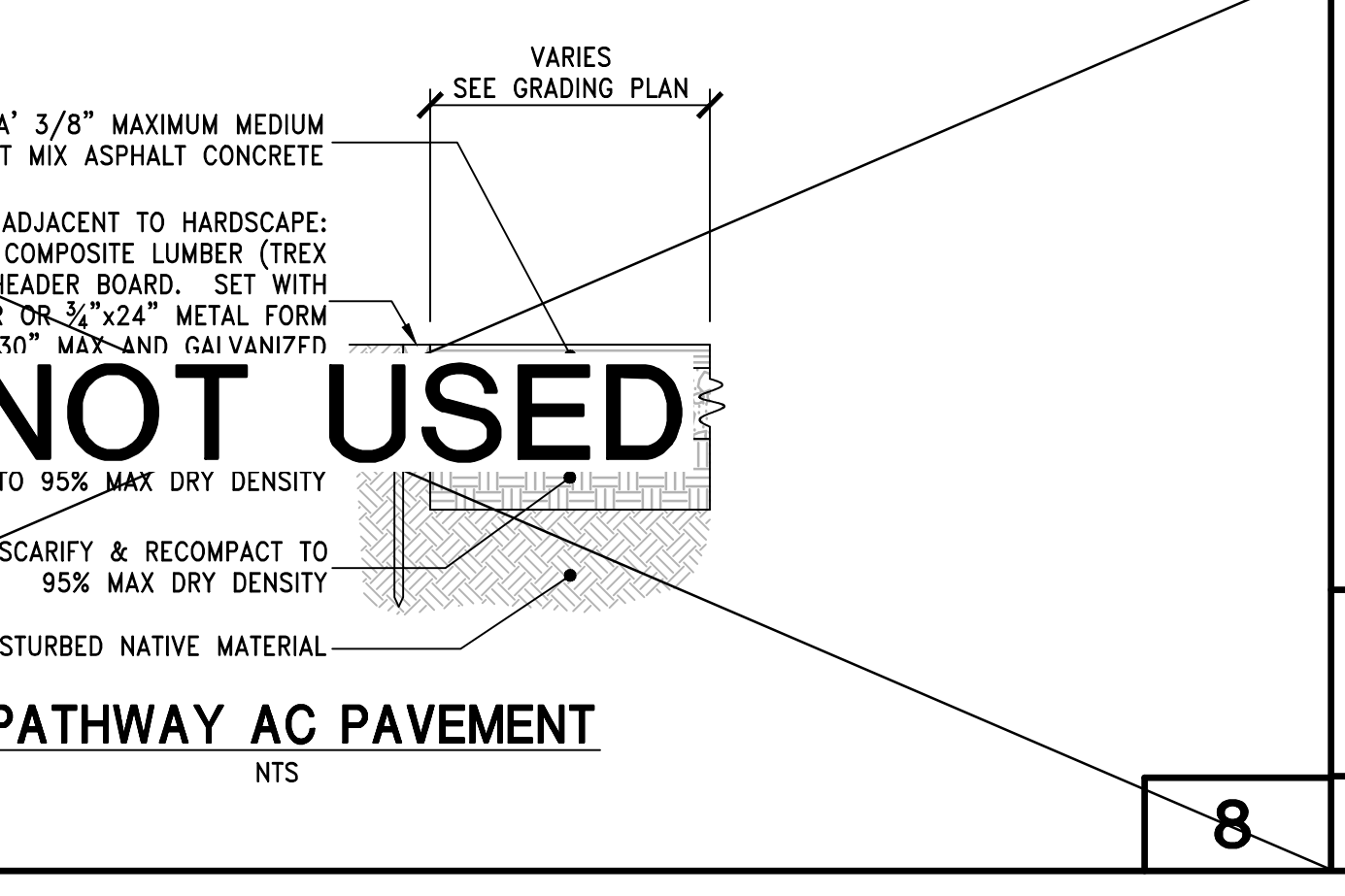
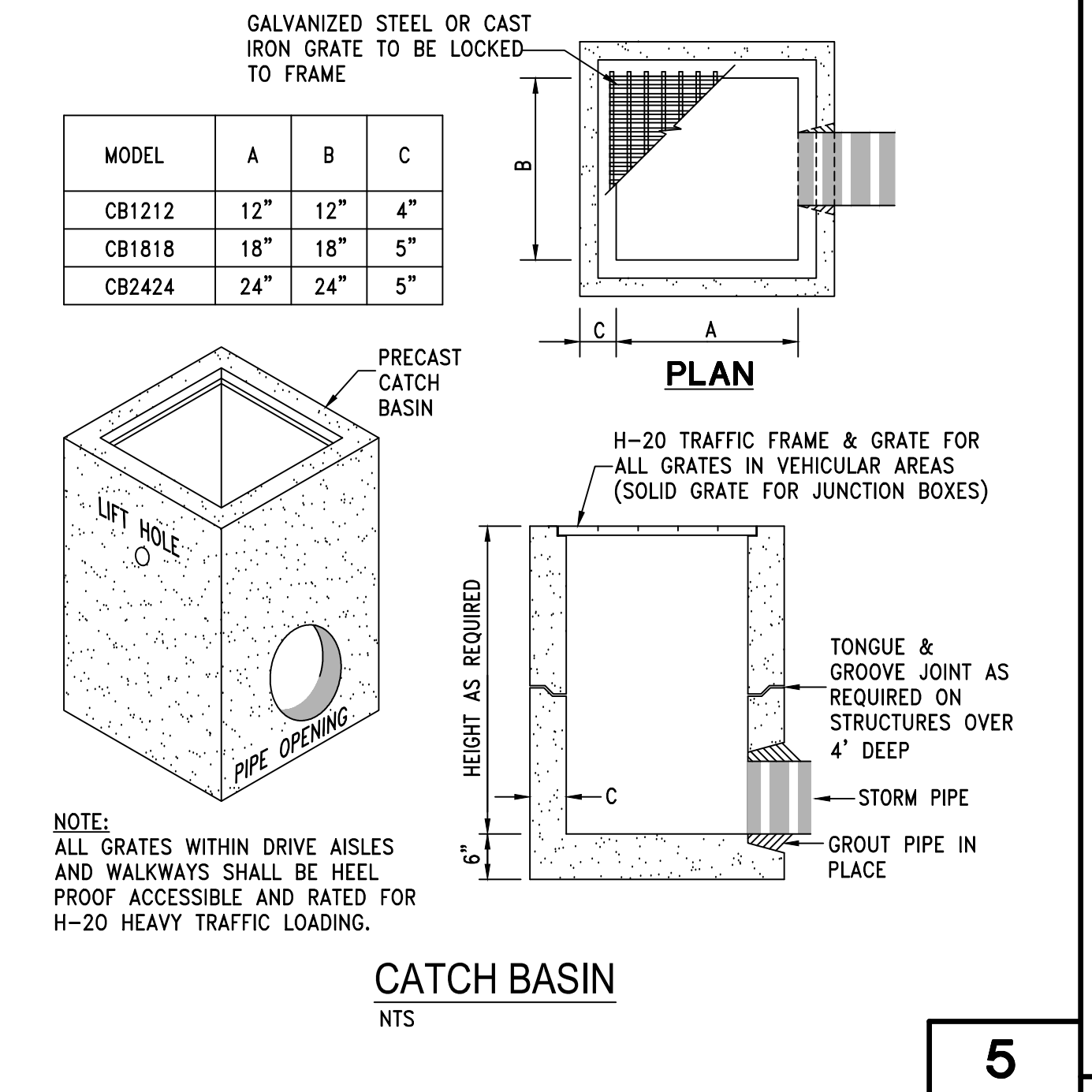
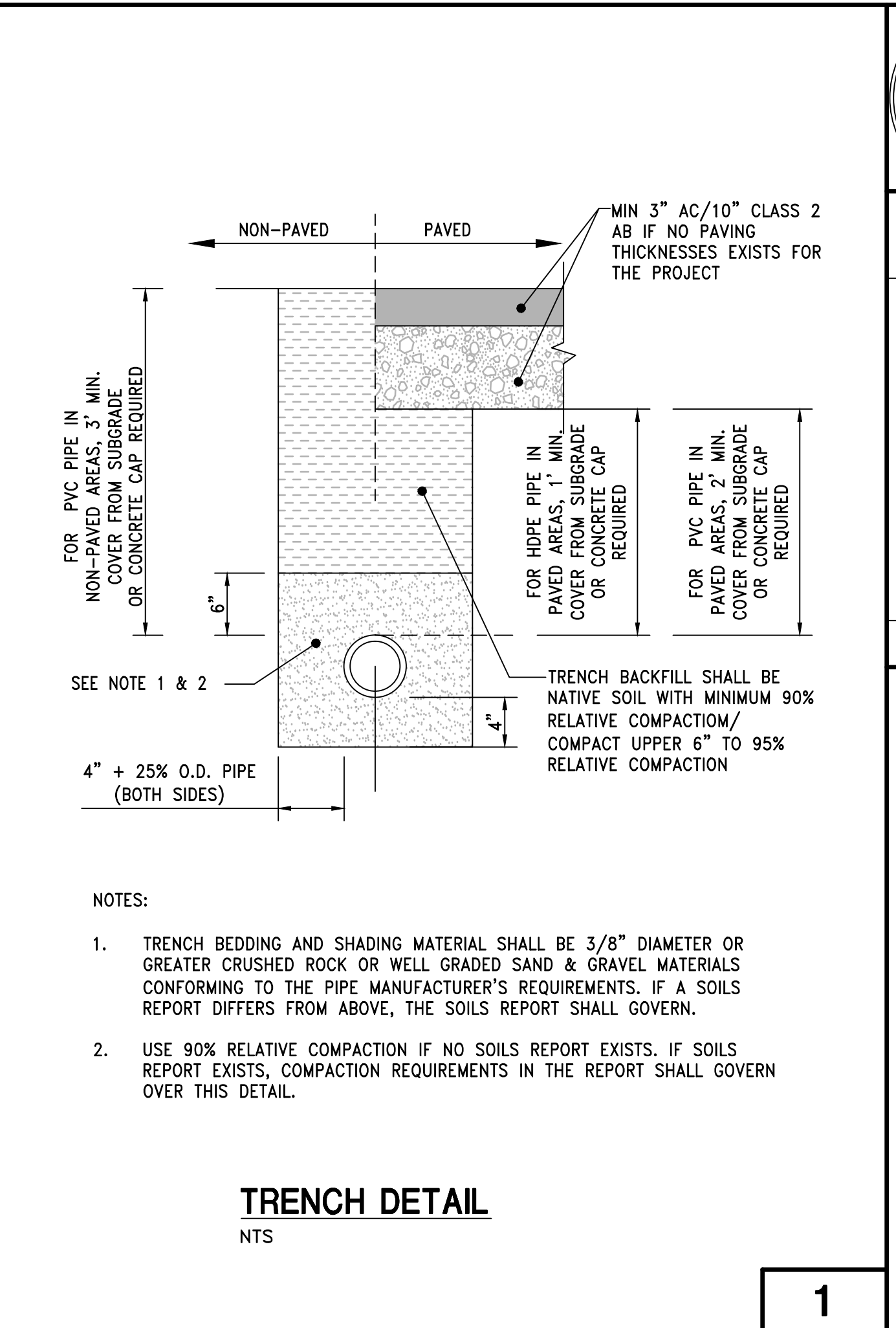
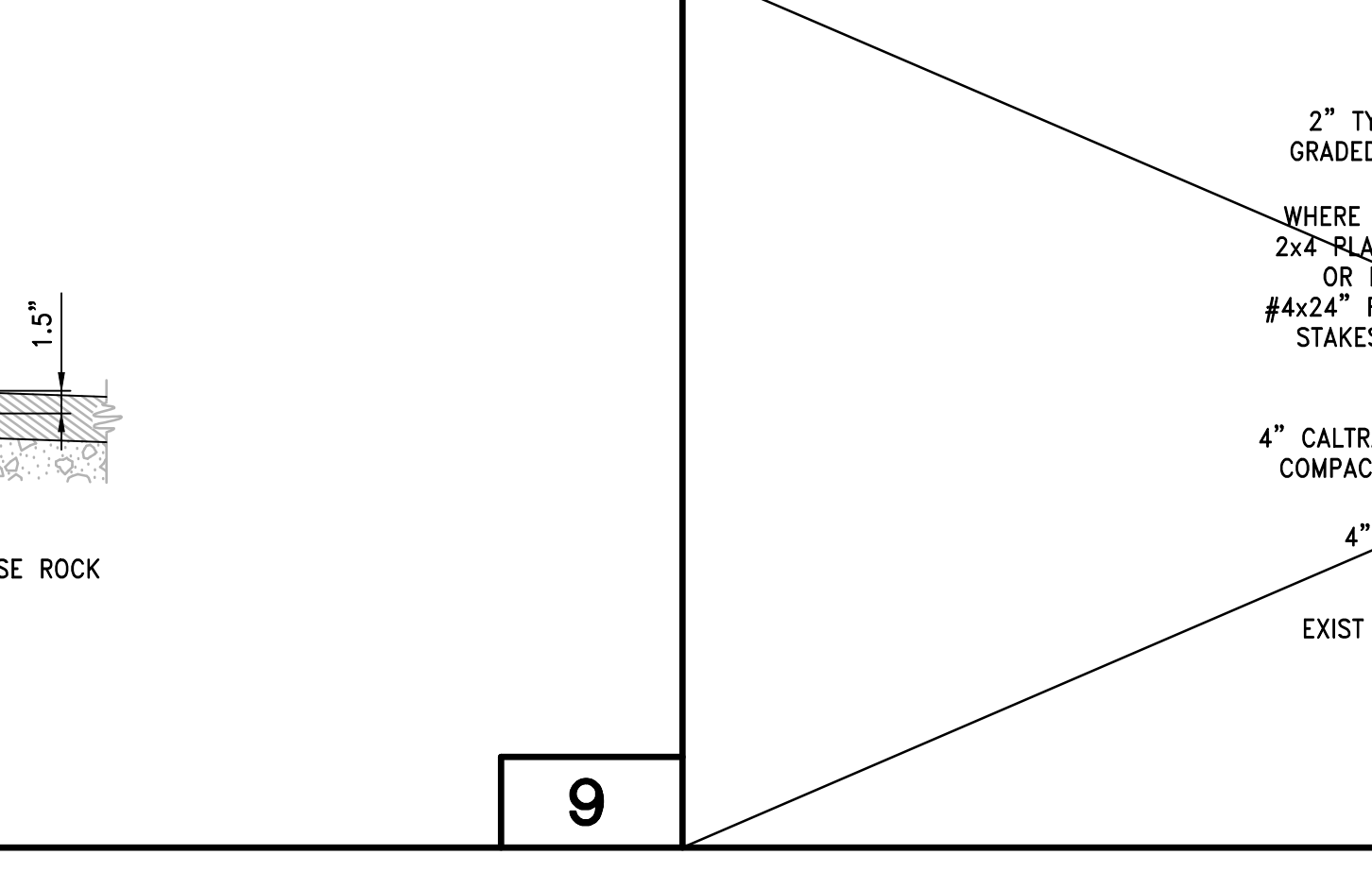
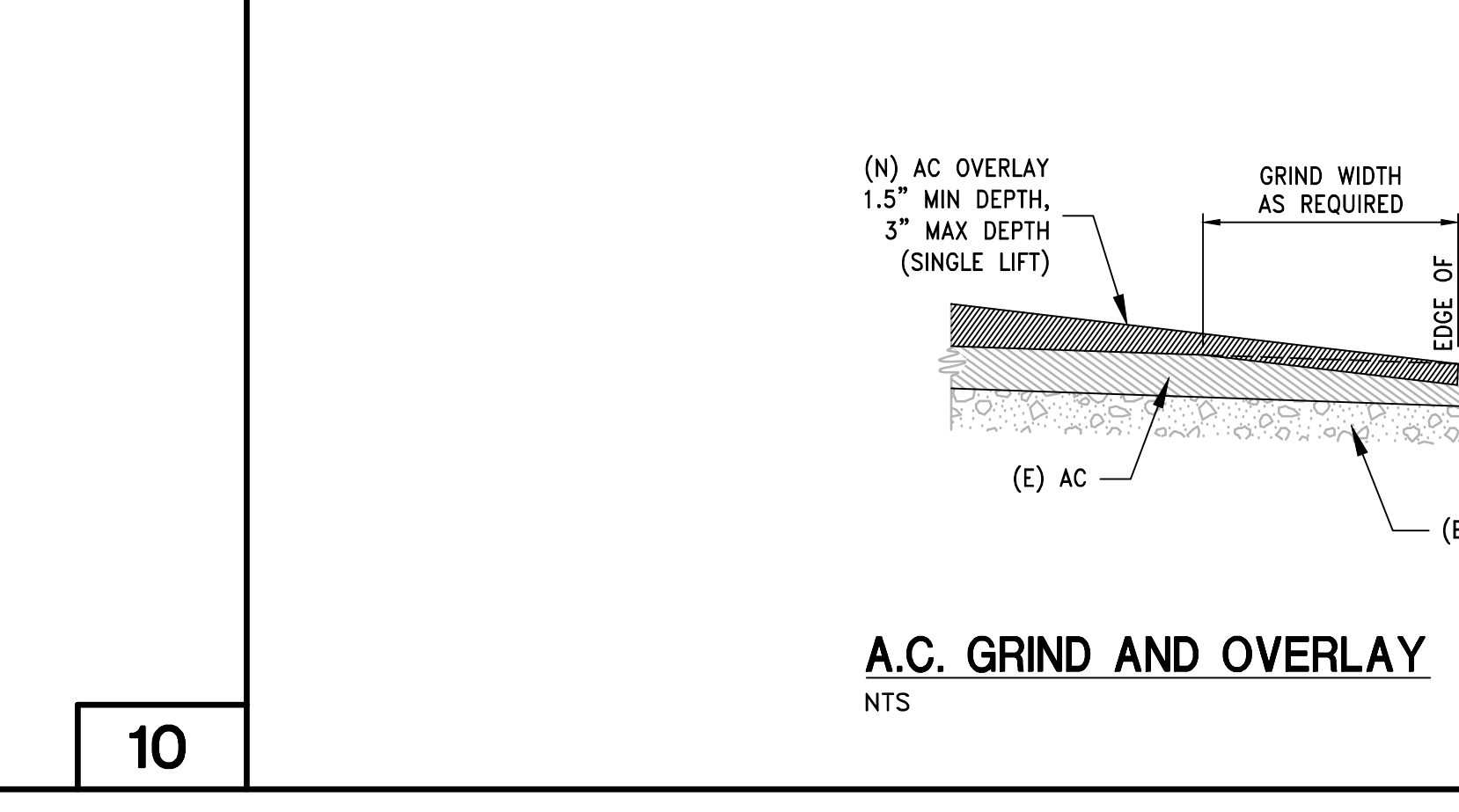
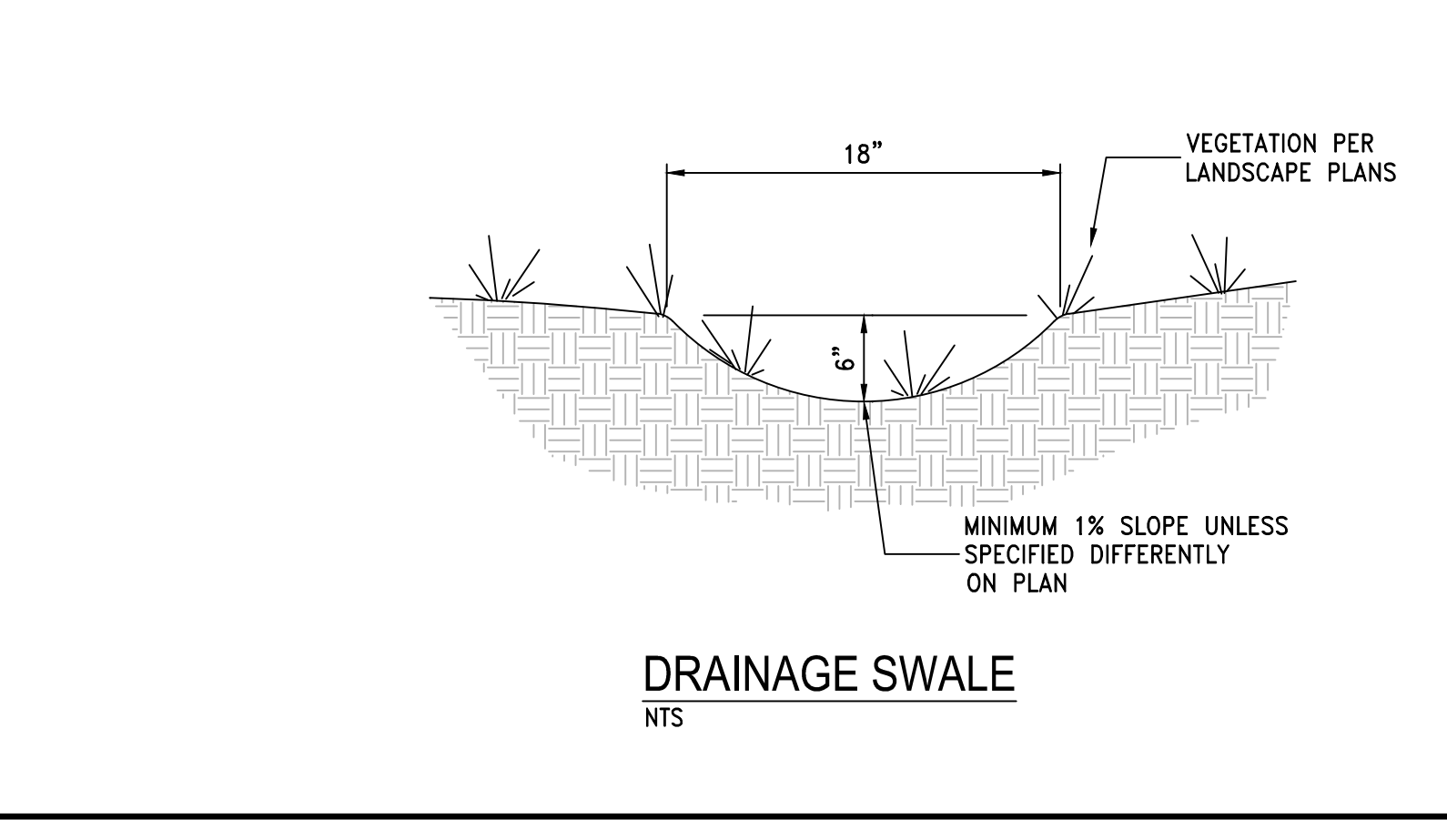
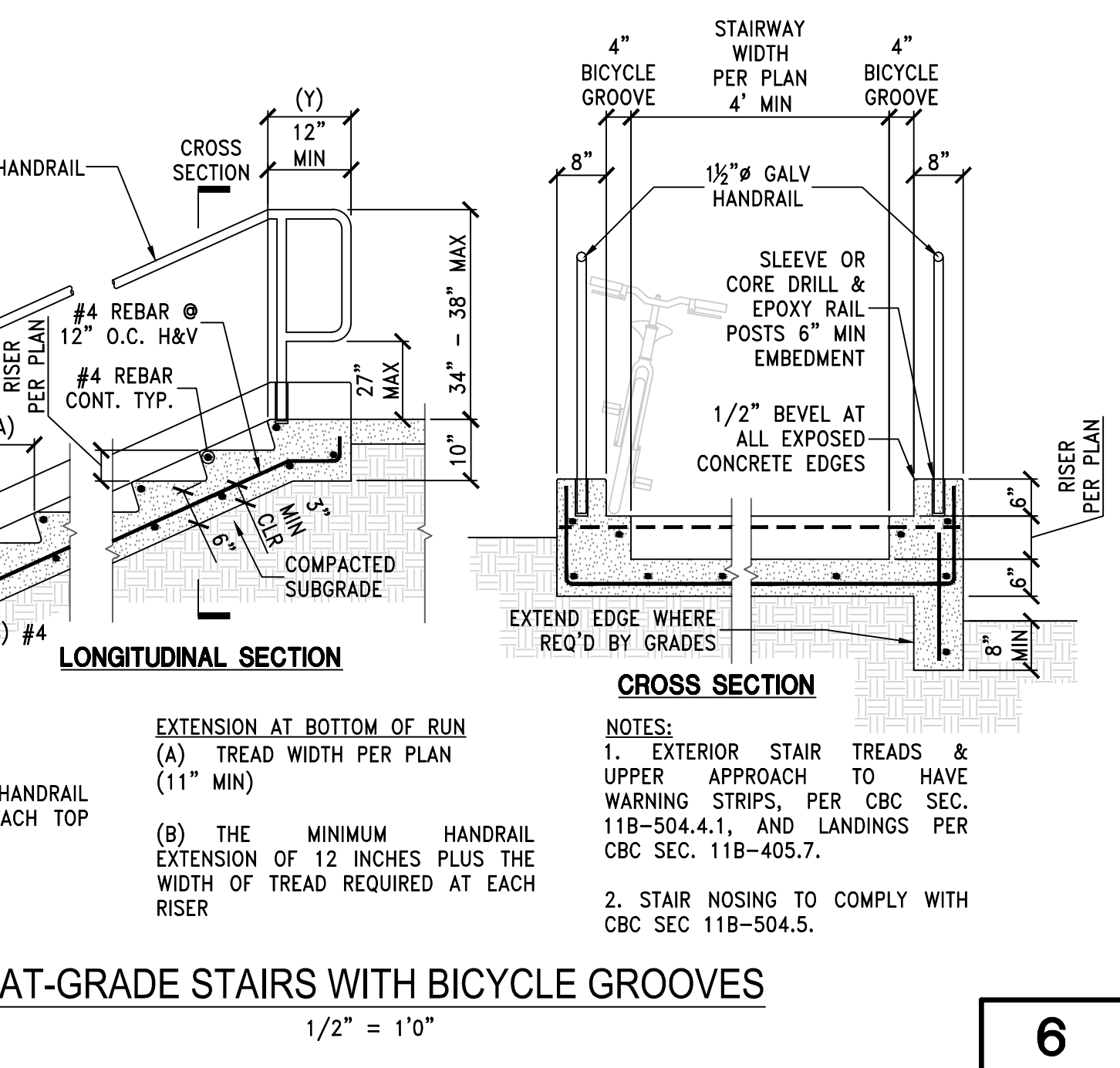
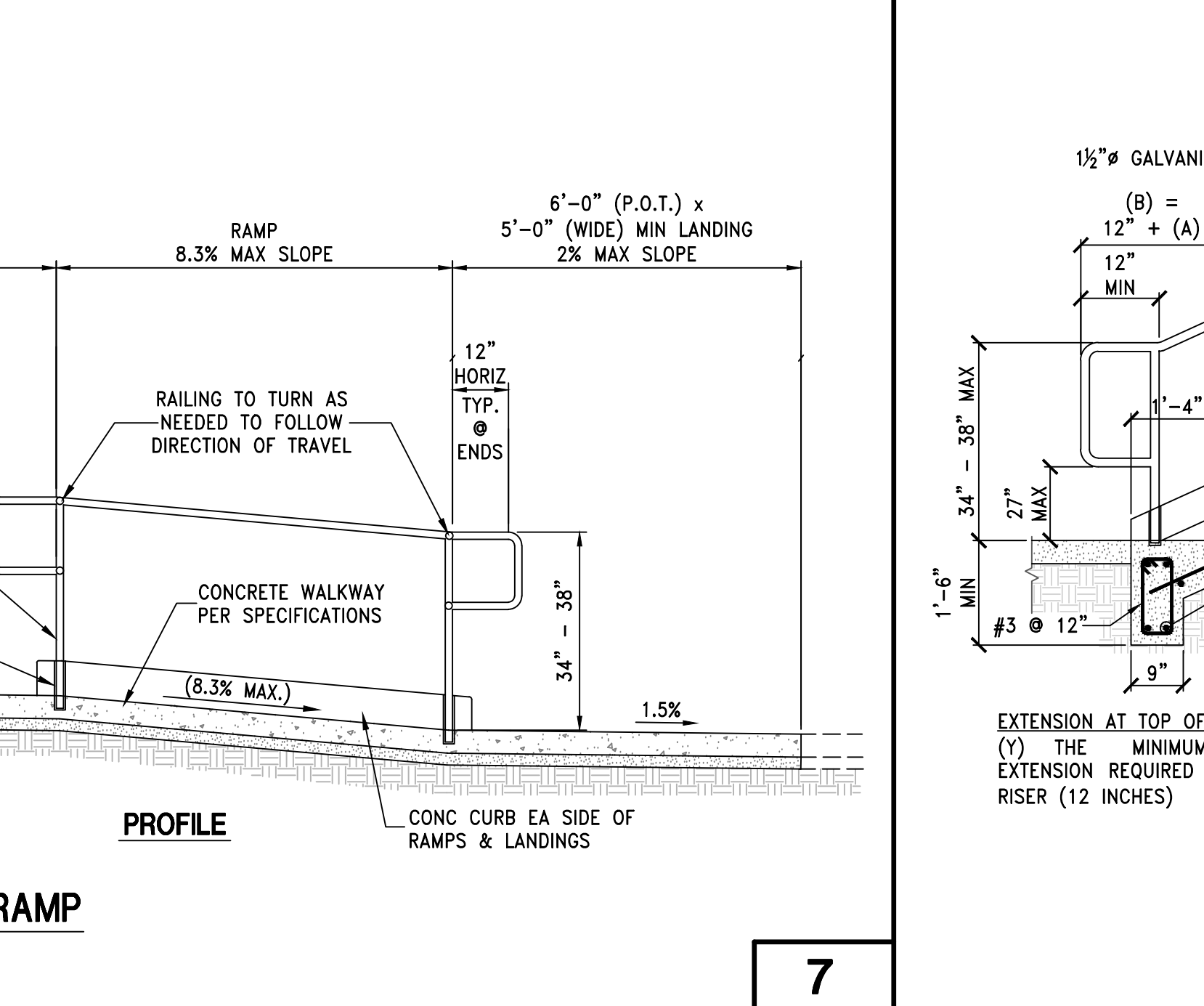
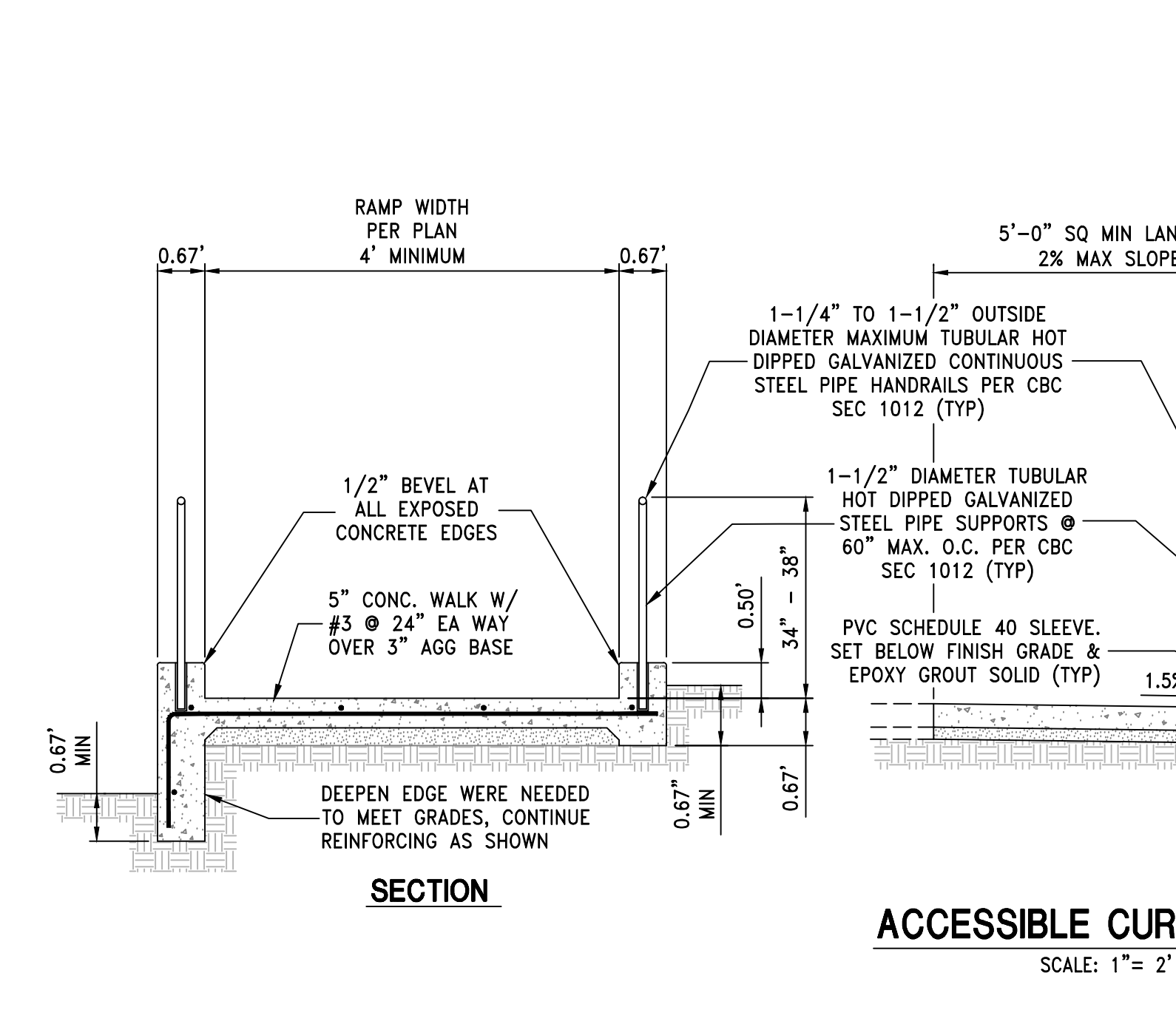
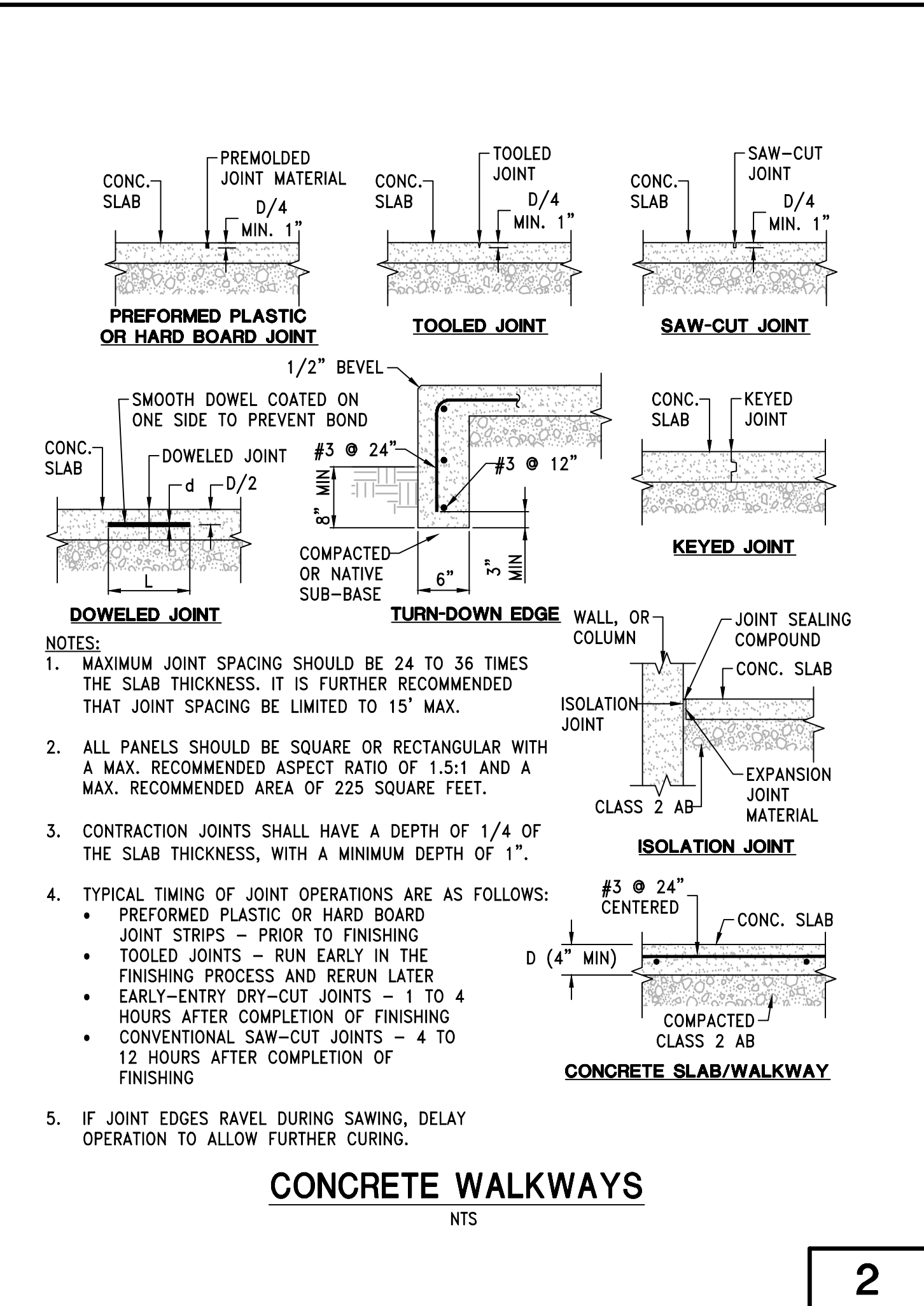
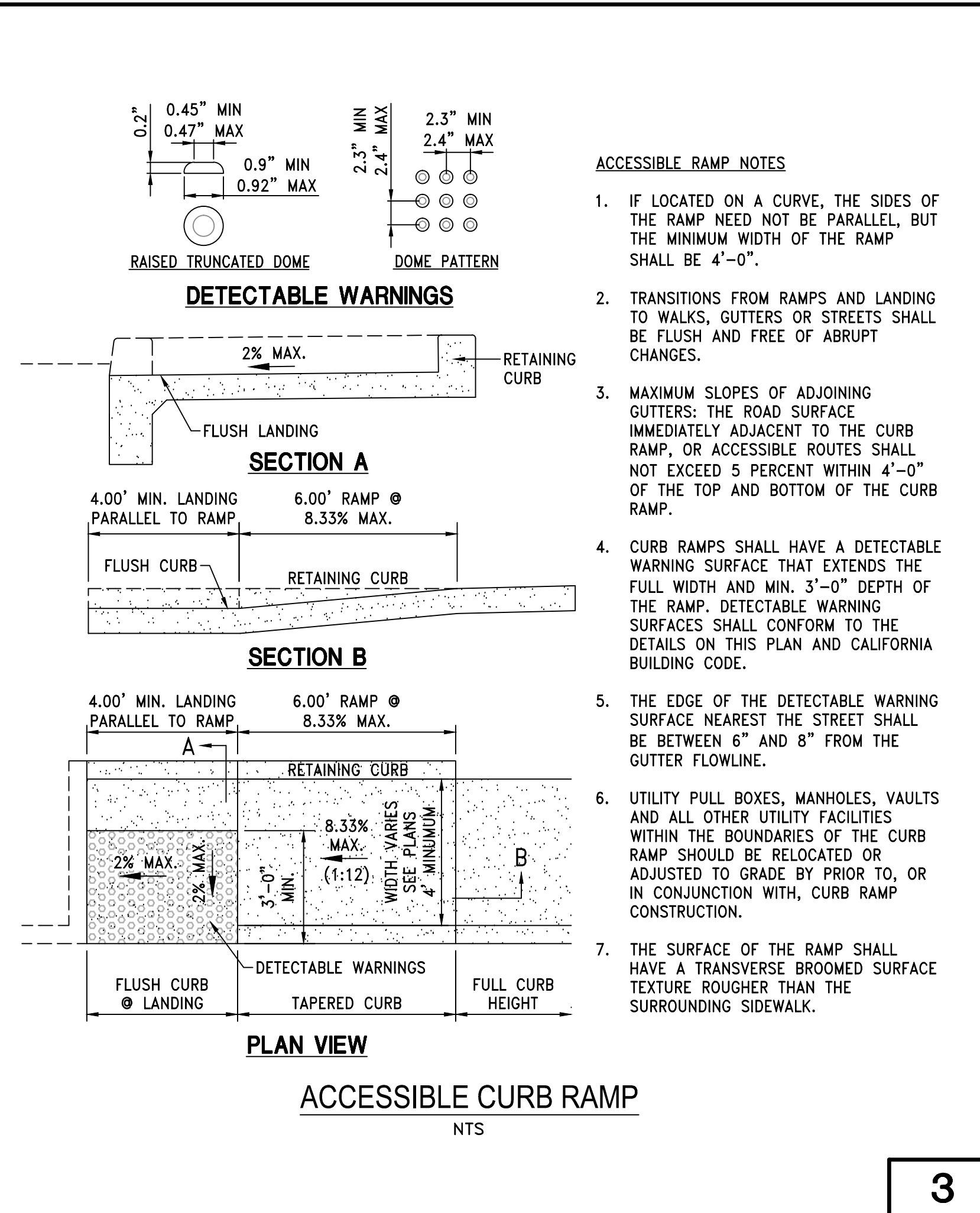
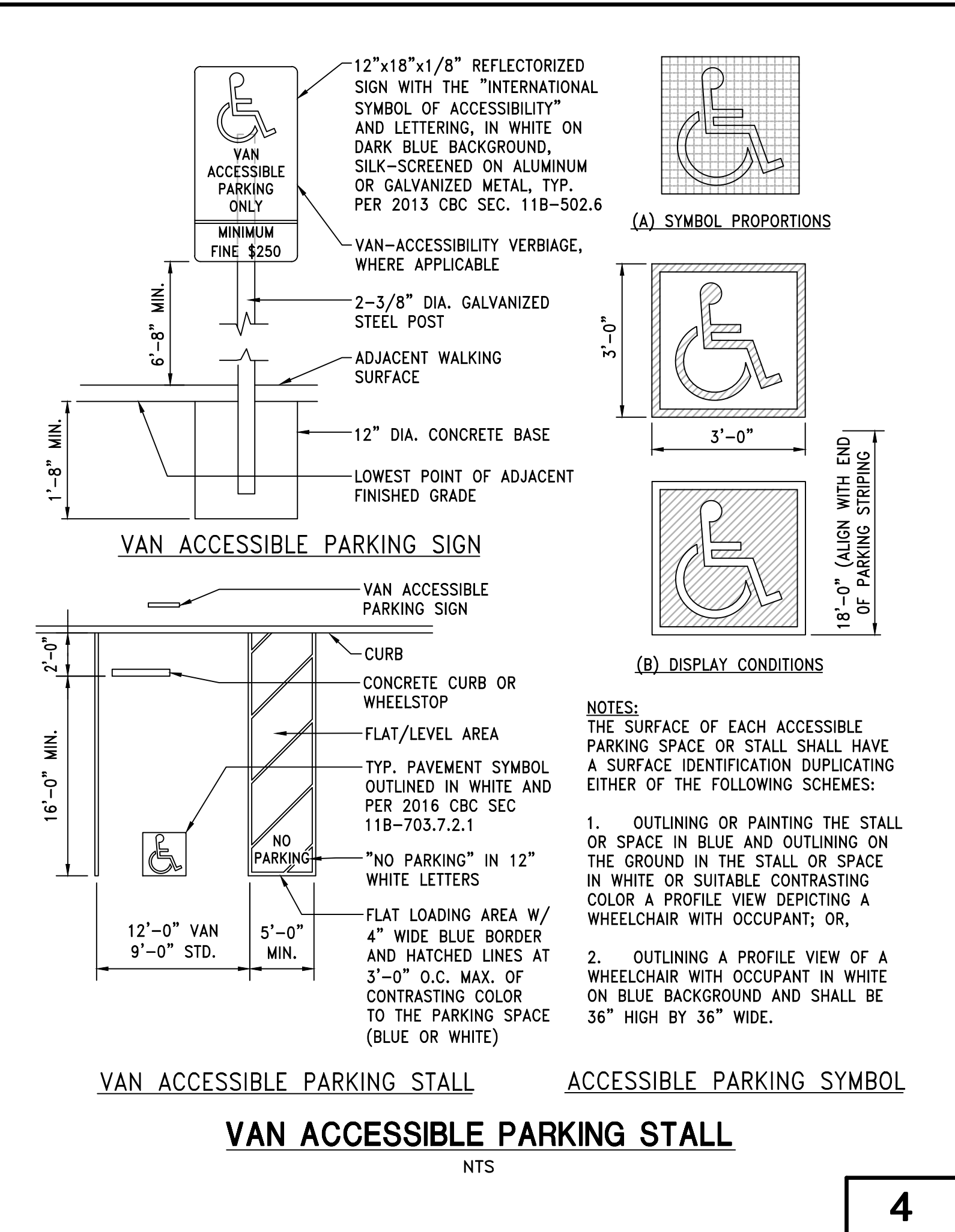
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 CIVIL ENGINEERING • LAND PLANNING • STRUCTURAL DESIGN



NOTES
PINTO LAKE - PUMP TRACK
 451 GREEN VALLEY RD, WATSONVILLE, CALIFORNIA

APN 050-141-02	DRAWN DD
DATE 5/22/18	DESIGN DD

SHEET
C2.0



IFLAND ENGINEERS
 CIVIL ENGINEERING • LAND PLANNING • STRUCTURAL DESIGN

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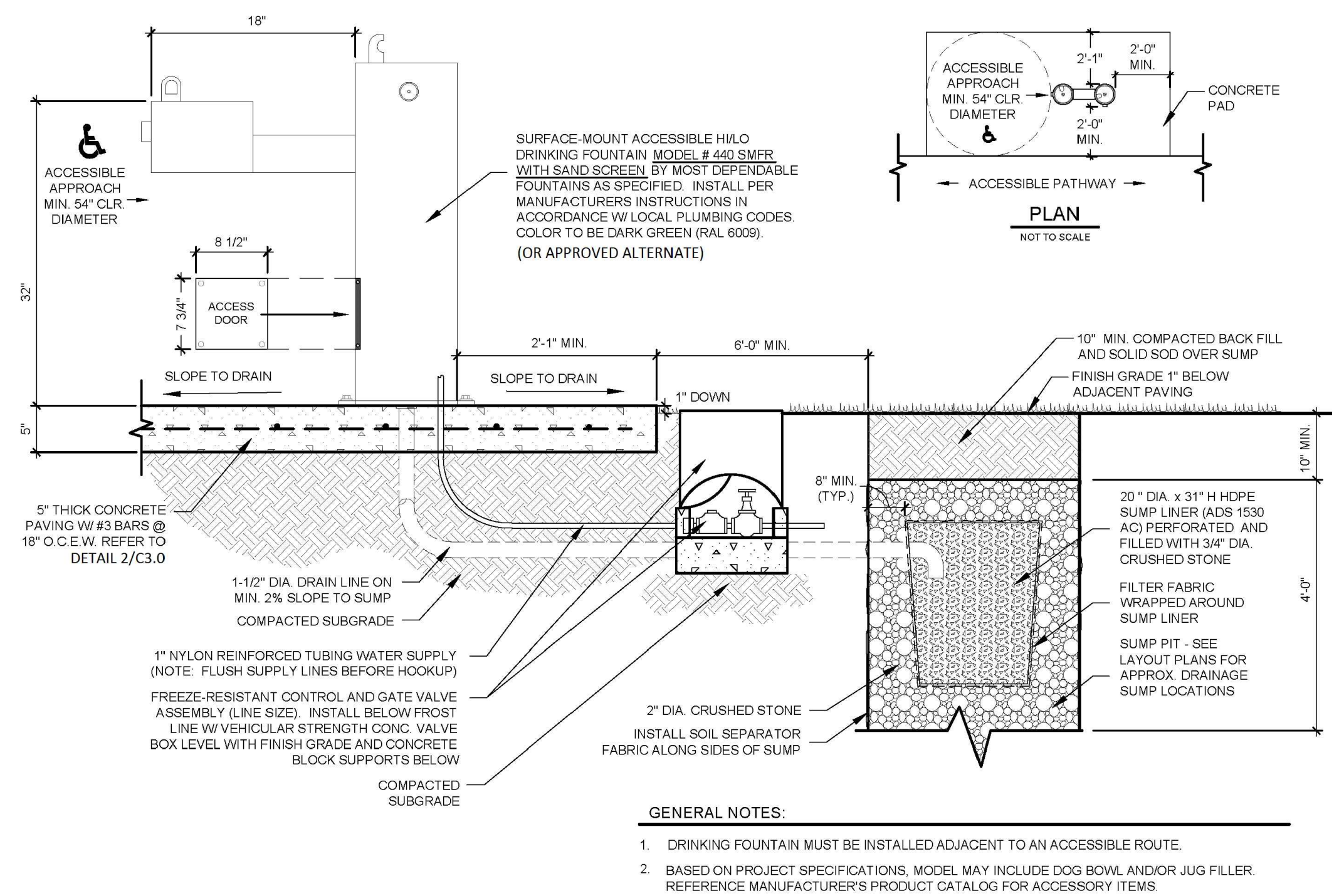
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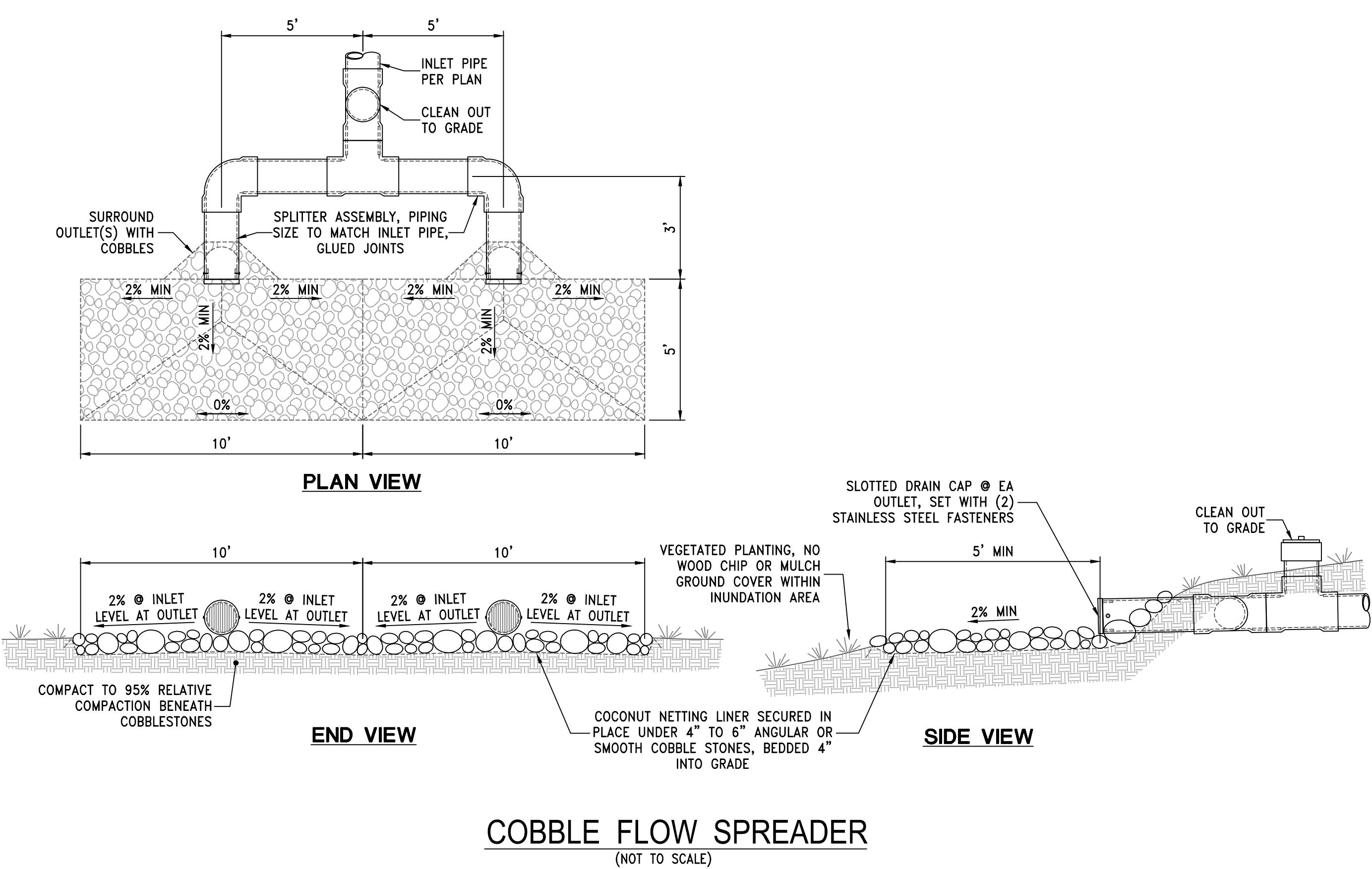
52218

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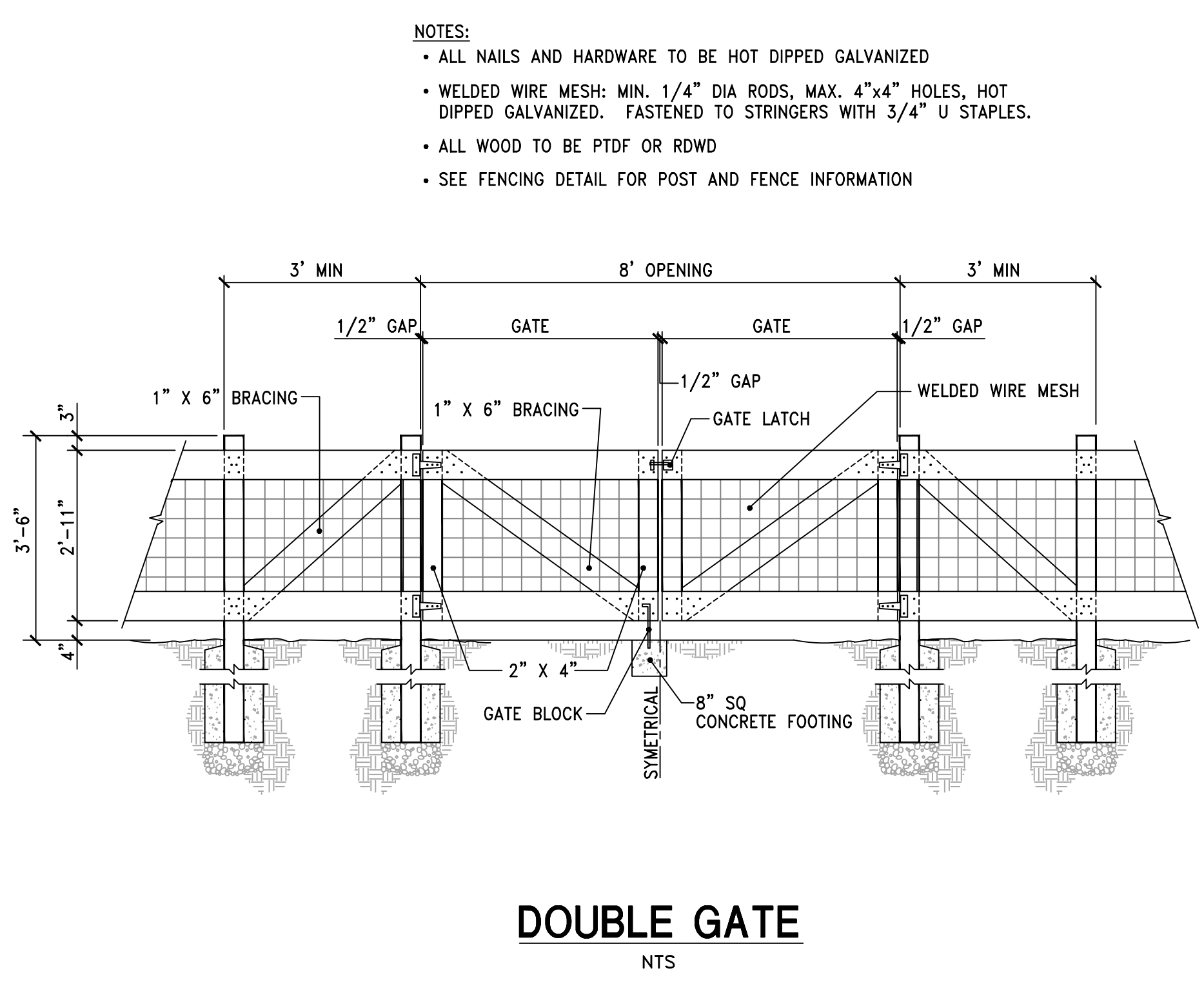


DRINKING FOUNTAIN
NTS

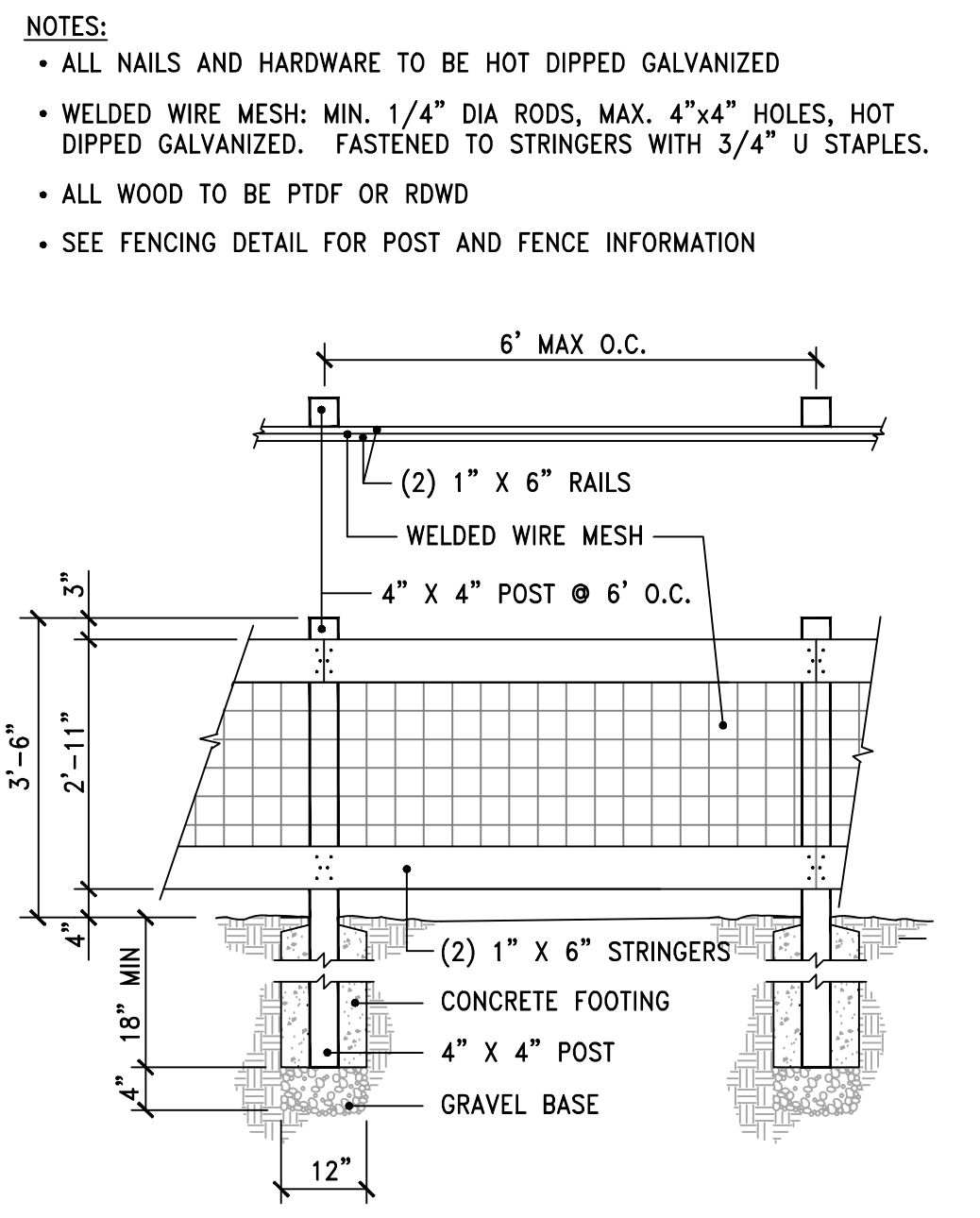


COBBLE FLOW SPREADER
(NOT TO SCALE)

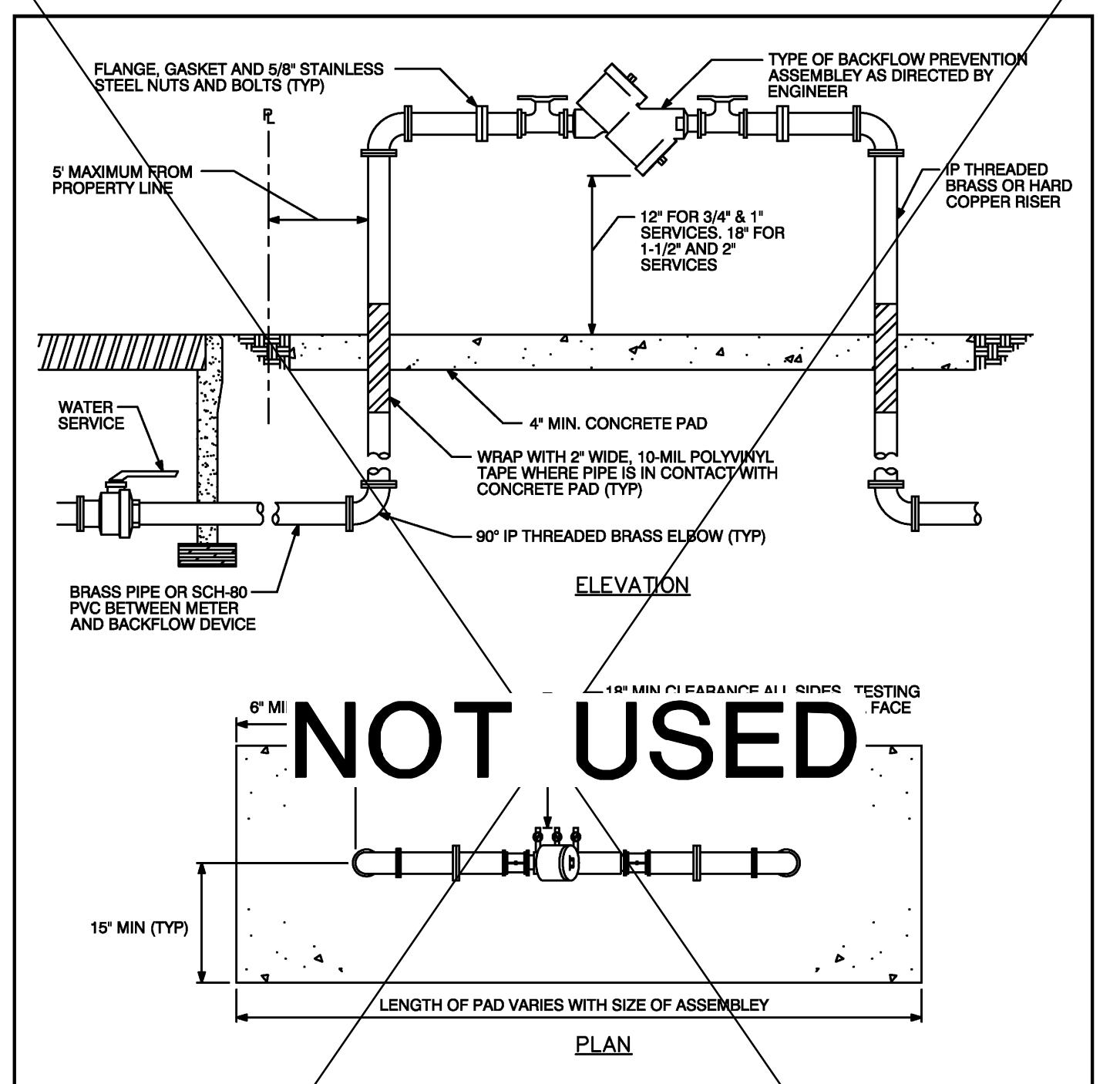
ADD ALTERNATE 01



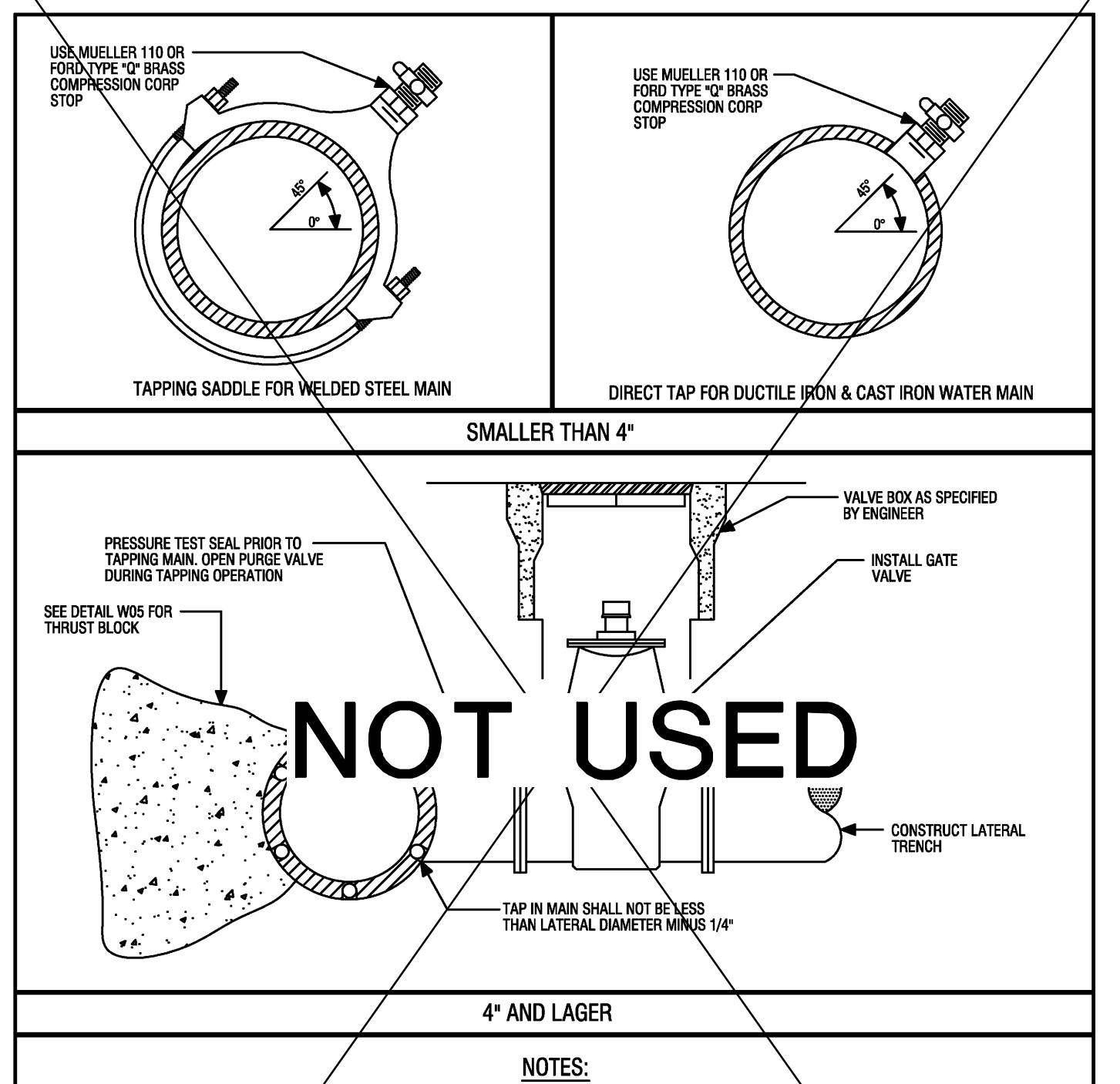
DOUBLE GATE
NTS



FENCING
NTS



NOT TO SCALE	<p>CITY OF WATSONVILLE</p>	<p>WATER DIVISION STANDARD DRAWING</p> <p>2" AND SMALLER BACKFLOW PREVENTION ASSEMBLY INSTALLATION</p> <p><i>Maria Esther Rodriguez</i> MARIA ESTHER RODRIGUEZ, CITY ENGINEER</p>	DRAWN: 5/92	REV.: 4/13
DRAWN BY: M.P.			RESOLUTION No. 76-13 (CM)	
CHECKED BY: T.S.			DRAWING No. W09	



NOT TO SCALE	<p>CITY OF WATSONVILLE</p>	<p>WATER DIVISION STANDARD DRAWING</p> <p>TYPICAL SERVICE CONNECTION TO WATER MAIN</p> <p><i>Maria Esther Rodriguez</i> MARIA ESTHER RODRIGUEZ, CITY ENGINEER</p>	DRAWN: 3/92	REV.: 4/13
DRAWN BY: M.P.			RESOLUTION No. 76-13 (CM)	
CHECKED BY: S.H.			DRAWING No. W02	

BY OTHERS

BY OTHERS

IFLAND ENGINEERS
CIVIL ENGINEERING • LAND PLANNING • STRUCTURAL DESIGN

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APN 050-141-02

DATE 5/22/18

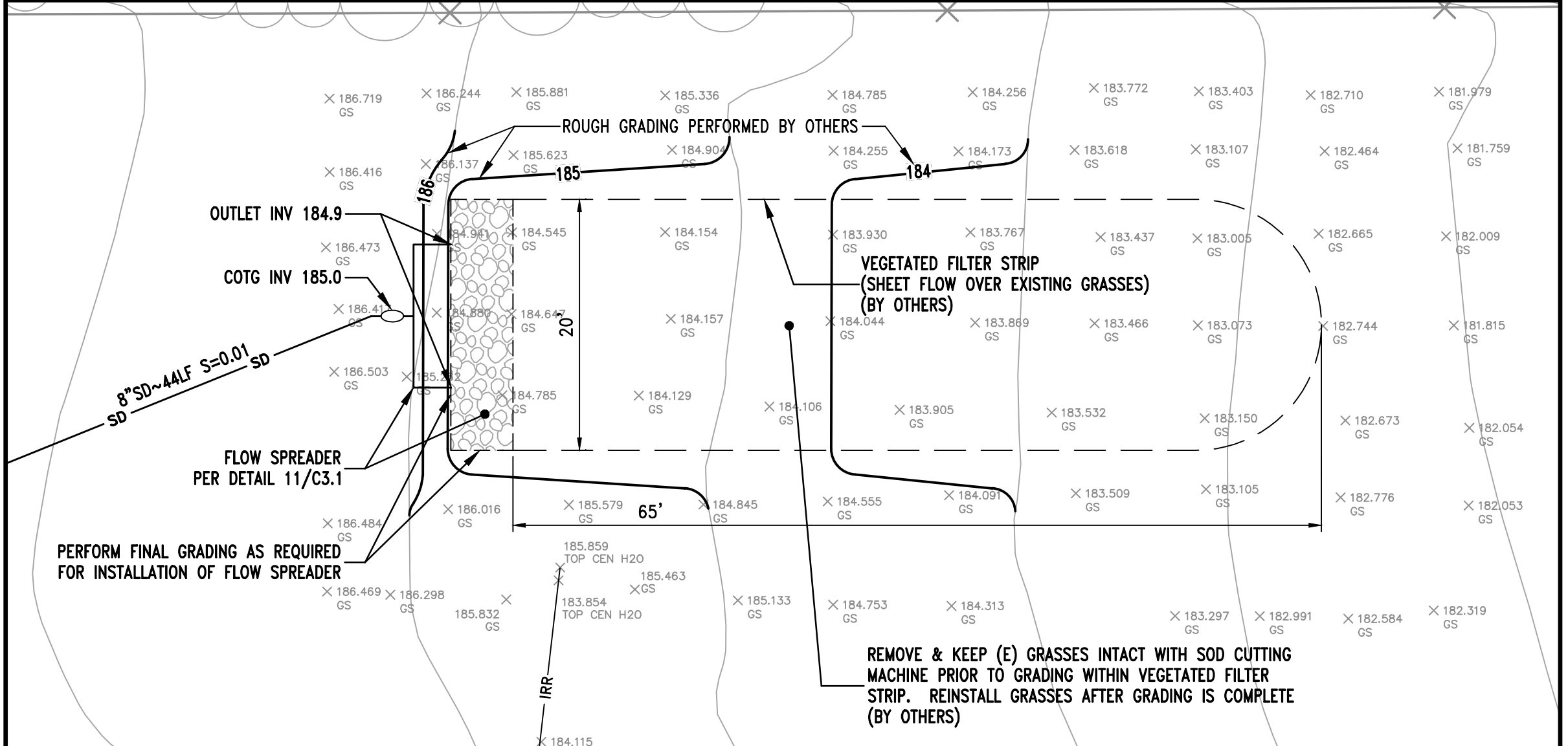
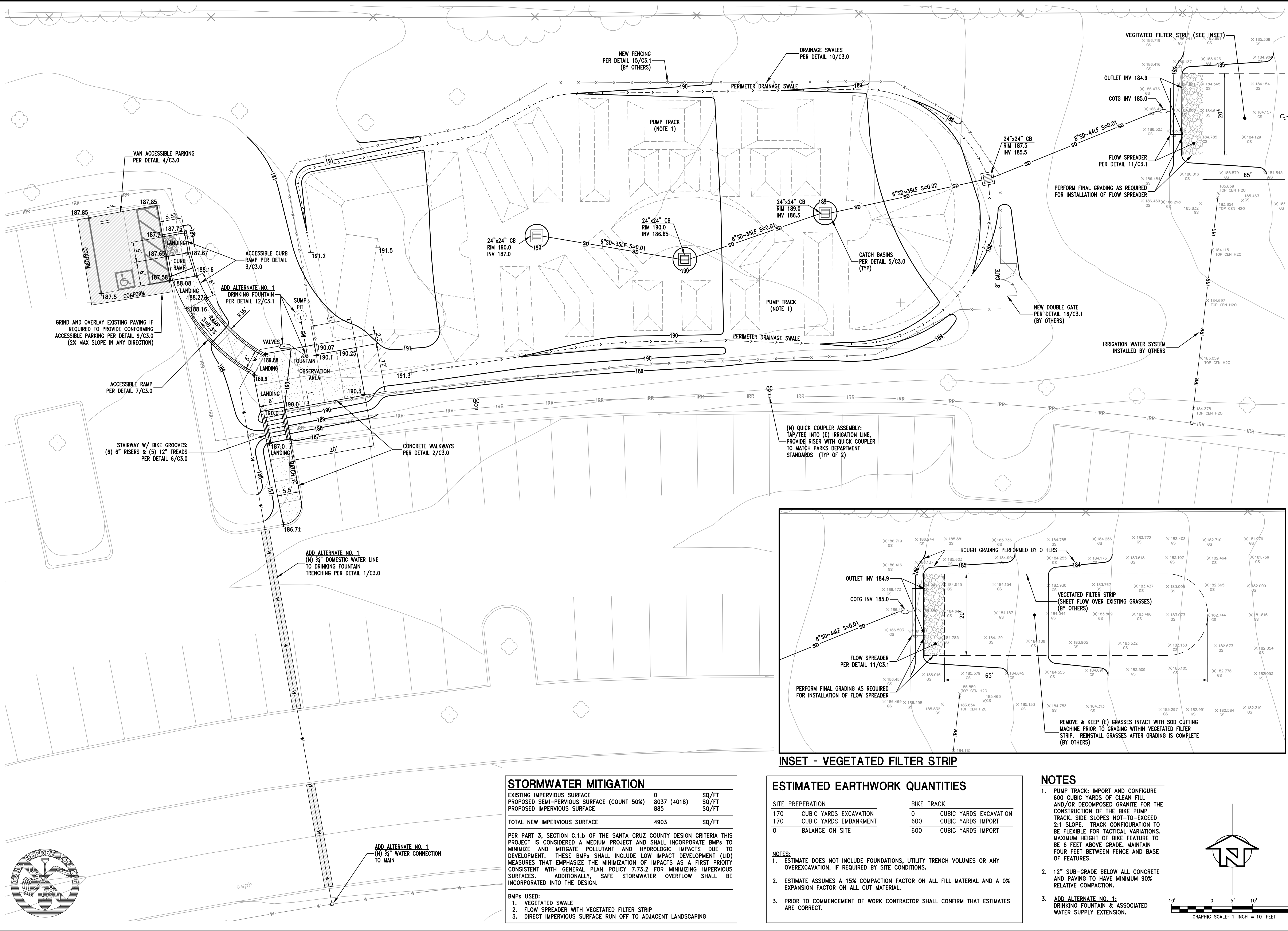
SHEET C3.1

JOB NO. 17057

DATE 5/23/18

APPROVED BY *David A. Johnson*
DAVID JOHNSON (REG. NO. 49167)

IFLAND ENGINEERS, INC. 23 May 18 12:45:11 PM ddrager



INSET - VEGETATED FILTER STRIP

STORMWATER MITIGATION

EXISTING IMPERVIOUS SURFACE	0	SQ/FT
PROPOSED SEMI-IMPERVIOUS SURFACE (COUNT 50%)	8037 (4018)	SQ/FT
PROPOSED IMPERVIOUS SURFACE	885	SQ/FT
TOTAL NEW IMPERVIOUS SURFACE	4903	SQ/FT

PER PART 3, SECTION C.1.b OF THE SANTA CRUZ COUNTY DESIGN CRITERIA THIS PROJECT IS CONSIDERED A MEDIUM PROJECT AND SHALL INCORPORATE BMPs TO MINIMIZE AND MITIGATE POLLUTANT AND HYDROLOGIC IMPACTS DUE TO DEVELOPMENT. THESE BMPs SHALL INCLUDE LOW IMPACT DEVELOPMENT (LID) MEASURES THAT EMPHASIZE THE MINIMIZATION OF IMPACTS AS A FIRST PRIORITY CONSISTENT WITH GENERAL PLAN POLICY 7.73.2 FOR MINIMIZING IMPERVIOUS SURFACES. ADDITIONALLY, SAFE STORMWATER OVERFLOW SHALL BE INCORPORATED INTO THE DESIGN.

BMPs USED:

- VEGETATED SWALE
- FLOW SPREADER WITH VEGETATED FILTER STRIP
- DIRECT IMPERVIOUS SURFACE RUN OFF TO ADJACENT LANDSCAPING

ESTIMATED EARTHWORK QUANTITIES

SITE PREPARATION		BIKE TRACK	
170	CUBIC YARDS EXCAVATION	0	CUBIC YARDS EXCAVATION
170	CUBIC YARDS EMBANKMENT	600	CUBIC YARDS IMPORT
0	BALANCE ON SITE	600	CUBIC YARDS IMPORT

NOTES:

- ESTIMATE DOES NOT INCLUDE FOUNDATIONS, UTILITY TRENCH VOLUMES OR ANY OVEREXCAVATION, IF REQUIRED BY SITE CONDITIONS.
- ESTIMATE ASSUMES A 15% COMPACTION FACTOR ON ALL FILL MATERIAL AND A 0% EXPANSION FACTOR ON ALL CUT MATERIAL.
- PRIOR TO COMMENCEMENT OF WORK CONTRACTOR SHALL CONFIRM THAT ESTIMATES ARE CORRECT.

NOTES

- PUMP TRACK: IMPORT AND CONFIGURE 600 CUBIC YARDS OF CLEAN FILL AND/OR DECOMPOSED GRANITE FOR THE CONSTRUCTION OF THE BIKE PUMP TRACK. SIDE SLOPES NOT-TO-EXCEED 2:1 SLOPE. TRACK CONFIGURATION TO BE FLEXIBLE FOR TACTICAL VARIATIONS. MAXIMUM HEIGHT OF BIKE FEATURE TO BE 6 FEET ABOVE GRADE. MAINTAIN FOUR FEET BETWEEN FENCE AND BASE OF FEATURES.
- 12" SUB-GRADE BELOW ALL CONCRETE AND PAVING TO HAVE MINIMUM 90% RELATIVE COMPACTION.
- ADD ALTERNATE NO. 1: DRINKING FOUNTAIN & ASSOCIATED WATER SUPPLY EXTENSION.

GRAPHIC SCALE: 1 INCH = 10 FEET

DATE: 5/22/18
 REVISION: [Blank]
 APPROVED: David Heinrichsen
 DAVID HEINRICHSEN (P.E. NO. 24967)

IFLAND ENGINEERS
 CIVIL ENGINEERING • LAND PLANNING • STRUCTURAL DESIGN

SITE, GRADING, DRAINAGE & UTILITY PLAN
PINTO LAKE - PUMP TRACK

451 GREEN VALLEY RD, WATSONVILLE, CALIFORNIA

APN 050-141-02

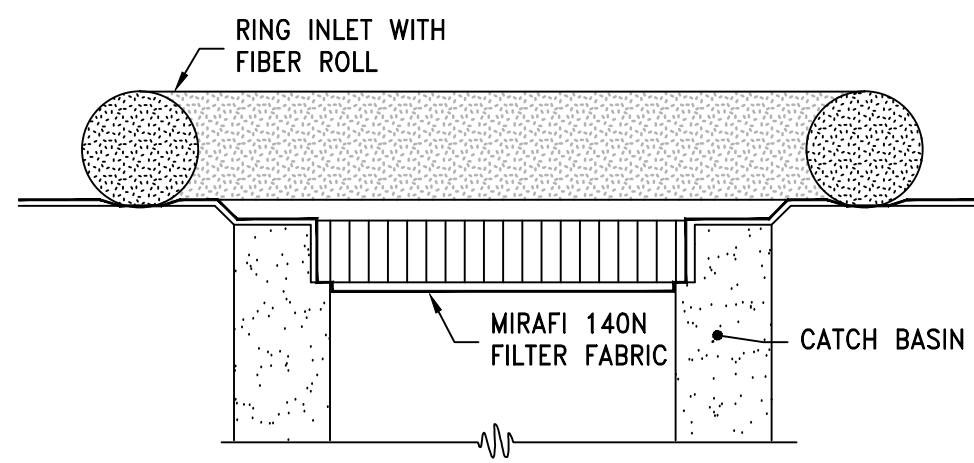
DATE: 5/22/18

DESIGN: DD

DRAWN: DD

SHEET: **C4.0**

JOB NO. 17057



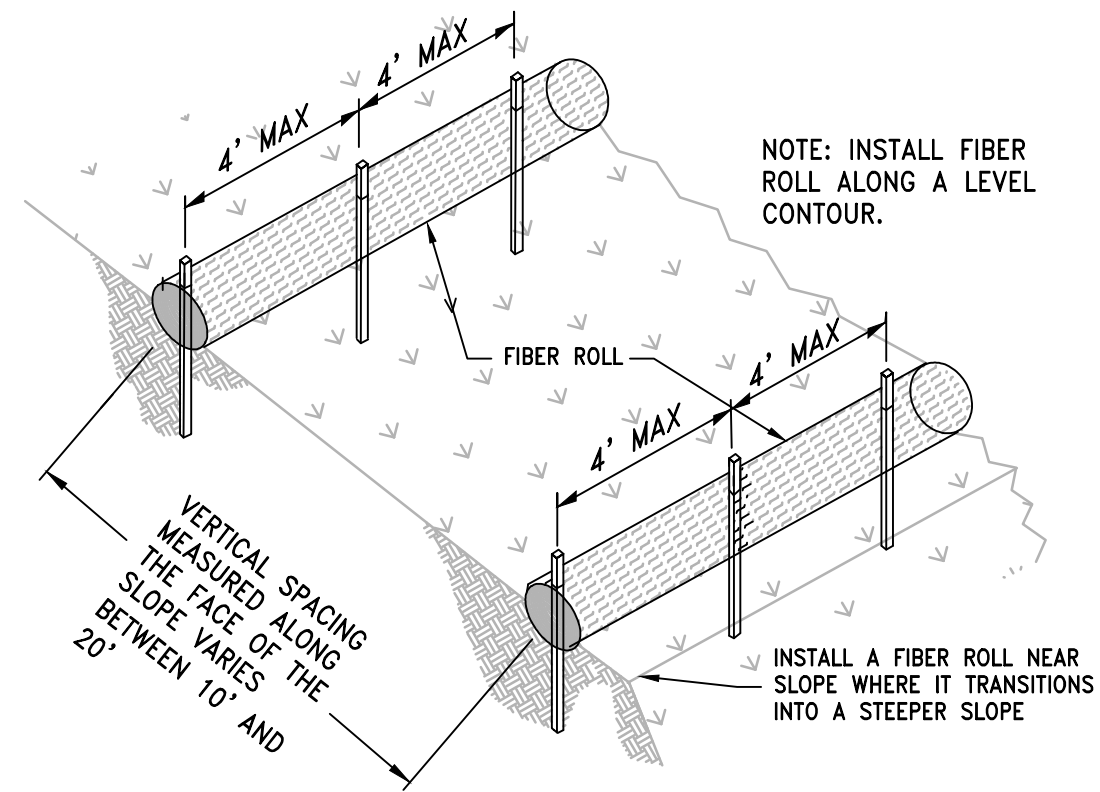
INSPECTION AND MAINTENANCE:

1. FILTER FABRIC BARRIERS SHALL BE INSPECTED WEEKLY AFTER EACH SIGNIFICANT STORM - 1 INCH RAINFALL (25.4 MM) IN 24 HOUR PERIOD. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. SEDIMENT SHOULD BE REMOVED WHEN IT REACHES 3" MAXIMUM HEIGHT. AT THAT TIME INSPECT THE FILTER MATERIAL FOR TEARS AND CLEAN OR REPLACE AS REQUIRED.
3. THE REMOVED SEDIMENT SHALL BE DISTRIBUTED EVENLY ACROSS AREAS ON-SITE, CONFORM WITH THE EXISTING GRADE AND BE REVEGETATED OR OTHERWISE STABILIZED PER EROSION CONTROL NOTES.

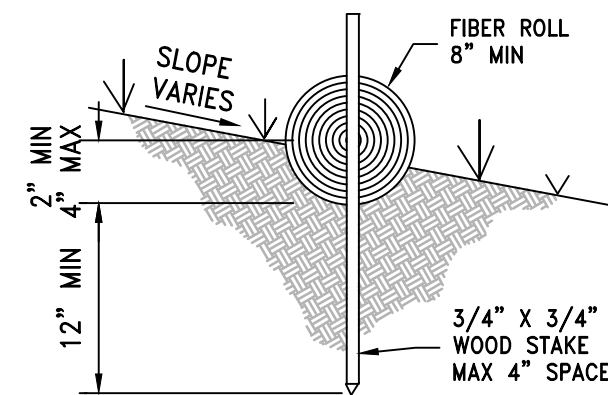
CATCH BASIN PROTECTION

NTS

2



TYPICAL INSTALLATION



ENTRENCHMENT DETAIL

FIBER ROLLS PART 1

NTS

CONSTRUCTION SPECIFICATIONS

1. PREPARE SLOPE BEFORE THE WATTLING PROCEDURE IS STARTED. SHALLOW GULLIES SHOULD BE SMOOTHED AS WORK PROGRESSES.
2. DIG SMALL TRENCHES ACROSS SLOPE ON CONTOUR. TO PLACE WATTLES IN. THE TRENCH SHOULD BE DEEP ENOUGH TO ACCOMMODATE HALF THE THICKNESS OF THE WATTLE. WHEN THE SOIL IS LOOSE AND UNCOMPACTED, THE TRENCH SHOULD BE DEEP ENOUGH TO BURY THE WATTLE 2/3 OF ITS THICKNESS BECAUSE THE GROUND WILL SETTLE. IT IS CRITICAL THAT WATTLES ARE INSTALLED PERPENDICULAR TO WATER MOVEMENT, PARALLEL TO THE SLOPE CONTOUR.
3. START BUILDING TRENCHES AND INSTALL WATTLES FROM THE BOTTOM OF THE SLOPE AND WORK UP.
4. CONSTRUCT TRENCHES AT CONTOUR INTERVALS OF THREE TO EIGHT FEET APART DEPENDING ON STEEPNESS OF SLOPE. THE STEEPER THE SLOPE, THE CLOSER TOGETHER THE TRENCHES.
5. LAY THE WATTLE ALONG THE TRENCHES FITTING IT SNUGLY AGAINST THE SOIL. MAKE SURE NO GAPS EXIST BETWEEN THE SOIL AND THE STRAW WATTLE. USE A STRAIGHT BAR TO DRIVE HOLES THROUGH THE WATTLE AND INTO THE SOIL FOR THE WOODEN STAKES.
6. DRIVE THE STAKE THROUGH THE PREPARED HOLE INTO THE SOIL. LEAVE ONLY ONE OR TWO INCHES OF STAKE EXPOSED ABOVE WATTLE. IF USING WILLOW STAKES REFER TO USDA SOIL CONSERVATION SERVICE TECHNICAL GUIDE, BIOENGINEERING, FOR GUIDELINES TO PREPARING LIVE WILLOW MATERIAL.
7. INSTALL STAKES AT LEAST EVERY FOUR FEET APART THROUGH WATTLE. ADDITIONAL STAKES MAY BE DRIVEN ON THE DOWNSLOPE SIDE OF THE TRENCHES ON HIGHLY EROSION OR VERY STEEP SLOPES.

INSTALLATION AND MAINTENANCE

8. INSPECT THE STRAW WATTLE AND THE SLOPES AFTER SIGNIFICANT STORMS. MAKE SURE THE WATTLES ARE IN CONTACT WITH THE SOIL.
9. REPAIR ANY RILLS OR GULLIES PROMPTLY.
10. RESEED OR REPLANT VEGETATION IF NECESSARY UNTIL THE SLOPE IS STABILIZED.

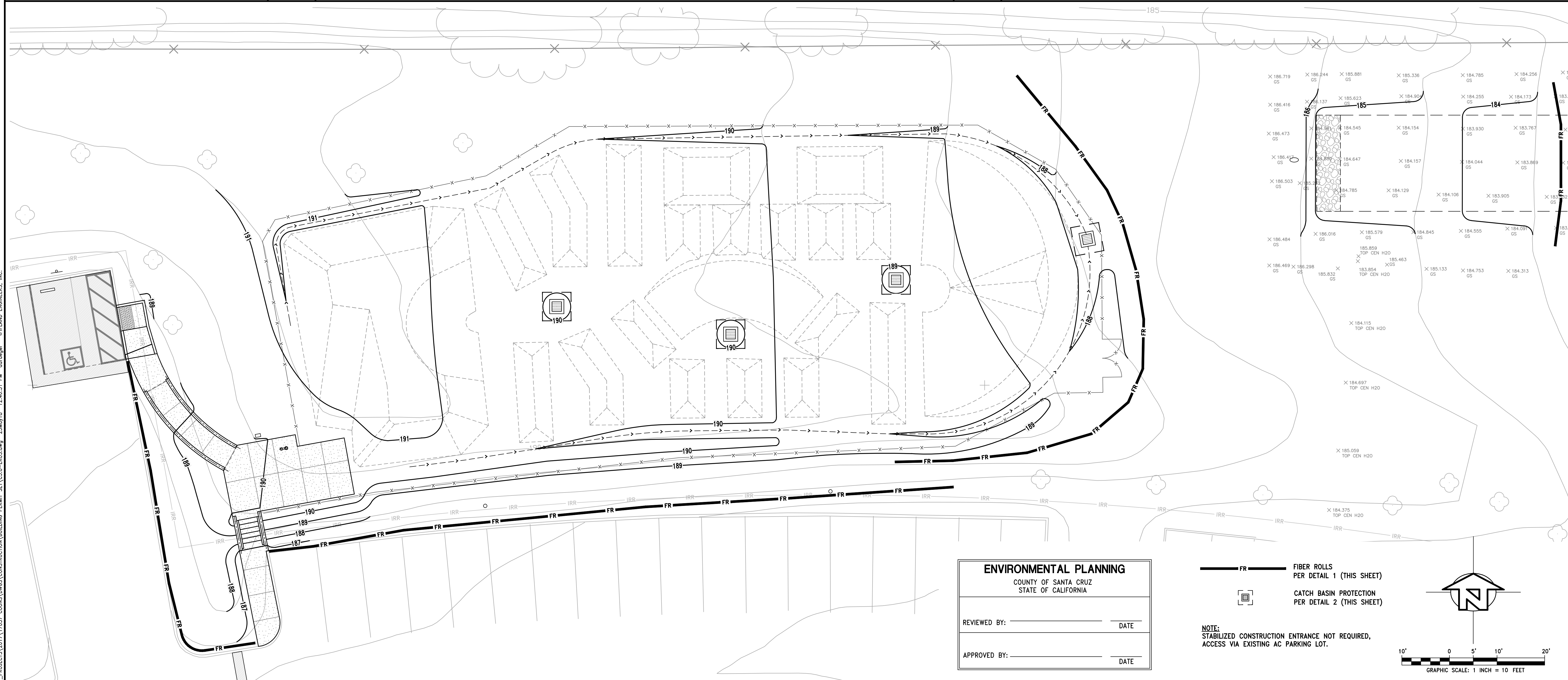
FIBER ROLLS PART 2

NTS

1

EROSION CONTROL NOTES

1. THE EROSION CONTROL PLANS IN THIS SET SHALL BE REVIEWED AND IMPLEMENTED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORK.
2. NO LAND CLEARING, GRADING OR EXCAVATION SHALL BE DONE BETWEEN OCTOBER 15TH AND APRIL 15TH. ANY DEVIATION FROM THIS CONDITION REQUIRES REVIEW AND APPROVAL OF A SEPARATE WINTER EROSION CONTROL PLAN BY ENVIRONMENTAL PLANNING PRIOR TO BEGINNING CONSTRUCTION. THE DEVELOPER SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING SITE EROSION CONTROL AT ALL TIMES.
3. IT SHALL BE THE RESPONSIBILITY OF THE OWNER AND THE PERMITTEE TO ENSURE THAT EROSION DOES NOT OCCUR FROM ANY ACTIVITY DURING OR AFTER PROJECT CONSTRUCTION. ADDITIONAL MEASURES, BEYOND THOSE SPECIFIED, MAY BE REQUIRED BY THE PLANNING DIRECTOR AS DEEMED NECESSARY TO CONTROL ACCELERATED EROSION.
4. PRIOR TO ANY FORECAST RAIN AND ANYTIME BETWEEN OCTOBER 15 AND APRIL 15, AT THE END OF EACH WORKDAY, AT THE END OF EACH WORKWEEK, THE DEVELOPER SHALL IMPLEMENT ALL TEMPORARY MEASURES NECESSARY TO PREVENT EROSION AND SILTATION, UNTIL THE PROJECT HAS BEEN FINALIZED. THESE MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, DIRECT SEEDING OF THE AFFECTED AREAS, STRAW MULCHING, AND/OR INSTALLATION OF STRAW BALES DAMS/SILT FENCES.
5. DURING CONSTRUCTION, NO TURBID WATER SHALL BE PERMITTED TO LEAVE THE SITE. USE OF SILT AND GREASE TRAPS, FILTER BERMS, HAY BALES OR SILT FENCES SHALL BE USED TO PREVENT SUCH DISCHARGE.
6. ALL AREAS ON- & OFF-SITE EXPOSED DURING CONSTRUCTION ACTIVITIES, IF NOT PERMANENTLY LANDSCAPED, SHALL BE PROTECTED BY MULCHING AND/OR SEEDING WITH ANNUAL WINTER BARLEY.
7. ALL EXCAVATED MATERIAL SHALL BE REMOVED TO AN APPROVED DISPOSAL SITE OR DISPOSED OF ON-SITE IN A MANNER THAT WILL NOT CAUSE EROSION.
8. ANY MATERIAL STOCKPILED, FOR LONGER THAN 14 DAYS, DURING CONSTRUCTION SHALL BE COVERED WITH PLASTIC.
9. UPON COMPLETION OF CONSTRUCTION, ALL REMAINING EXPOSED SOILS SHALL BE PERMANENTLY REVEGETATED. THE PROTECTION REQUIRED BY SECTION 16.22.080 SHALL BE INSTALLED PRIOR TO CALLING FOR FINAL APPROVAL OF THE PROJECT AND AT ALL TIMES BETWEEN OCTOBER 15 AND APRIL 15. SUCH PROTECTION SHALL BE MAINTAINED FOR AT LEAST ONE WINTER UNTIL PERMANENT PROTECTION IS ESTABLISHED.
10. EXPOSED SOIL ON SLOPES GREATER THAN 20% SHALL BE SEEDED, COVERED WITH 2 INCHES OF STRAW, AND AN EROSION CONTROL BLANKET. THE EROSION CONTROL BLANKET SHALL BE STAKED IN PLACE.
11. IT IS THE DEVELOPER'S RESPONSIBILITY TO SEE THAT ADDITIONAL MEASURES, NECESSARY TO CONTROL SITE EROSION AND PREVENT SEDIMENT TRANSPORT OFF-SITE ARE IMPLEMENTED.
12. ALL SPILLS AND/OR LEAKS SHALL BE IMMEDIATELY CLEANED UP AND MITIGATED PER THE SPILL RESPONSE REQUIREMENTS SPECIFIED IN THE SWPPP DOCUMENT AND THE CONTRACTORS O&M STANDARDS.



ENVIRONMENTAL PLANNING
 COUNTY OF SANTA CRUZ
 STATE OF CALIFORNIA

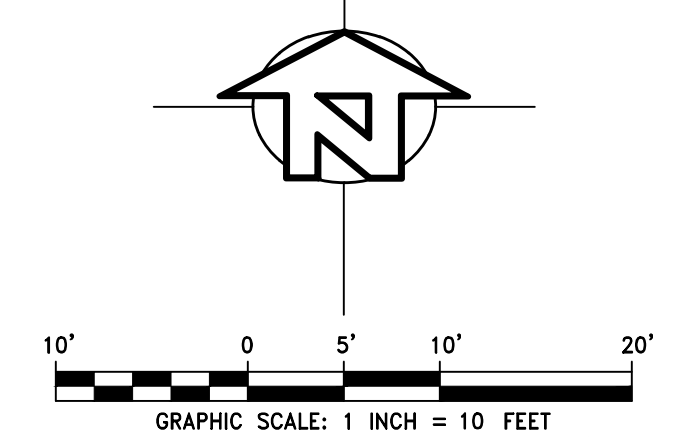
REVIEWED BY: _____ DATE _____

APPROVED BY: _____ DATE _____

FR FIBER ROLLS PER DETAIL 1 (THIS SHEET)

CB CATCH BASIN PROTECTION PER DETAIL 2 (THIS SHEET)

NOTE: STABILIZED CONSTRUCTION ENTRANCE NOT REQUIRED, ACCESS VIA EXISTING AC PARKING LOT.



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DATE: 5/22/18

APPROVED: *David Henriksen*

DAVID HENRIKSEN (P.E. NO. 49167)

IFLAND ENGINEERS
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EROSION CONTROL PLAN
PINTO LAKE - PUMP TRACK

451 GREEN VALLEY RD, WATSONVILLE, CALIFORNIA

APN 050-141-02

DATE: 5/22/18

DESIGN: DD

DRAWN: DD

SHEET: **C5.0**

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