



GRADING & UTILITIES PLAN LEGEND

	LIMIT OF WORK LINE
	EXISTING SPOT GRADE
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	FILTER FABRIC FENCE
	MATCH EXISTING GRADE
	PROPOSED SPOT GRADE (+500)
	PROPOSED TOP OF CURB GRADE (+500)
	PROPOSED BOTTOM OF CURB GRADE (+500)
	PROPOSED RIM ELEVATION (+500)
	PROPOSED RIM ADJUSTMENT ELEVATION (+500)
	PROPOSED TOP OF WALL ELEVATION (+500)
	PROPOSED STORM LINE
	PROPOSED WATER LINE
	PROPOSED SANITARY LINE
	PROPOSED STORM FES
	PROPOSED STORM INLET/CATCH BASIN
	PROPOSED STORM CASTING
	PROPOSED SANITARY MH STRUCTURE
	PROPOSED WATER STRUCTURE

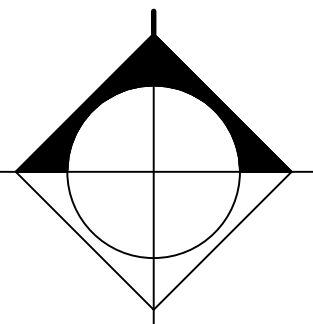
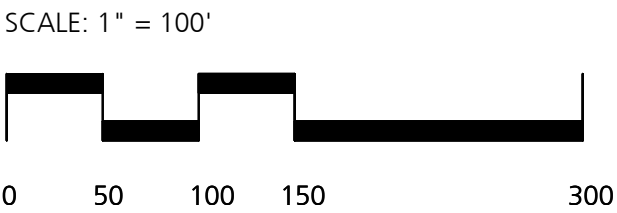
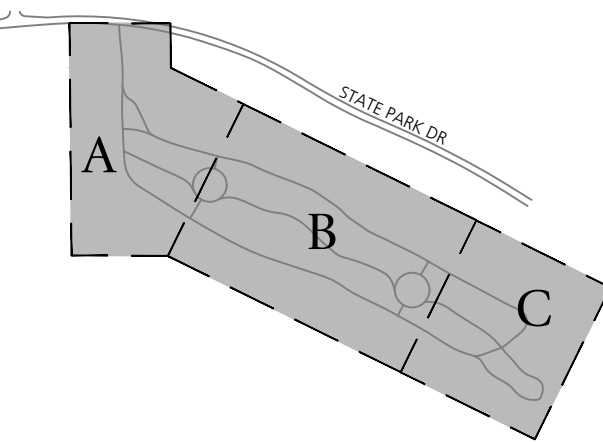
GRADING NOTES

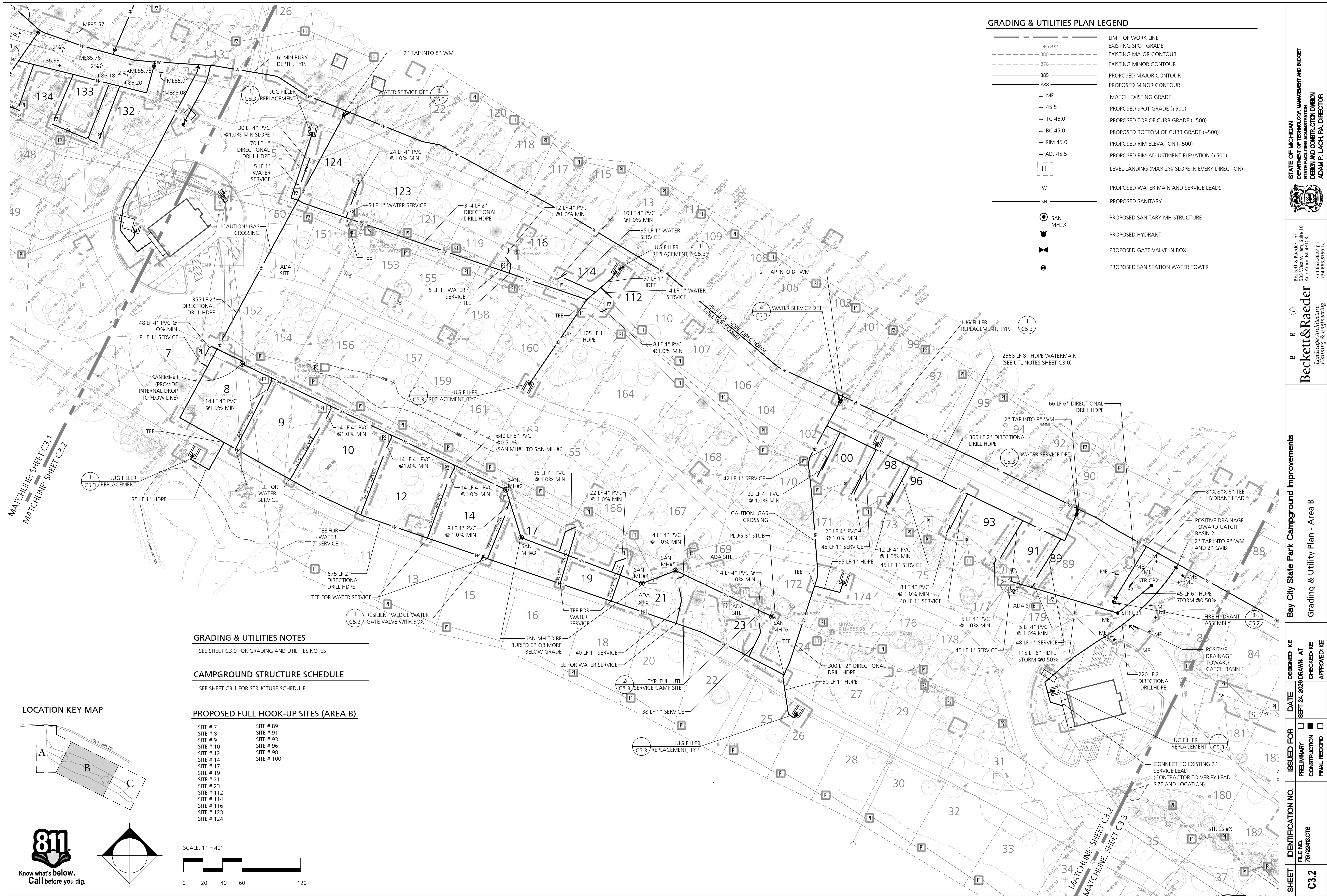
- CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION ALL WORK COMPLETED IN CONFORMANCE WITH CURRENT ADA STANDARDS.
- PROPOSED CONTOUR LINES AND SPOT ELEVATIONS REFLECT FINISH GRADES. HOLD DOWN SUBGRADE ELEVATIONS ACCORDINGLY. ADJUST RIM ELEVATIONS OF ALL UTILITIES AFFECTED BY WORK IN THIS CONTRACT. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ON THE SITE. ANY AREA THAT APPEARS TO NOT PROPERLY DRAIN SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE LANDSCAPE ARCHITECT/ ENGINEER FOR RESOLUTION.

UTILITIES NOTES

- CONTRACTOR SHALL VERIFY ALL EXISTING UTILITY LOCATIONS, DEPTHS AND ELEVATIONS PRIOR TO CONSTRUCTION. NO CHANGES IN CONTRACT PRICE WILL BE AWARDED FOR ACTUAL DISCREPANCIES IN UTILITY LOCATIONS DUE TO THE FAILURE TO VERIFY ACTUAL FIELD LOCATIONS.
- THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED BY HIS CONSTRUCTION OPERATIONS TO A CONDITION EQUAL TO OR BETTER THAN THAT EXISTING PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CLEAN UP AND HAUL AWAY ALL CONSTRUCTION DEBRIS AND LITTER CAUSED BY HIS OPERATIONS.
- CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE INCURRED SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- ALL UTILITY CROSSINGS SHALL HAVE A MINIMUM OF 18" VERTICAL CLEARANCE.
- ALL WATER MAIN AND SERVICE LINES SHALL HAVE A MINIMUM BURY DEPTH OF 6'.
- ALL WATER MAIN AND SERVICE LINES SHALL BE DIRECTLY DRILLED AS MUCH AS POSSIBLE
- ALL PROPOSED ELECTRICAL WORK SHALL BE REFERENCE FROM ELECTRICAL SHEETS E2.0
- THE UTILITY LAYOUT FOR SITES DESIGNATED AS FULL HOOK-UP SHALL BE FIELD VERIFIED TO AVOID TREE REMOVALS
- CONTRACTOR SHALL USE METHODS TO MINIMIZE PAVEMENT DAMAGE, INCLUDING BUT NOT LIMITED TO, TRENCH BOXES OR SHEETING. ANY PAVEMENT DAMAGE BEYOND THE LIMITS SHOWN ON THE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL VIDEO/TELEVIEW THE PAVEMENT CONDITIONS PRIOR TO CONSTRUCTION TO CONFIRM PRE-CONSTRUCTION PAVEMENT CONDITIONS. AN ELECTRONIC COPY SHALL BE GIVEN TO THE OWNER AND PSC.
- CONTRACTOR SHALL STATE LOCATION OF WATER, SANITARY, AND ELECTRICAL UTILITY LOCATIONS FOR OWNERS REVIEW PRIOR TO CONSTRUCTION. UTILITY LOCATIONS MAY BE SLIGHTLY MODIFIED IN FIELD BY PARK STAFF.
- THE CONTRACTOR SHALL ASSIST PARK STAFF WITH WINTERIZATION DURING THE FIRST YEAR. SEE SPECIFICATIONS FOR FURTHER INFORMATION.

LOCATION KEY MAP





GRADING & UTILITIES PLAN LEGEND

- LIMIT OF WORK LINE
- + 931.83 EXISTING SPOT GRADE
- - - - - EXISTING MAJOR CONTOUR
- - - - - EXISTING MINOR CONTOUR
- 885 PROPOSED MAJOR CONTOUR
- 888 PROPOSED MINOR CONTOUR
- + ME MATCH EXISTING GRADE
- + 45.5 PROPOSED SPOT GRADE (+500)
- + TC 45.0 PROPOSED TOP OF CURB GRADE (+500)
- + BC 45.0 PROPOSED BOTTOM OF CURB GRADE (+500)
- + RIM 45.0 PROPOSED RIM ELEVATION (+500)
- + ADJ 45.5 PROPOSED RIM ADJUSTMENT ELEVATION (+500)
- [LL] LEVEL LANDING (MAX 2% SLOPE IN EVERY DIRECTION)
- W PROPOSED WATER MAIN AND SERVICE LEADS
- SN PROPOSED SANITARY
- SAN MH#X PROPOSED SANITARY MH STRUCTURE
- PROPOSED HYDRANT
- ✂ PROPOSED GATE VALVE IN BOX
- ⊙ PROPOSED SAN STATION WATER TOWER

GRADING & UTILITIES NOTES

SEE SHEET C3.0 FOR GRADING AND UTILITIES NOTES

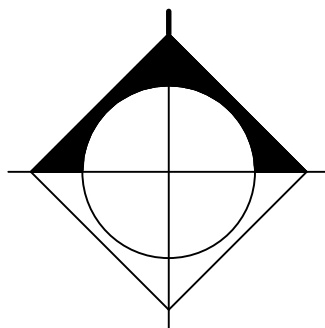
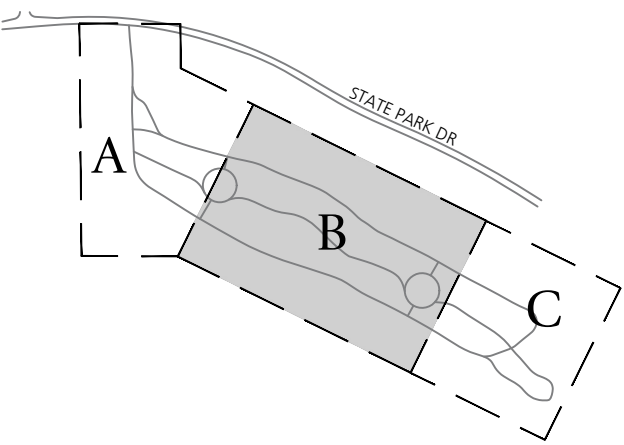
CAMPGROUND STRUCTURE SCHEDULE

SEE SHEET C3.1 FOR STRUCTURE SCHEDULE

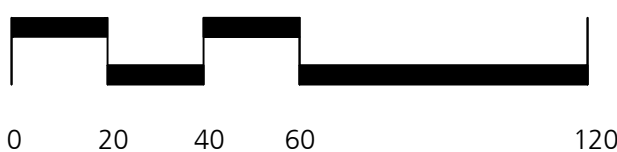
PROPOSED FULL HOOK-UP SITES (AREA B)

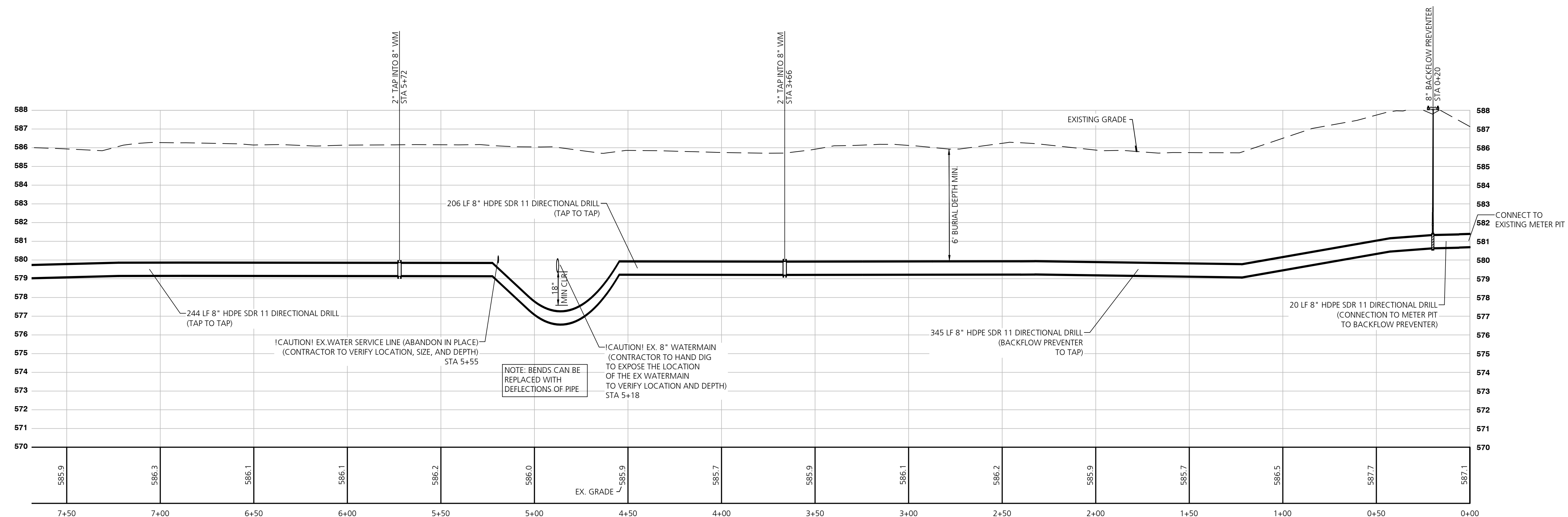
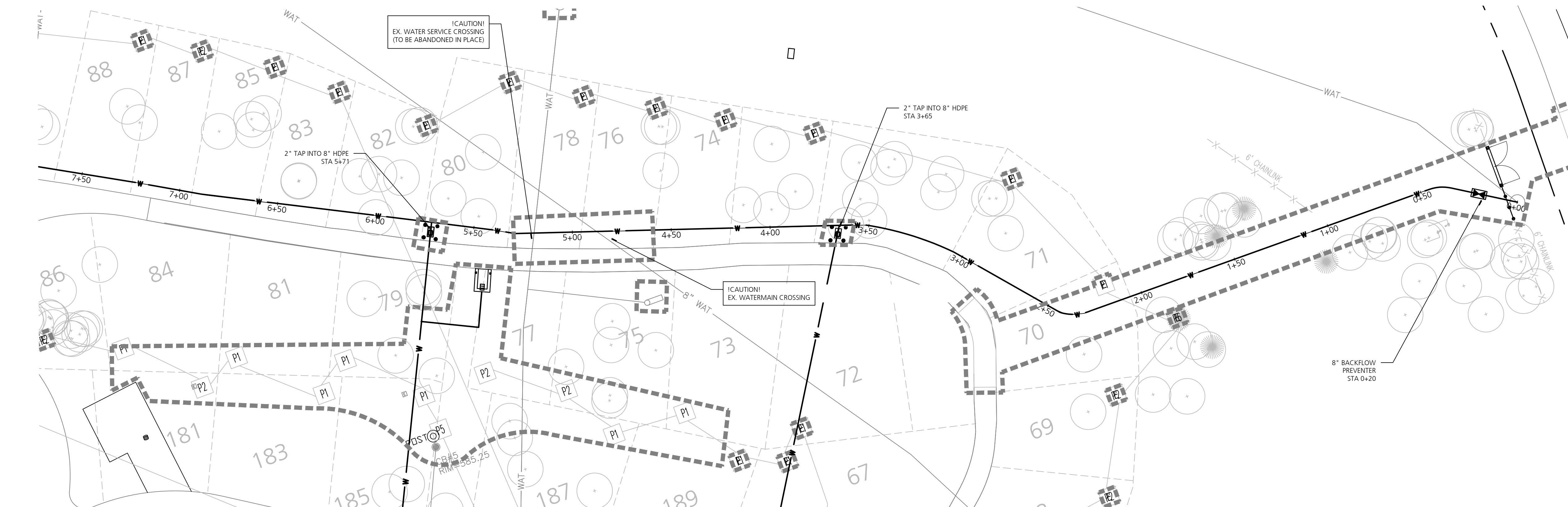
- | | |
|------------|------------|
| SITE # 7 | SITE # 89 |
| SITE # 8 | SITE # 91 |
| SITE # 9 | SITE # 93 |
| SITE # 10 | SITE # 96 |
| SITE # 12 | SITE # 98 |
| SITE # 14 | SITE # 100 |
| SITE # 17 | |
| SITE # 19 | |
| SITE # 21 | |
| SITE # 23 | |
| SITE # 112 | |
| SITE # 114 | |
| SITE # 116 | |
| SITE # 123 | |
| SITE # 124 | |

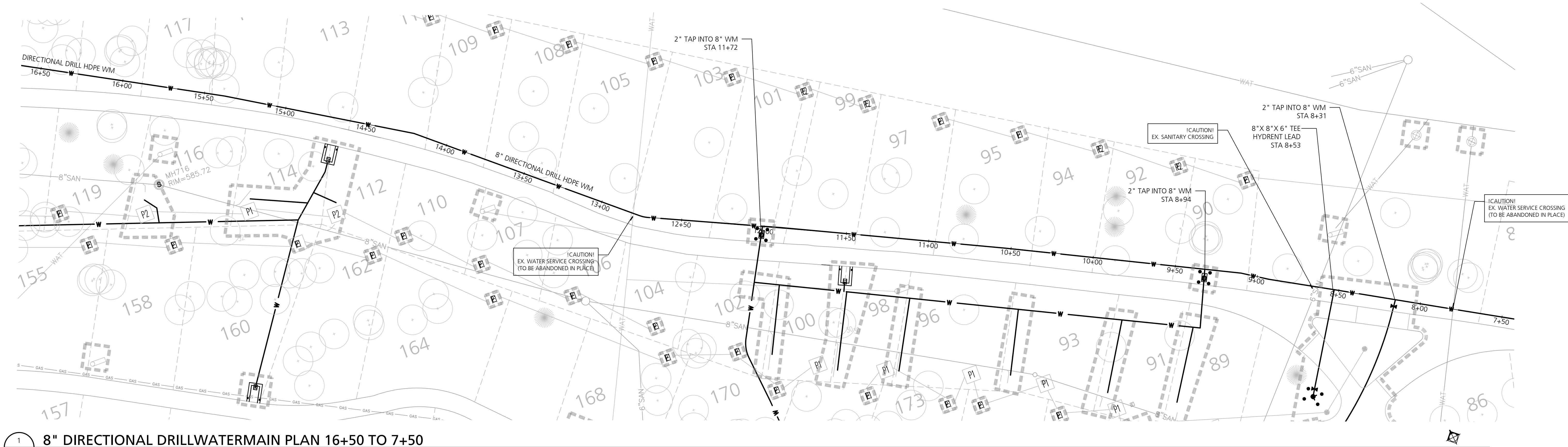
LOCATION KEY MAP



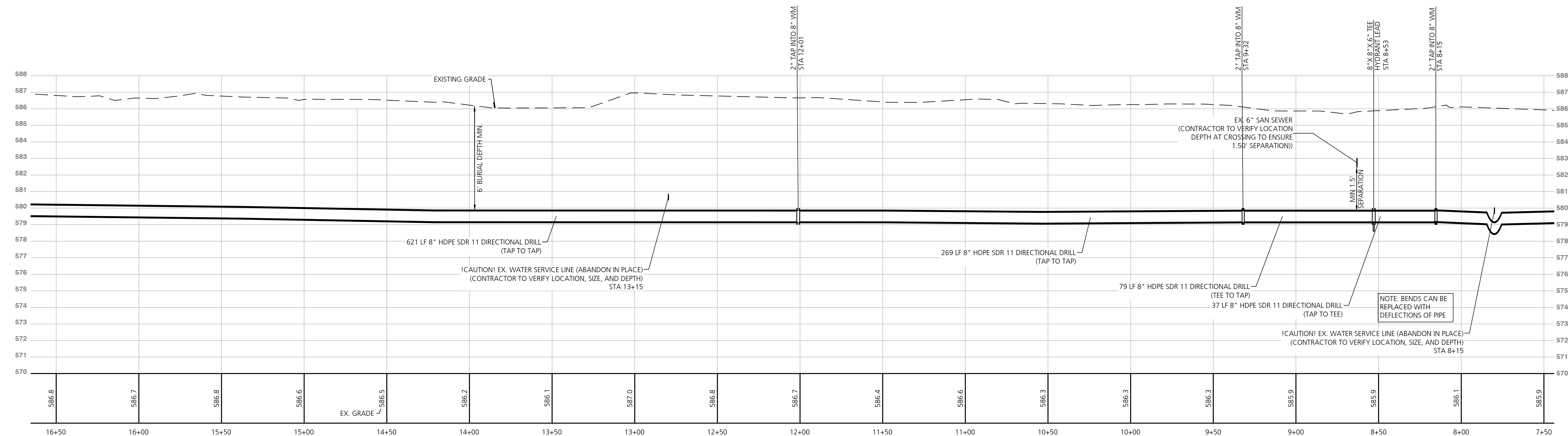
SCALE: 1" = 40'



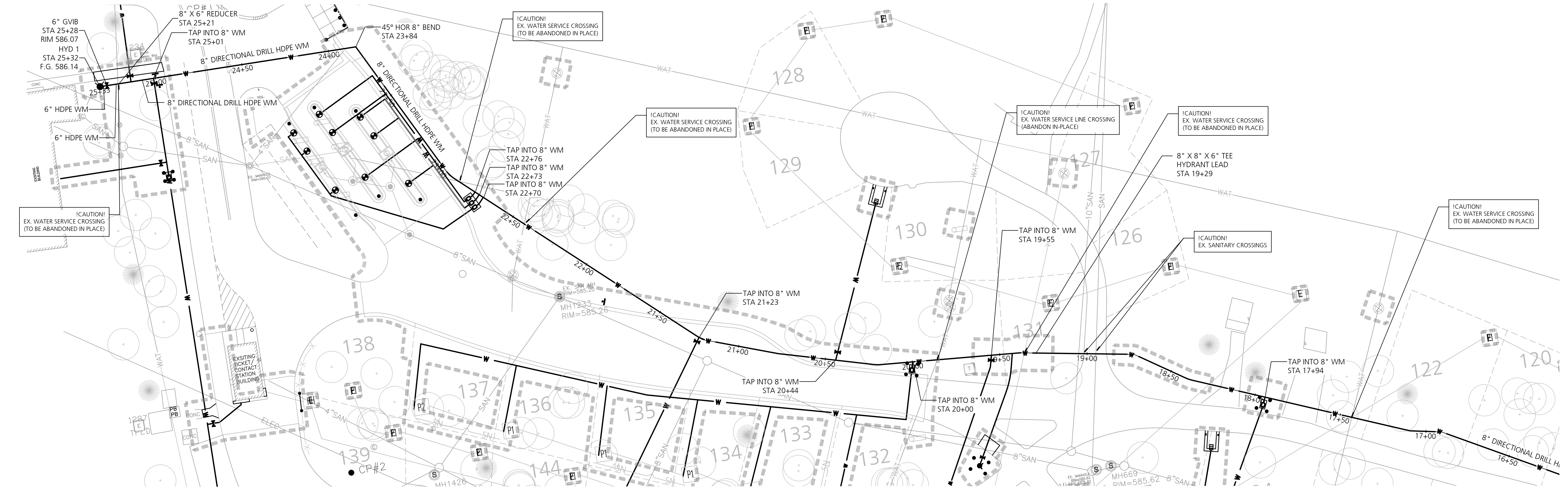




1 8" DIRECTIONAL DRILL WATERMAIN PLAN 16+50 TO 7+50
SCALE: 1" = 30'

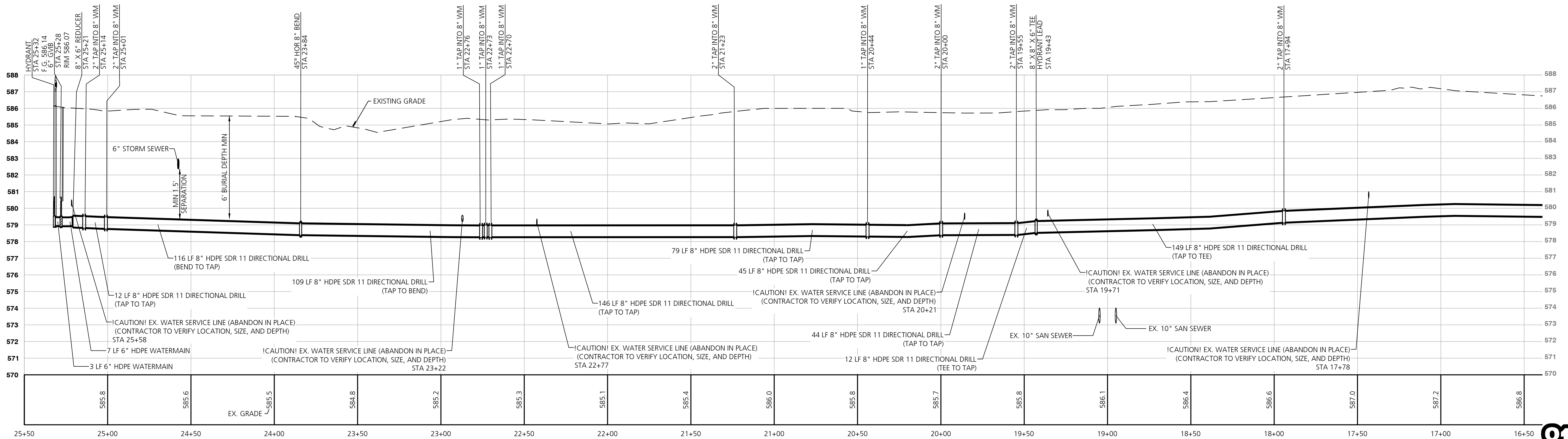


2 8" DIRECTIONAL DRILL WATERMAIN PROFILE 16+50 TO 7+50
SCALE: HORIZONTAL - 1" = 30' VERTICAL - 1" = 3'



1 8" DIRECTIONAL DRILL WATERMAIN PLAN 25+50 TO 16+50

SCALE: 1" = 30'

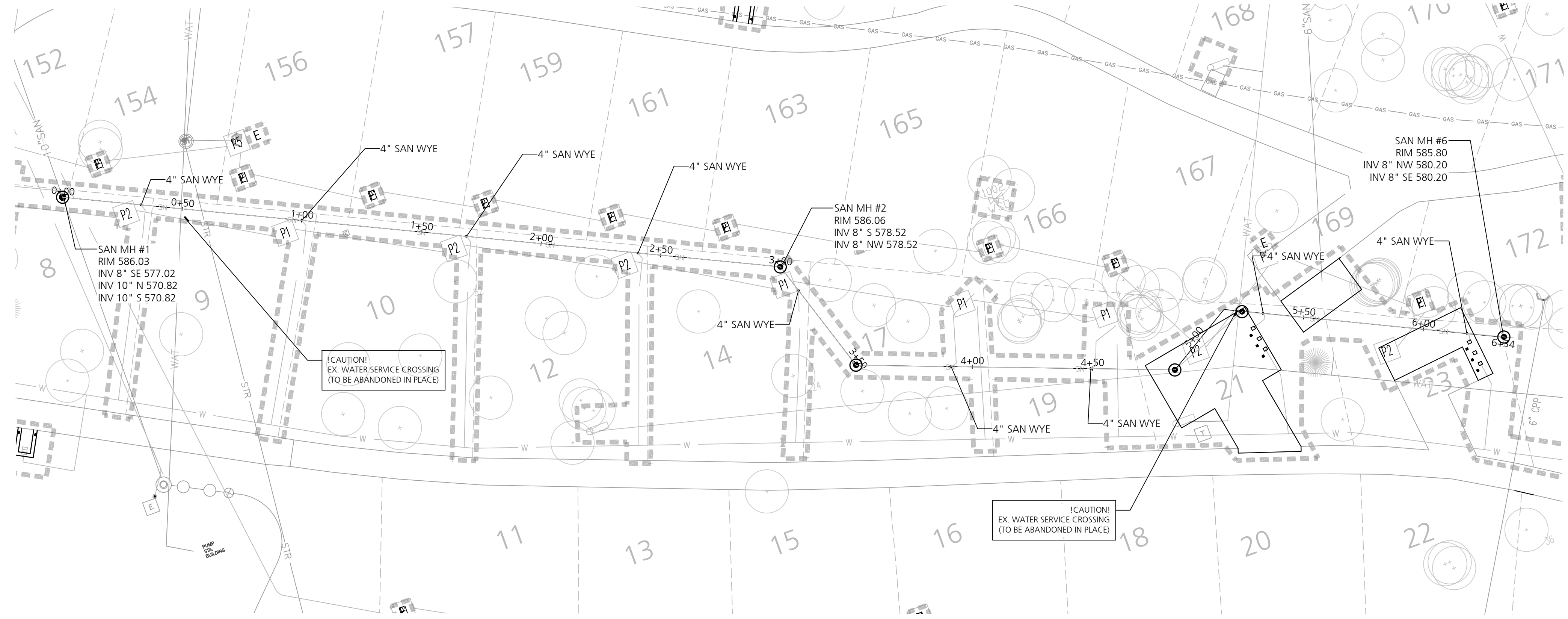


2 8" DIRECTIONAL DRILL WATERMAIN PROFILE 25+50 TO 16+50

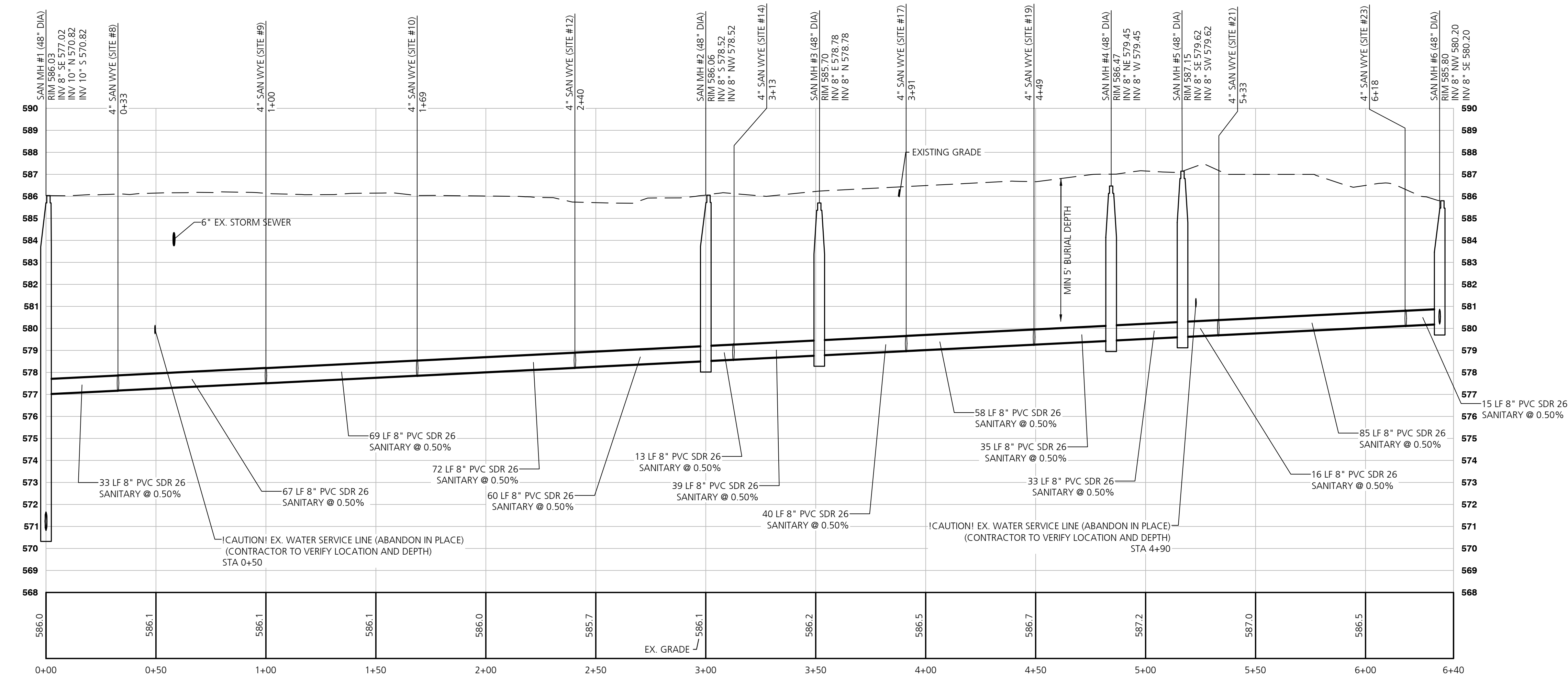
SCALE: HORIZONTAL - 1" = 30' VERTICAL - 1" = 3'



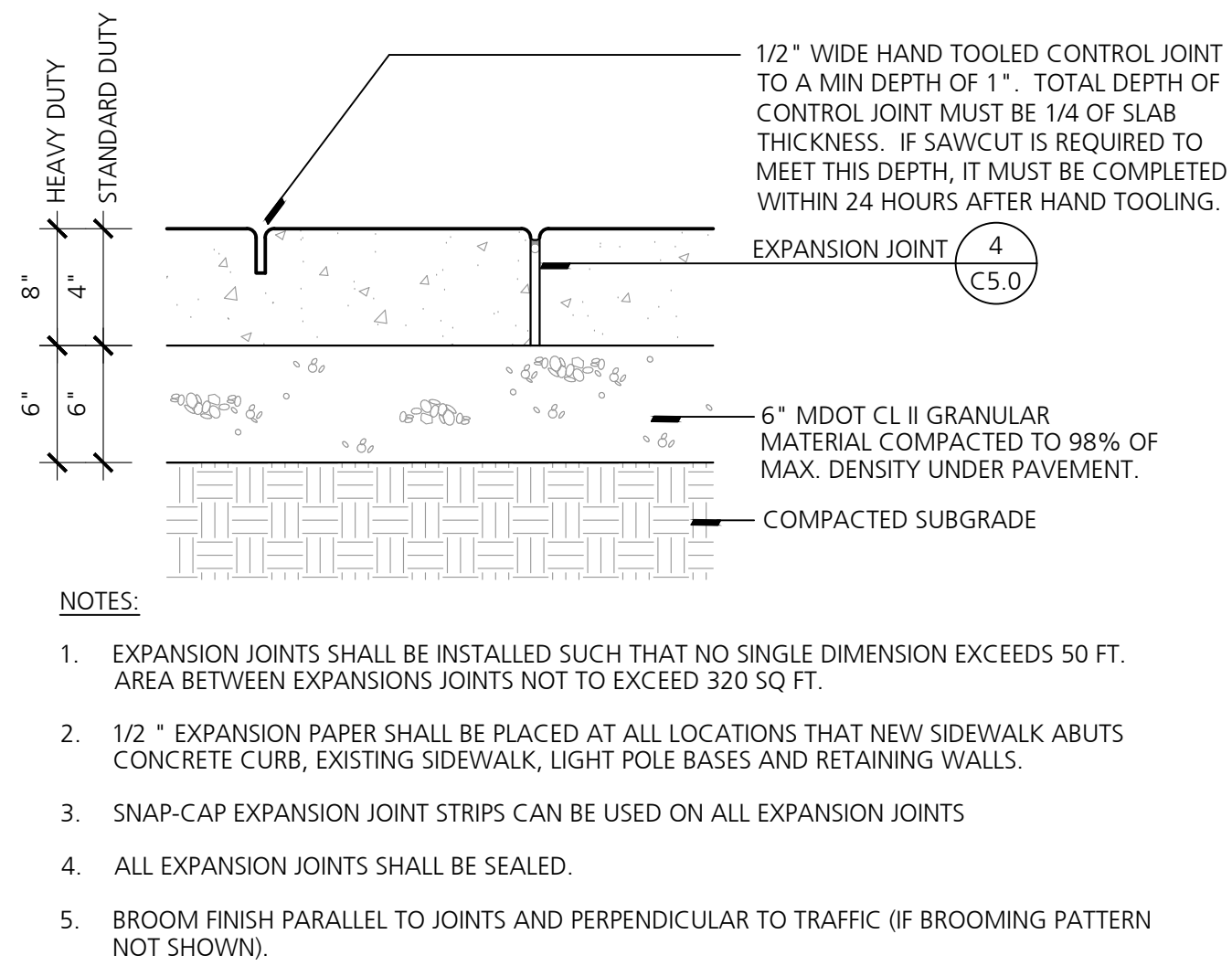
Know what's below.
Call before you dig.



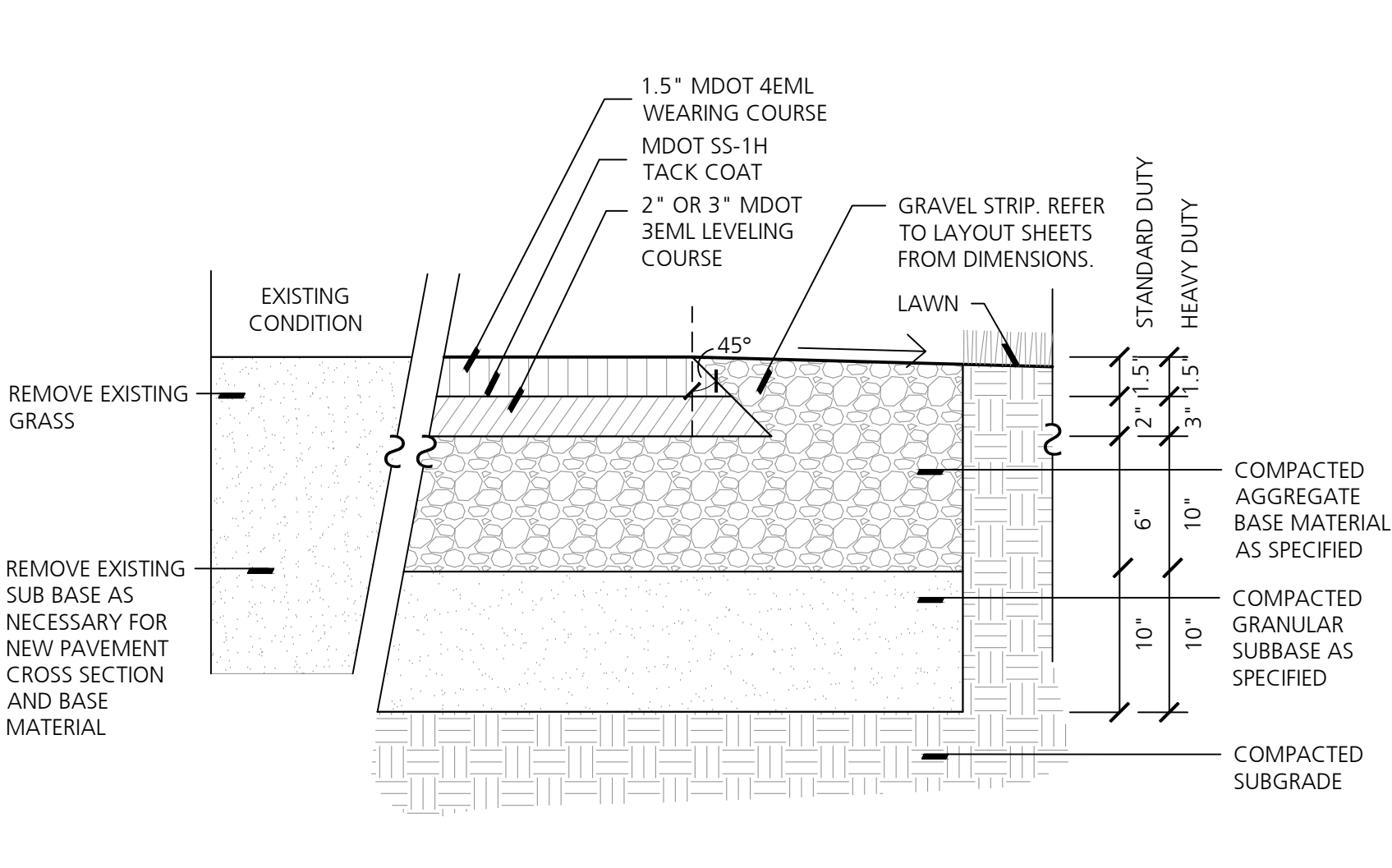
1 SANITARY PLAN 0+00 TO 6+34
SCALE: 1" = 30'



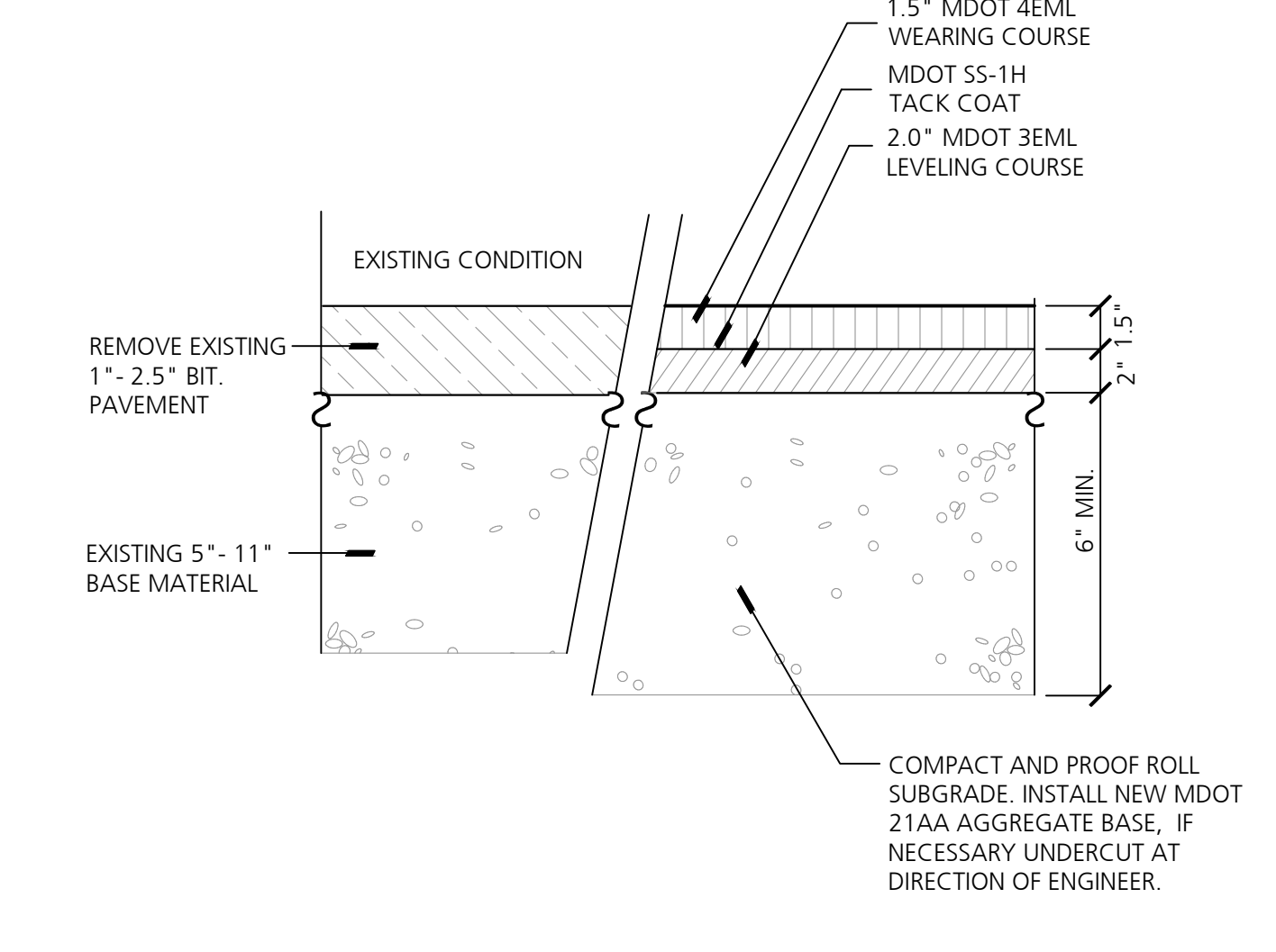
2 SANITARY PROFILE 0+00 TO 6+34
SCALE: HORIZONTAL - 1" = 30' VERTICAL - 1" = 3'



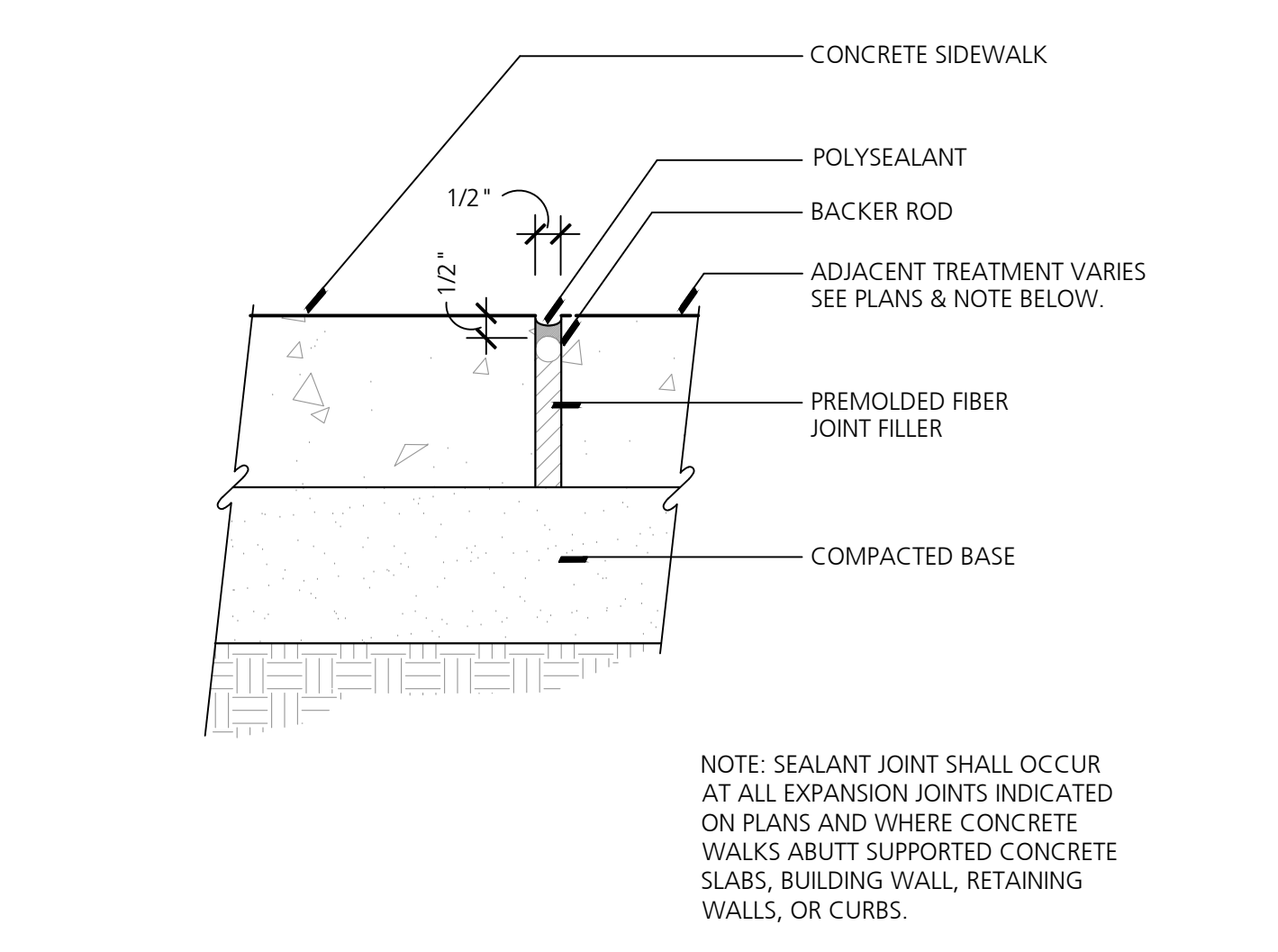
1 Concrete Pavement
NO SCALE



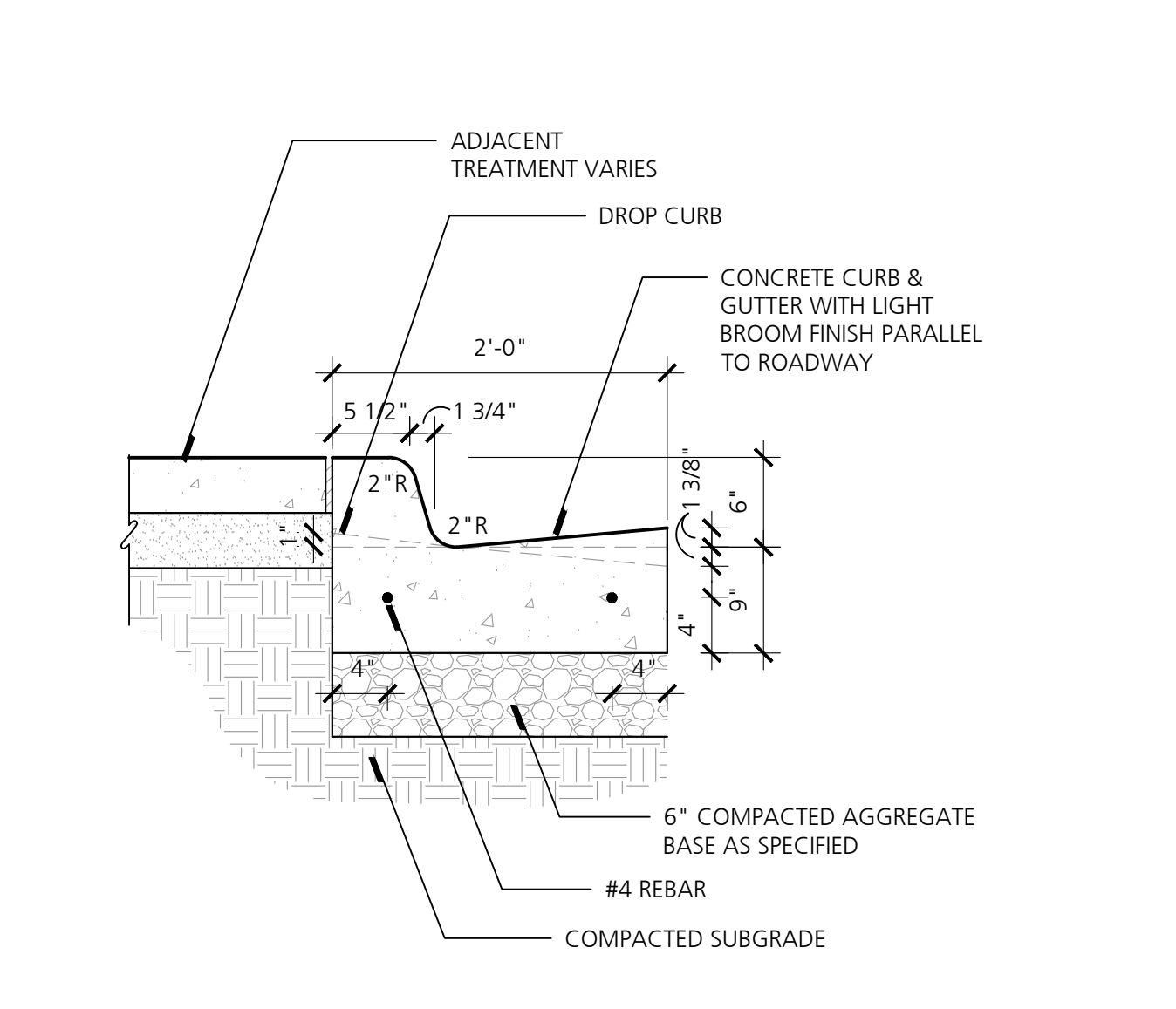
2 Bituminous Pavement with New Base
Not to Scale



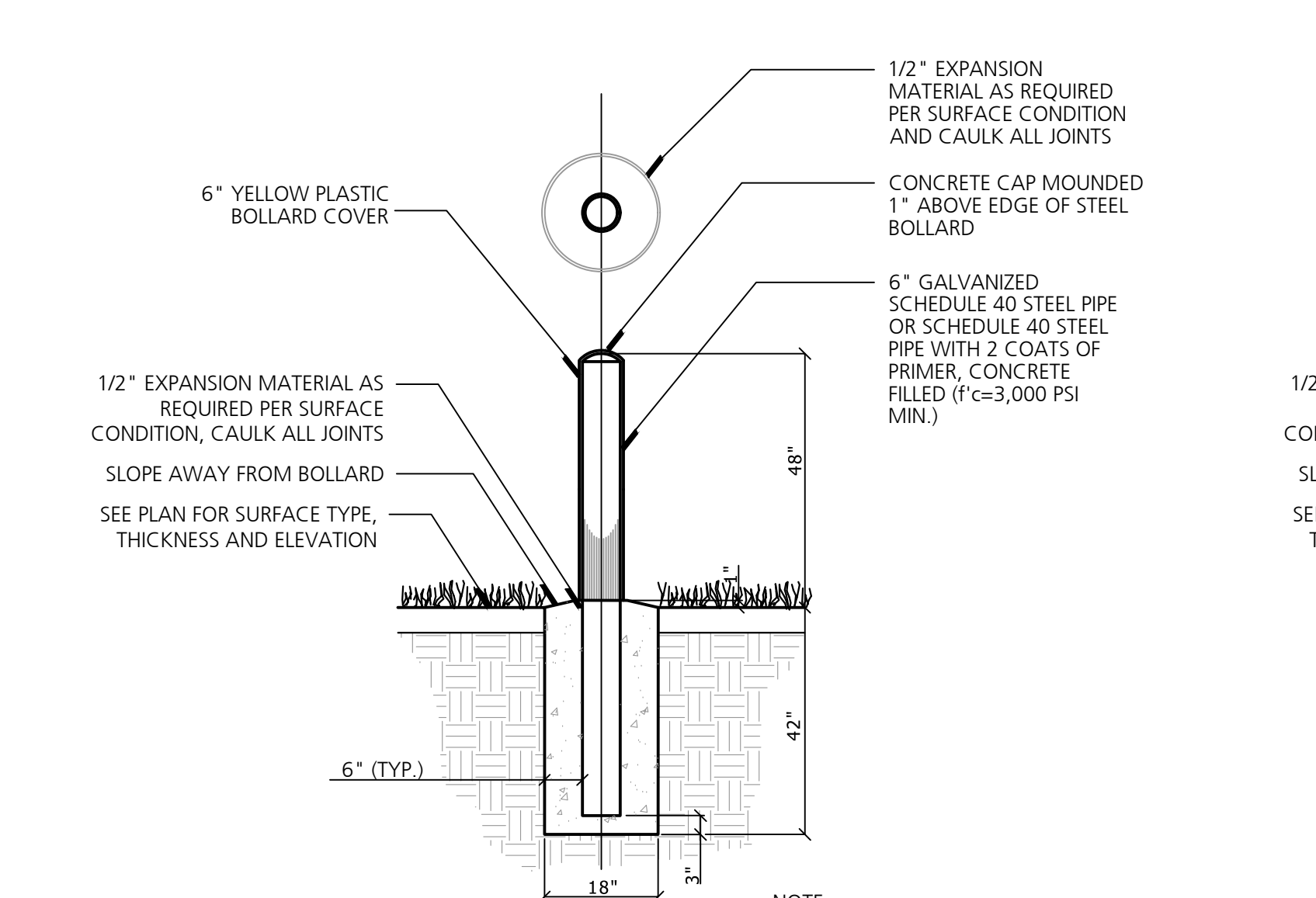
3 Standard Duty Bituminous Pavement with Existing Base
Not to Scale



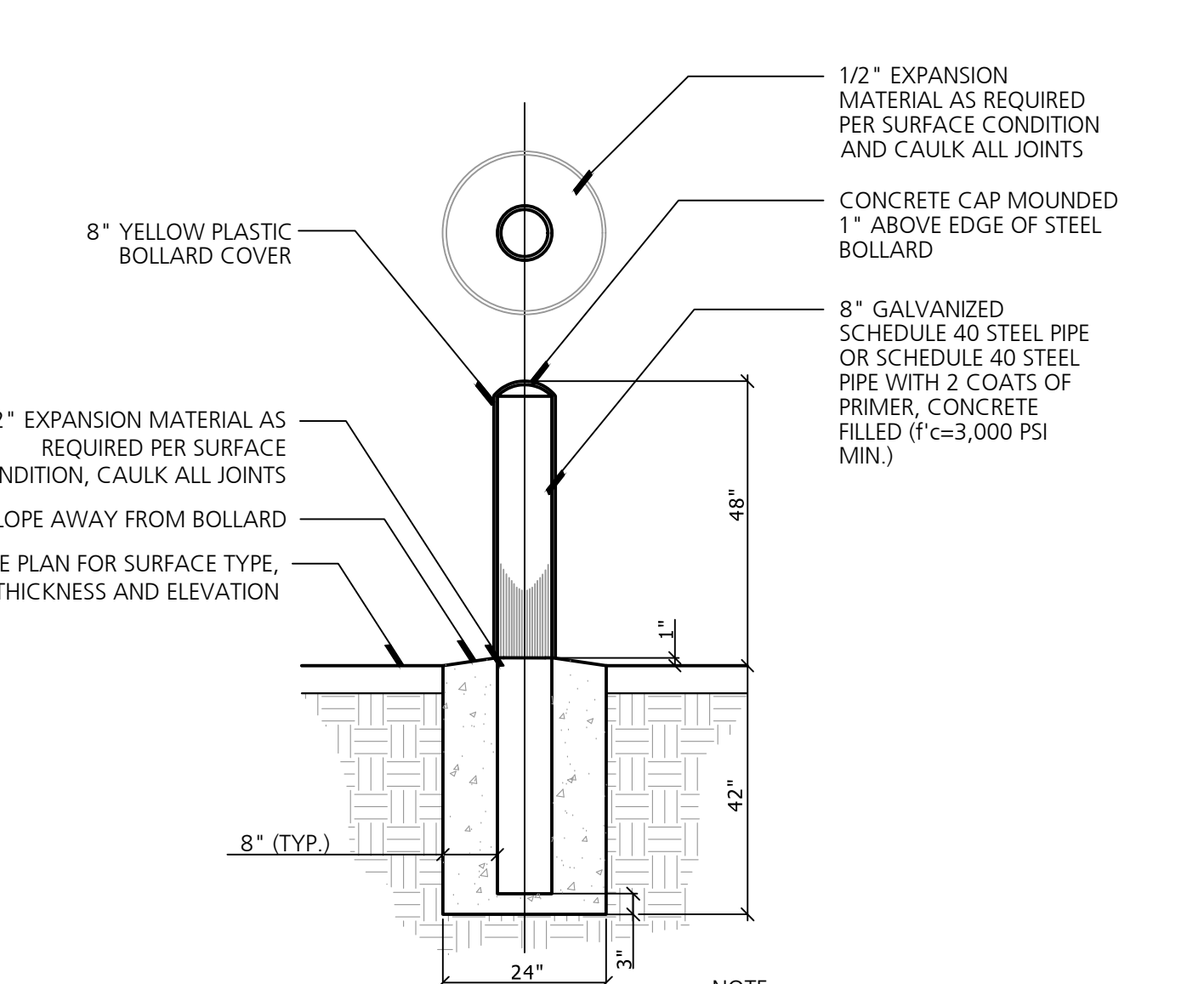
4 Expansion & Control Joint
NO SCALE



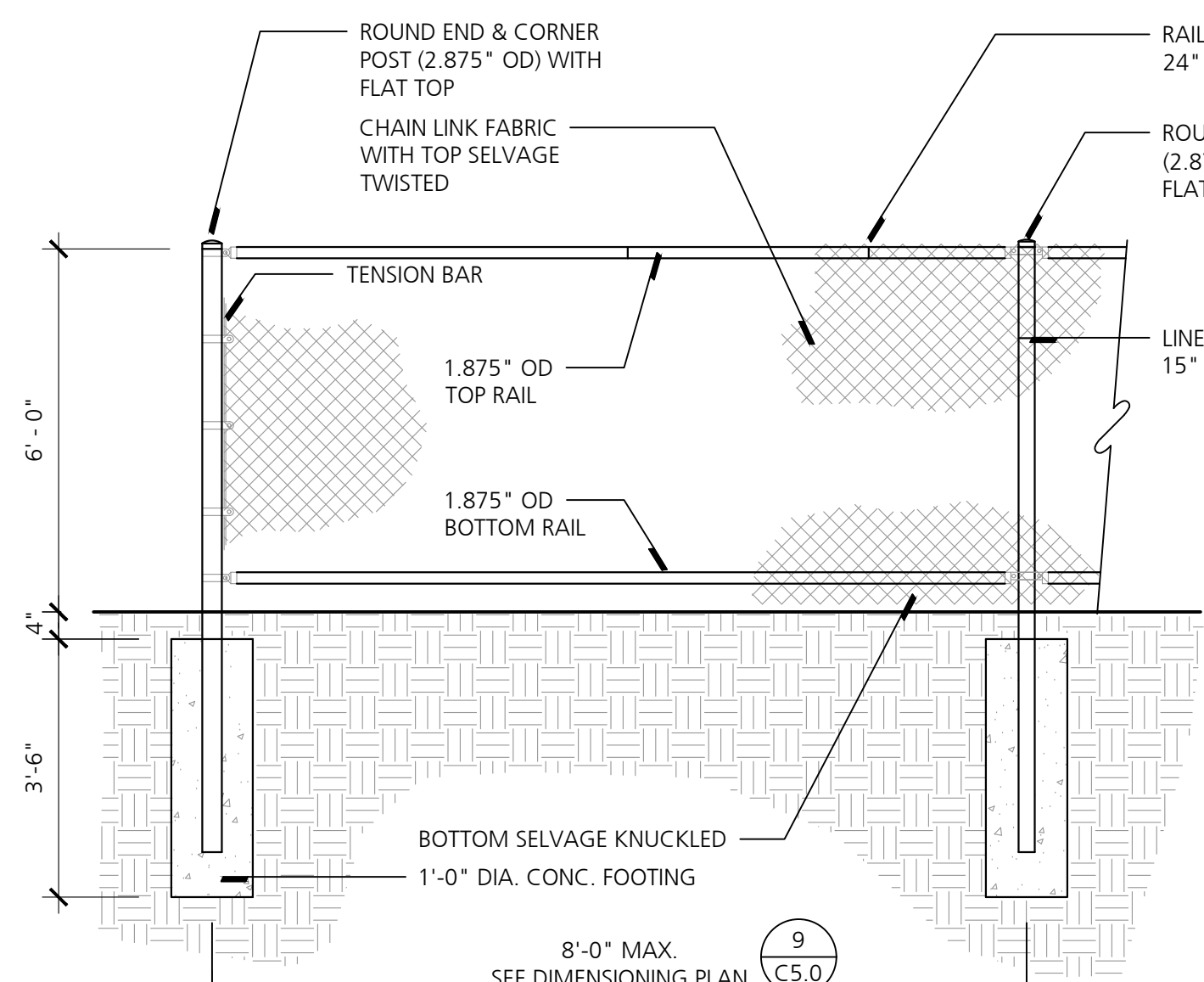
5 Standard Curb & Gutter
SCALE: 1" = 1'-0"



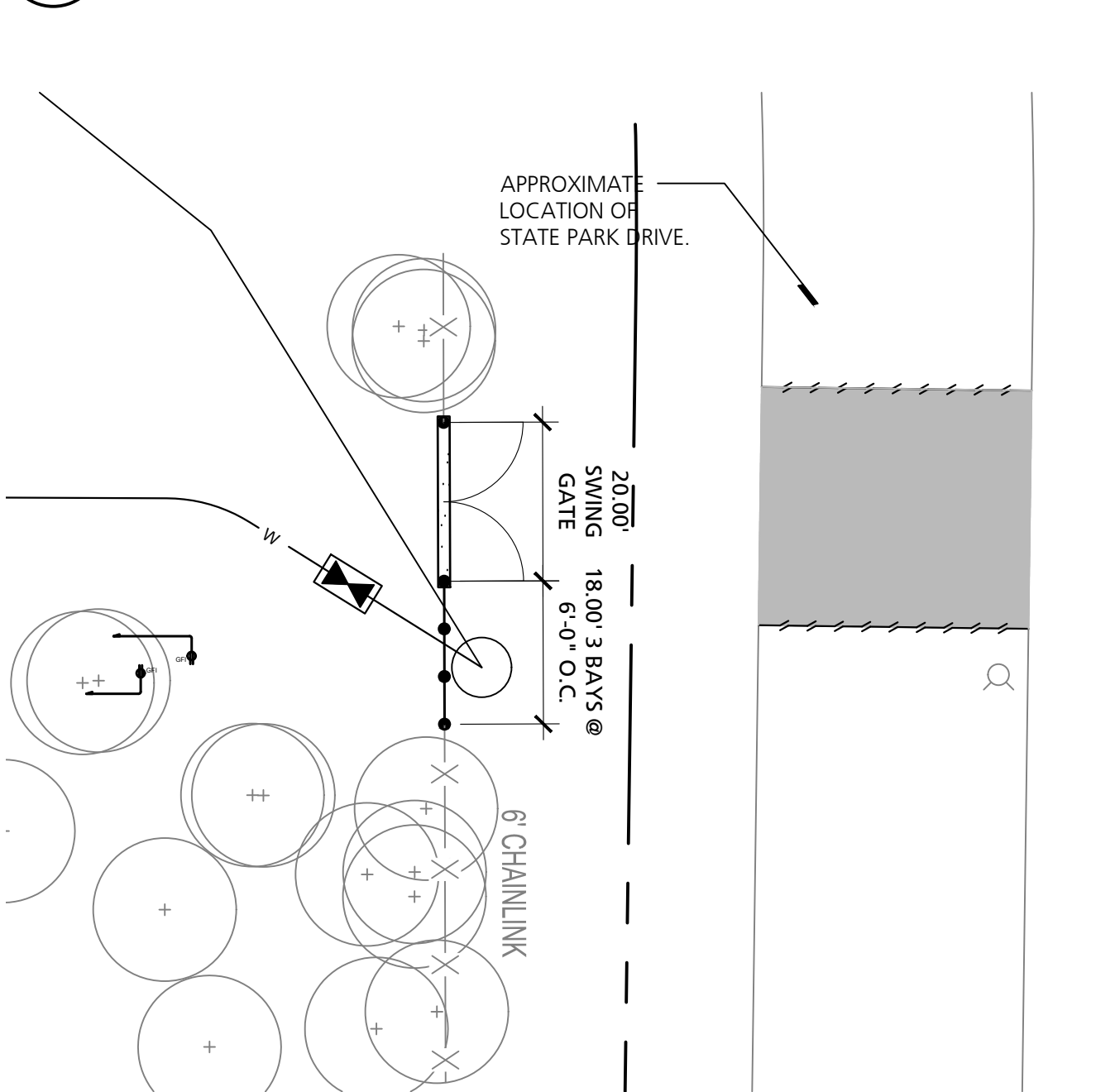
6 6" Bollard
NO SCALE



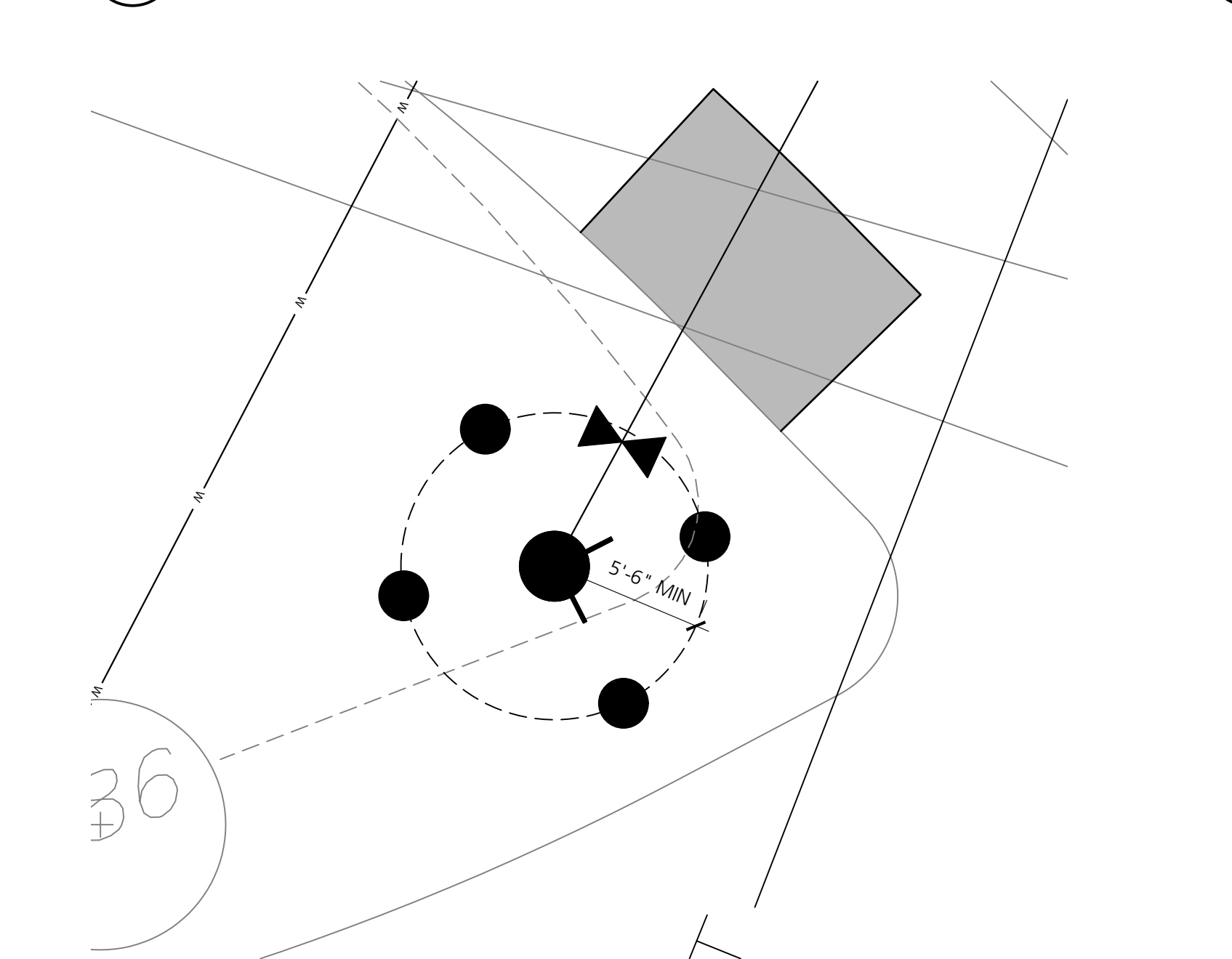
7 8" Bollard
NO SCALE



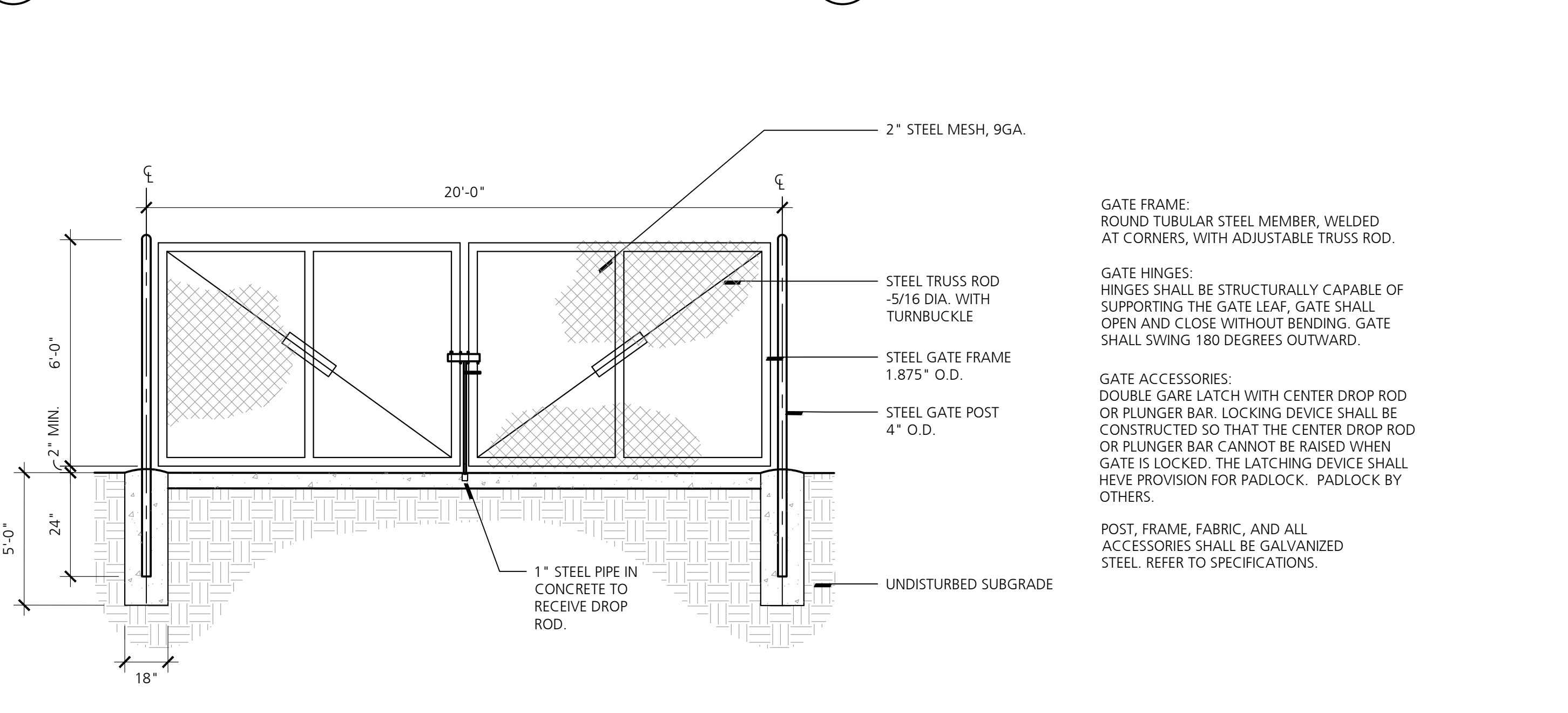
8 Chain Link Fence
NO SCALE



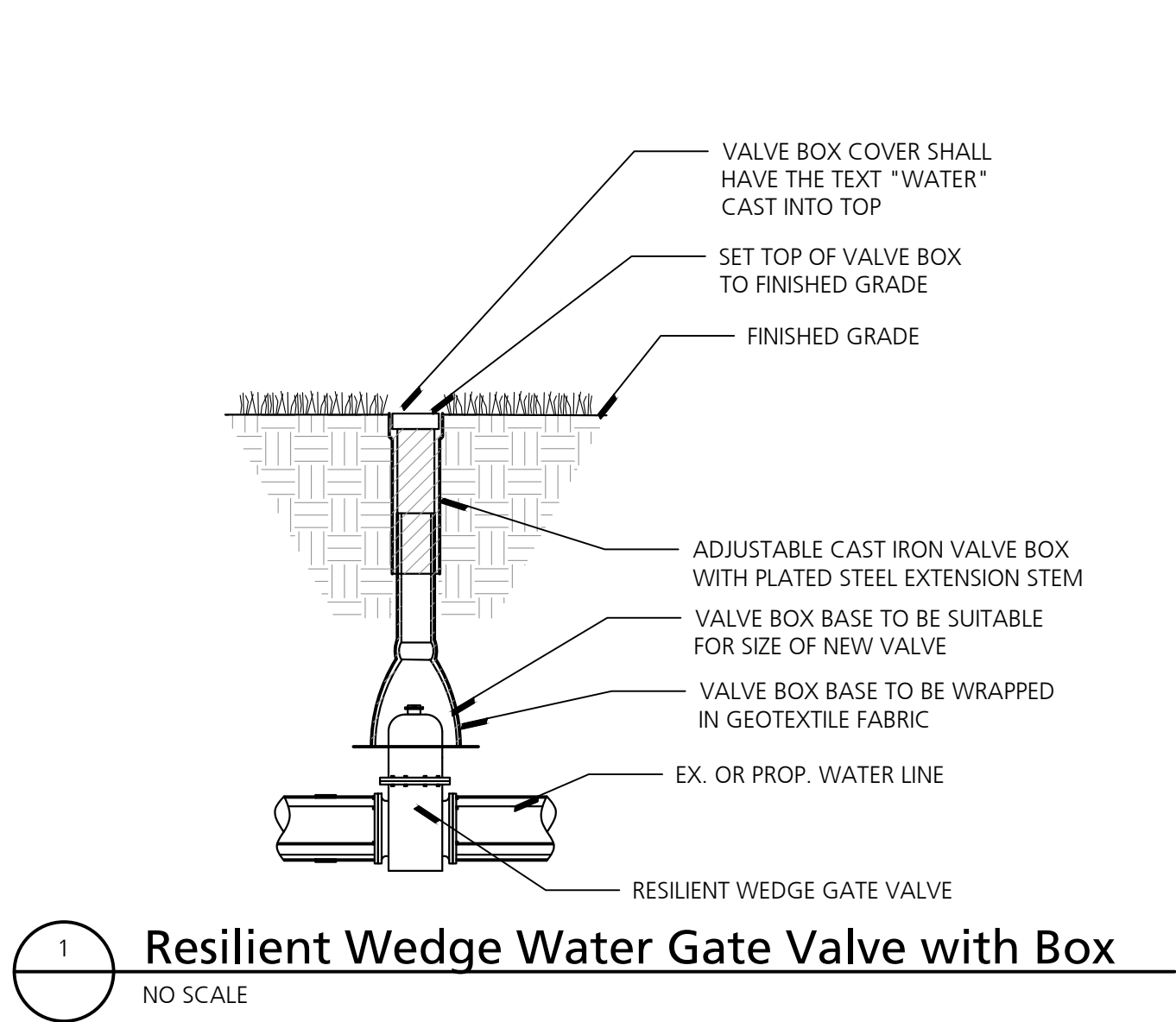
9 Chain Link Fence Dimensioning Plan
SCALE: 1" = 20'



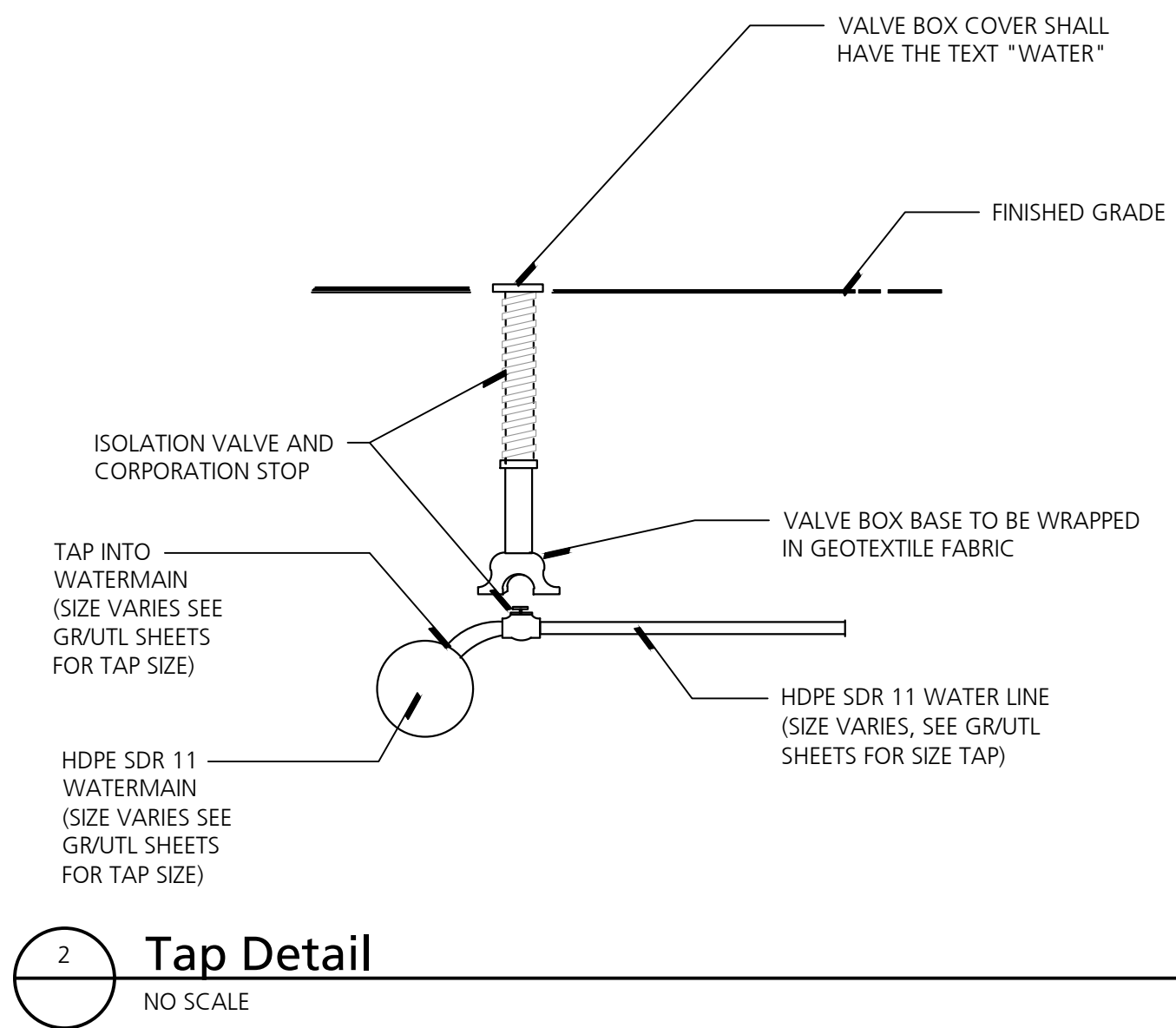
10 Bollards around Hydrant Layout Plan
SCALE: 1" = 5'



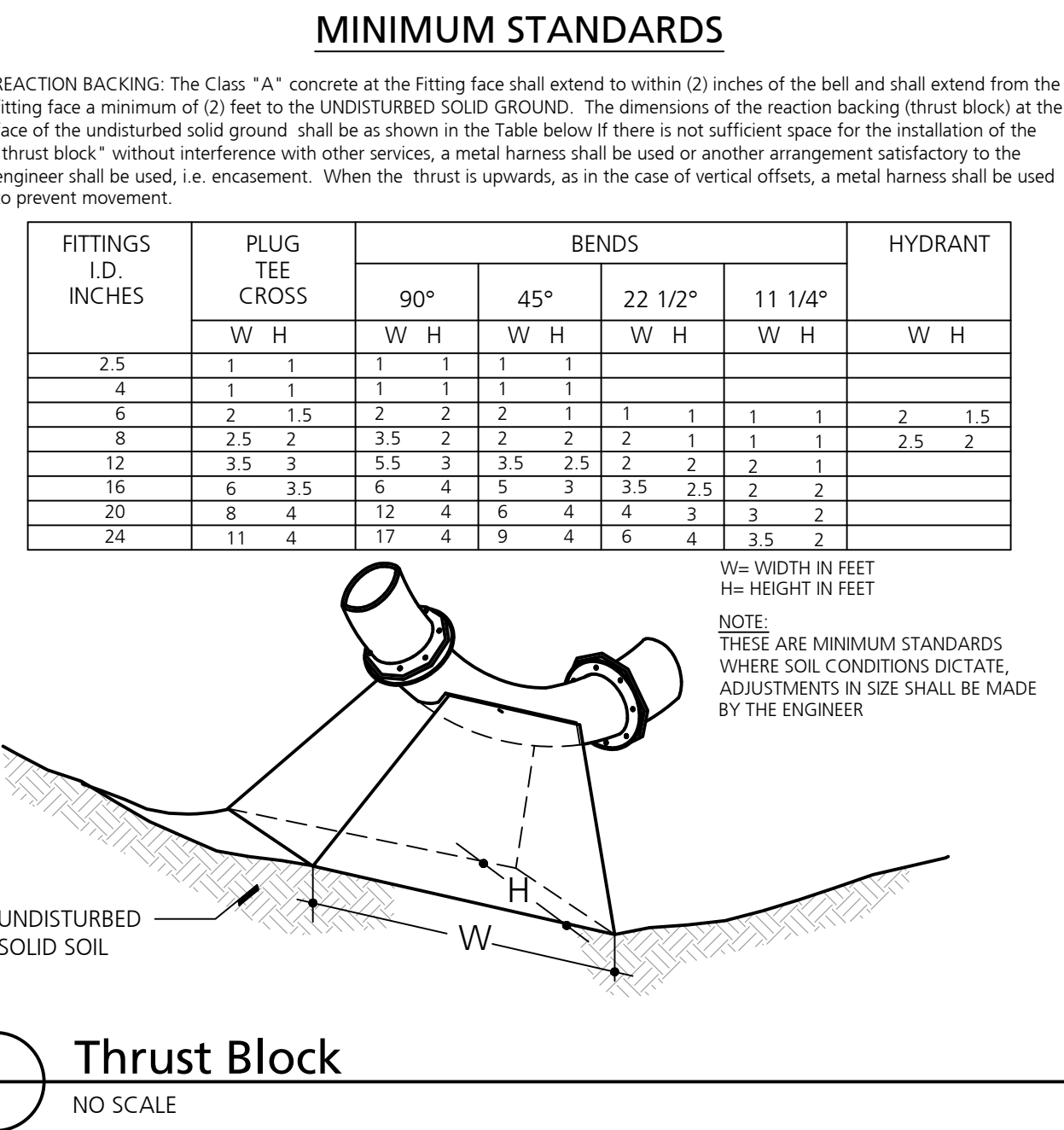
11 Swing Gate
NO SCALE



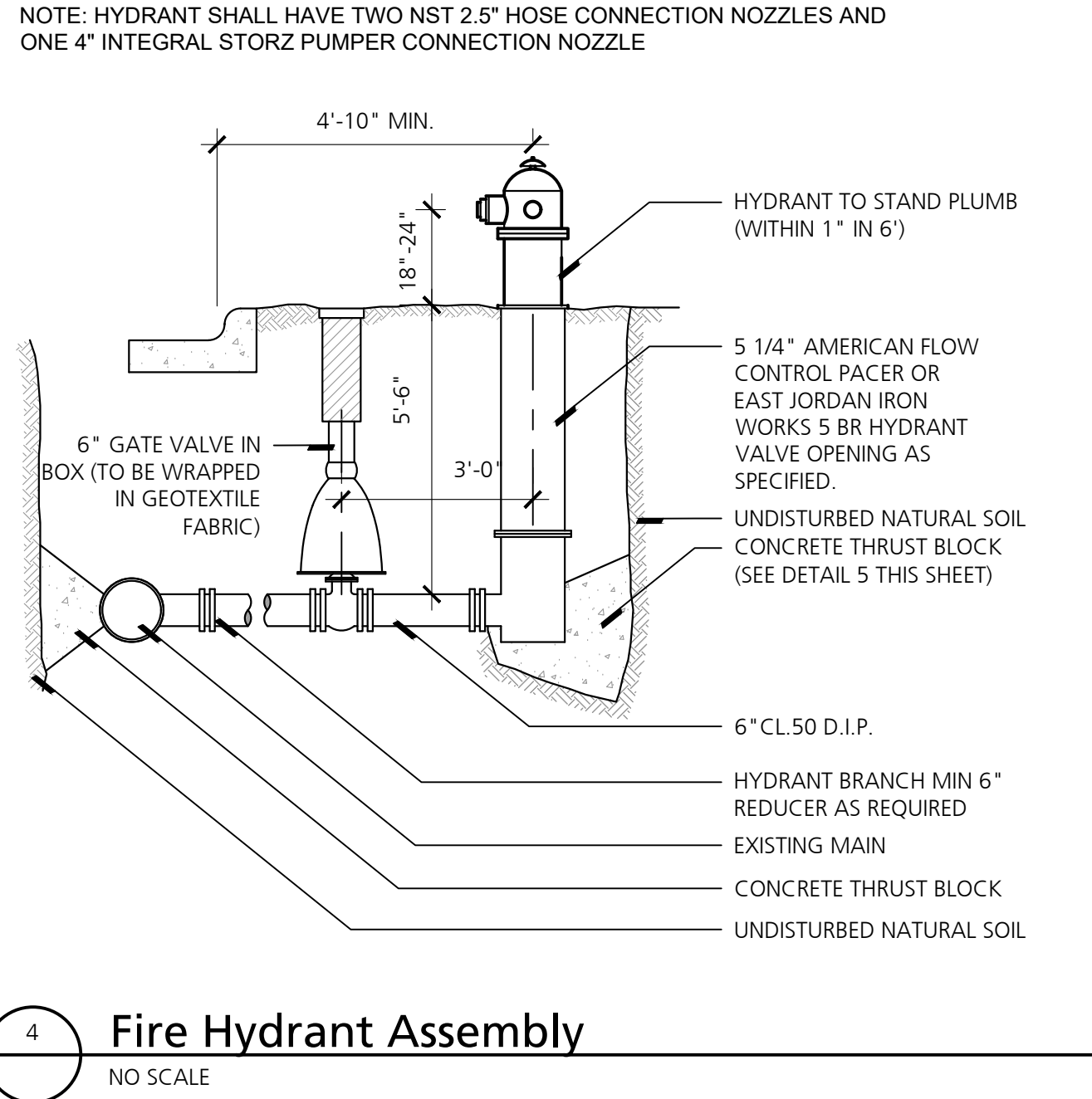
1 Resilient Wedge Water Gate Valve with Box
NO SCALE



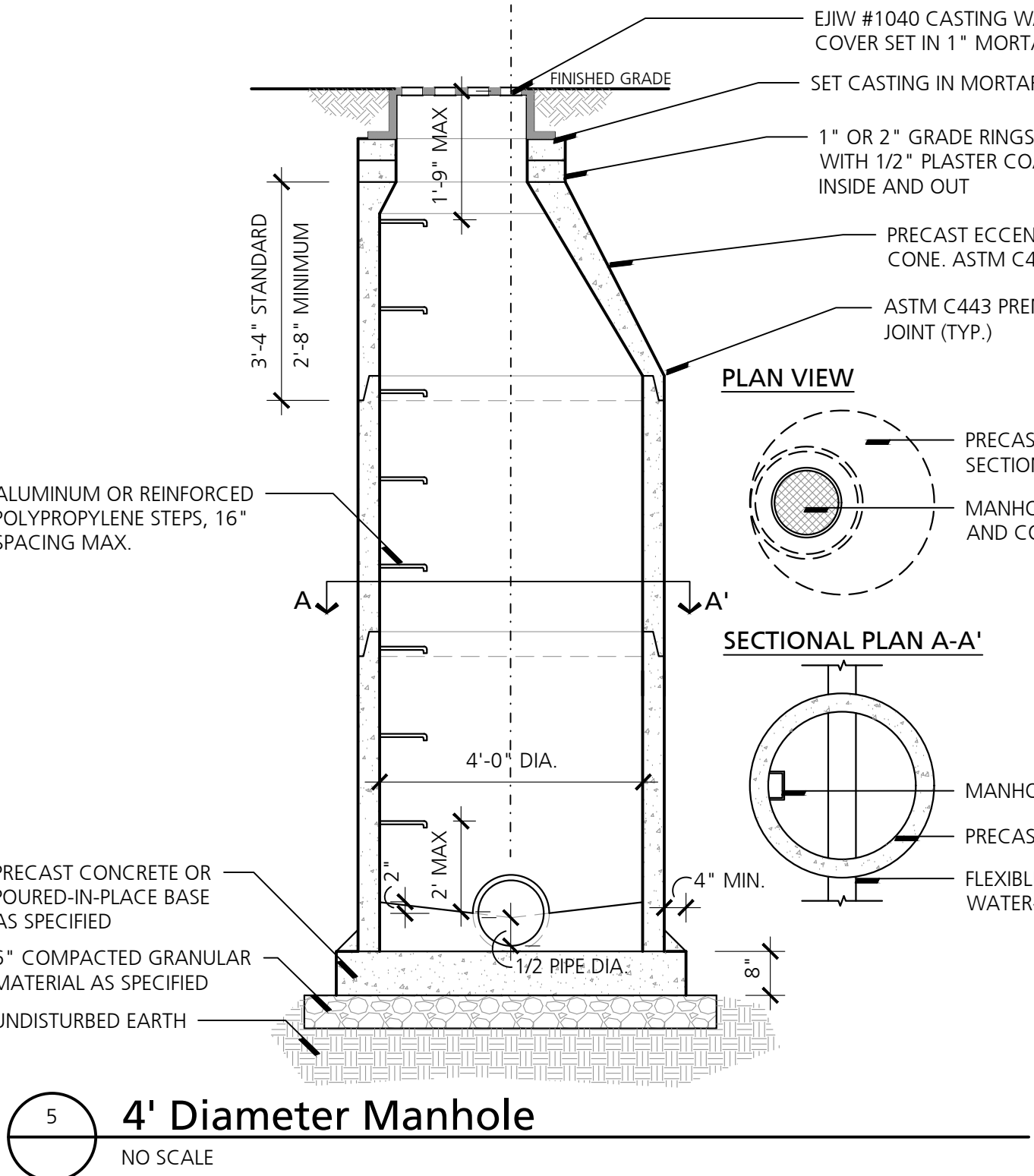
2 Tap Detail
NO SCALE



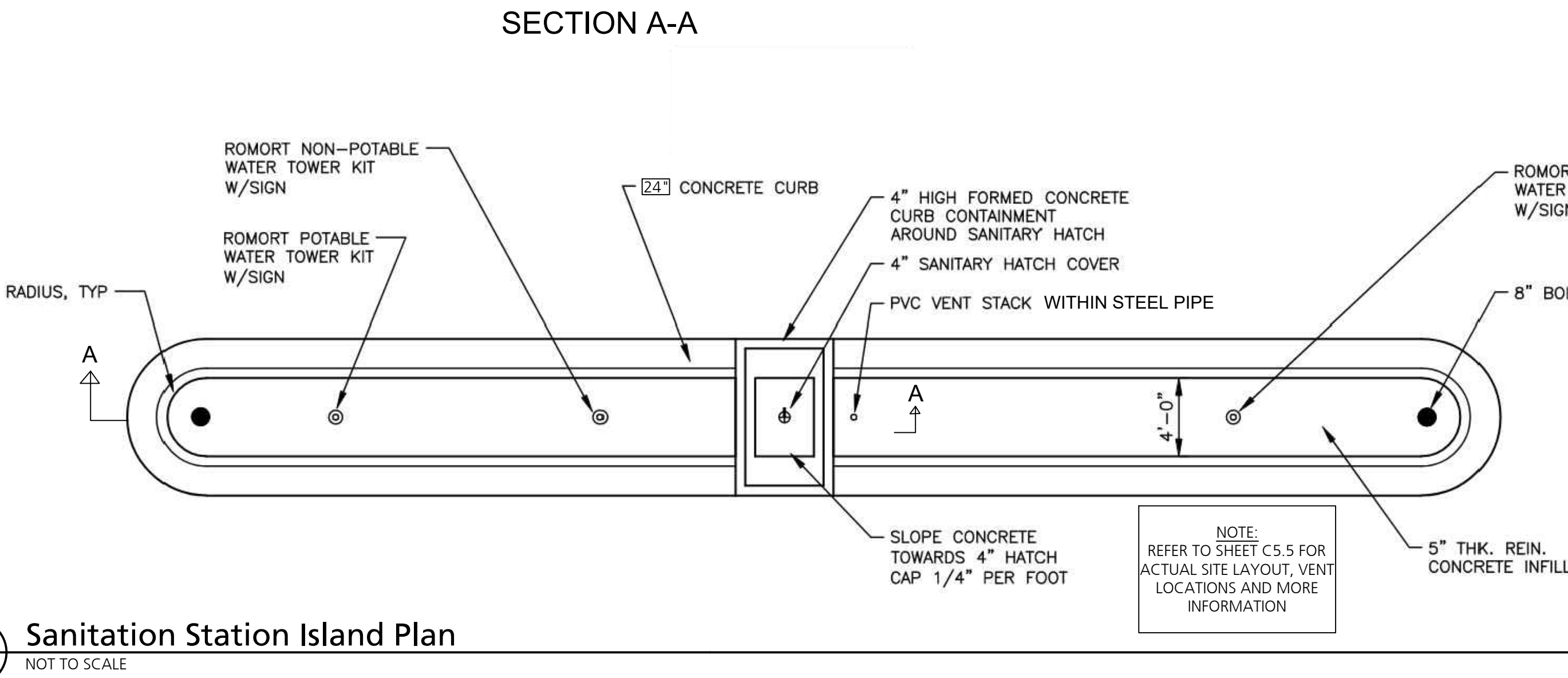
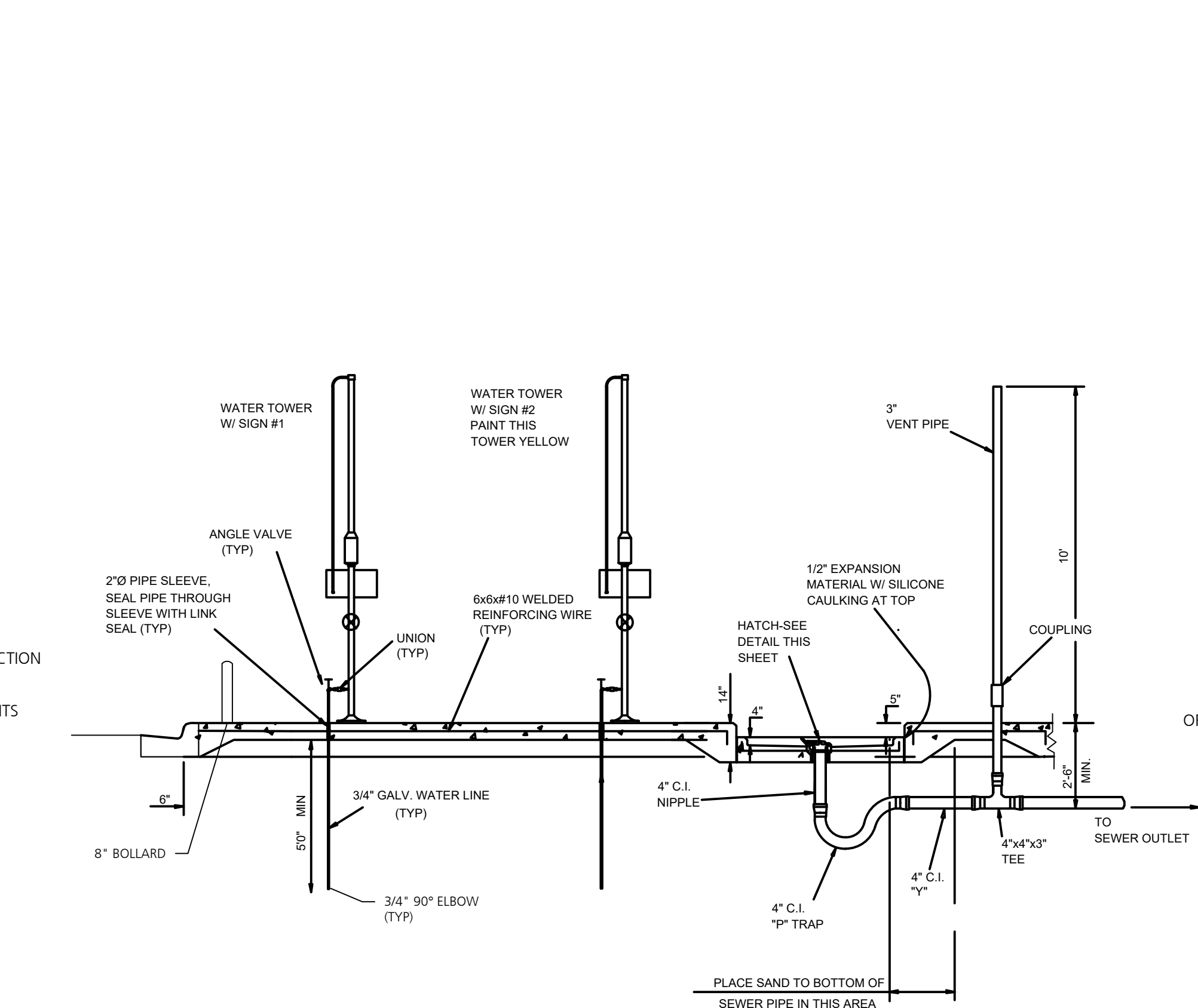
3 Thrust Block
NO SCALE



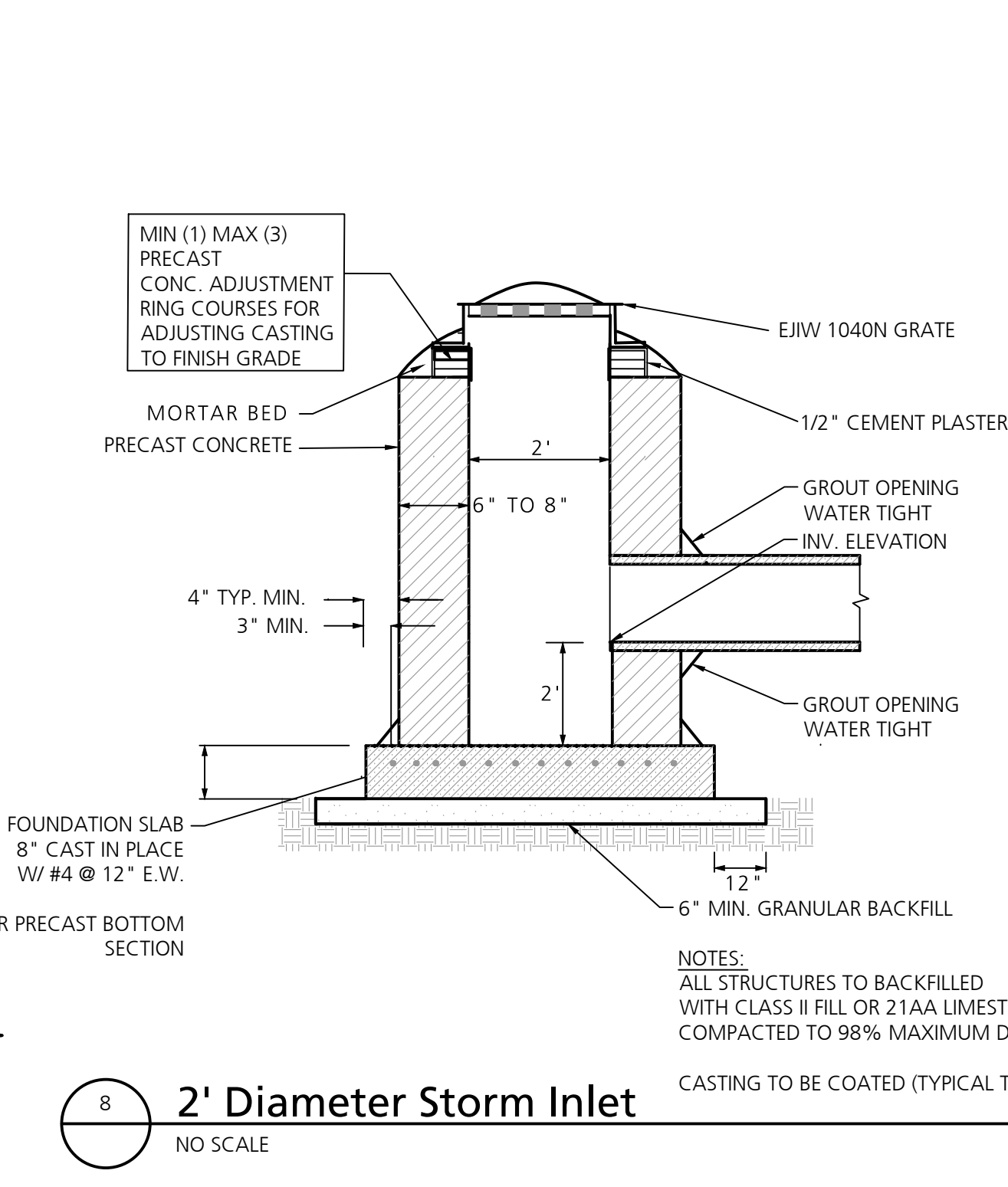
4 Fire Hydrant Assembly
NO SCALE



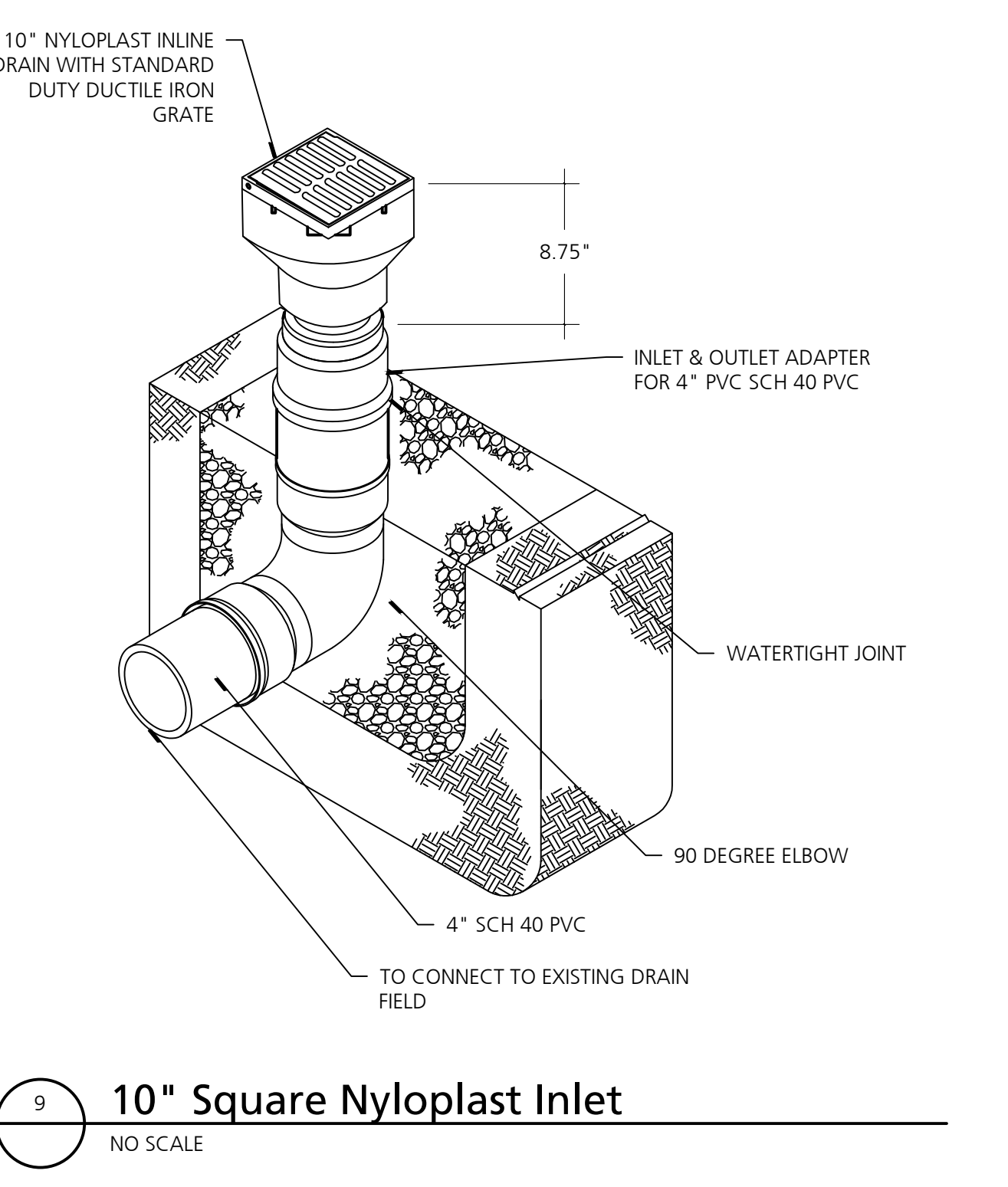
5 4' Diameter Manhole
NO SCALE



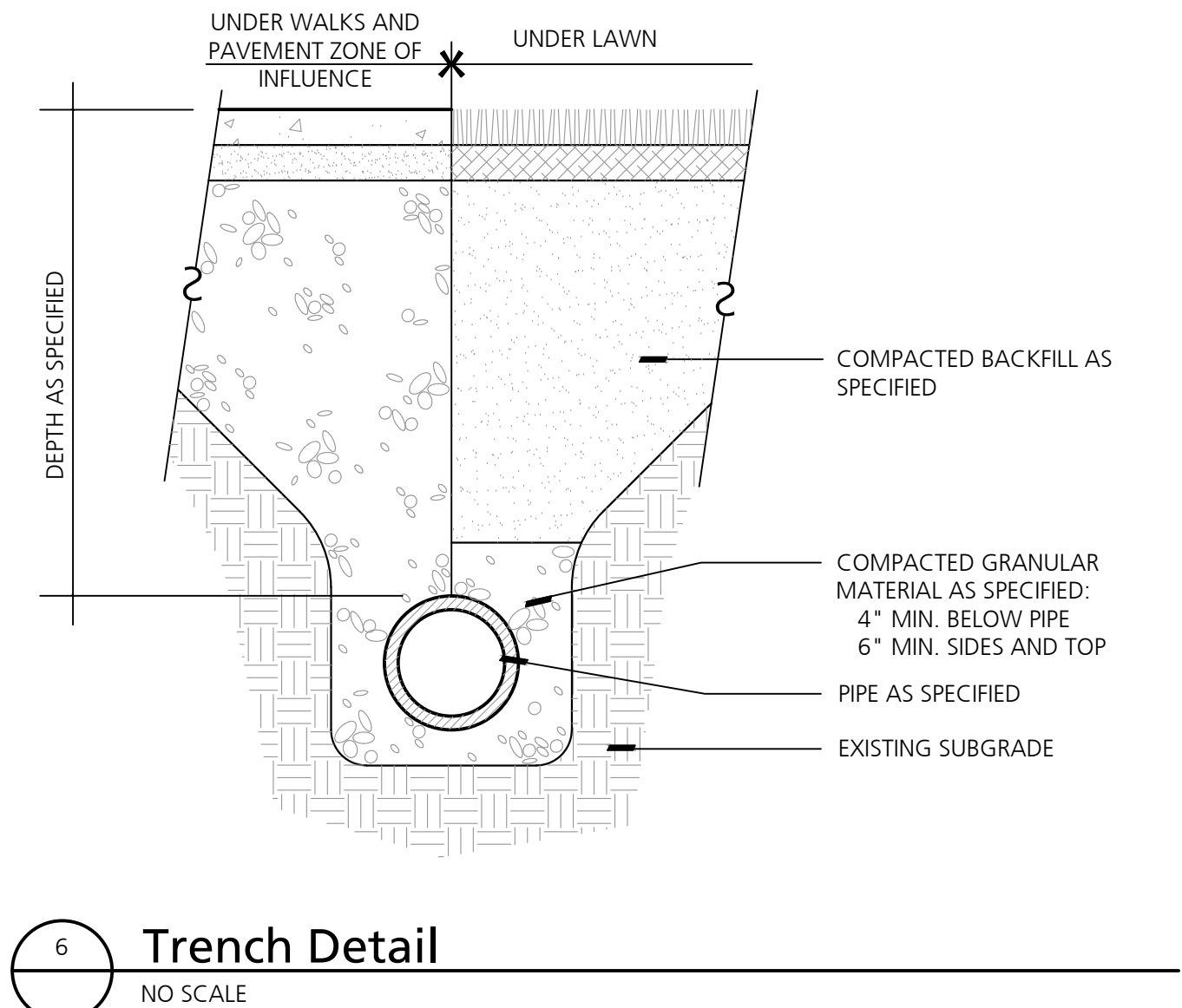
7 Sanitation Station Island Plan
NOT TO SCALE



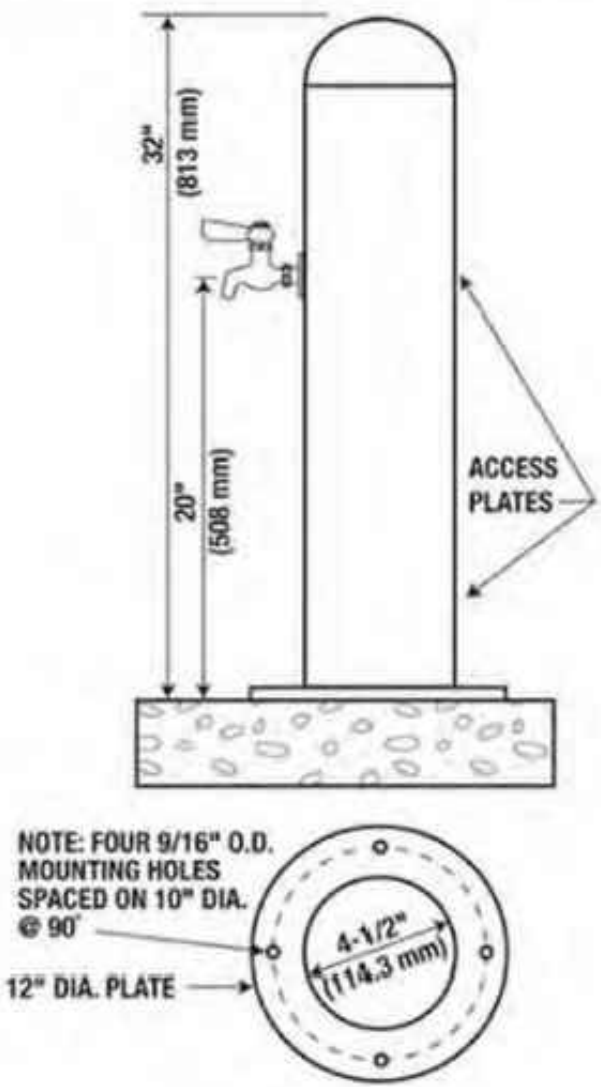
8 2' Diameter Storm Inlet
NO SCALE



9 10" Square Nyloplast Inlet
NO SCALE

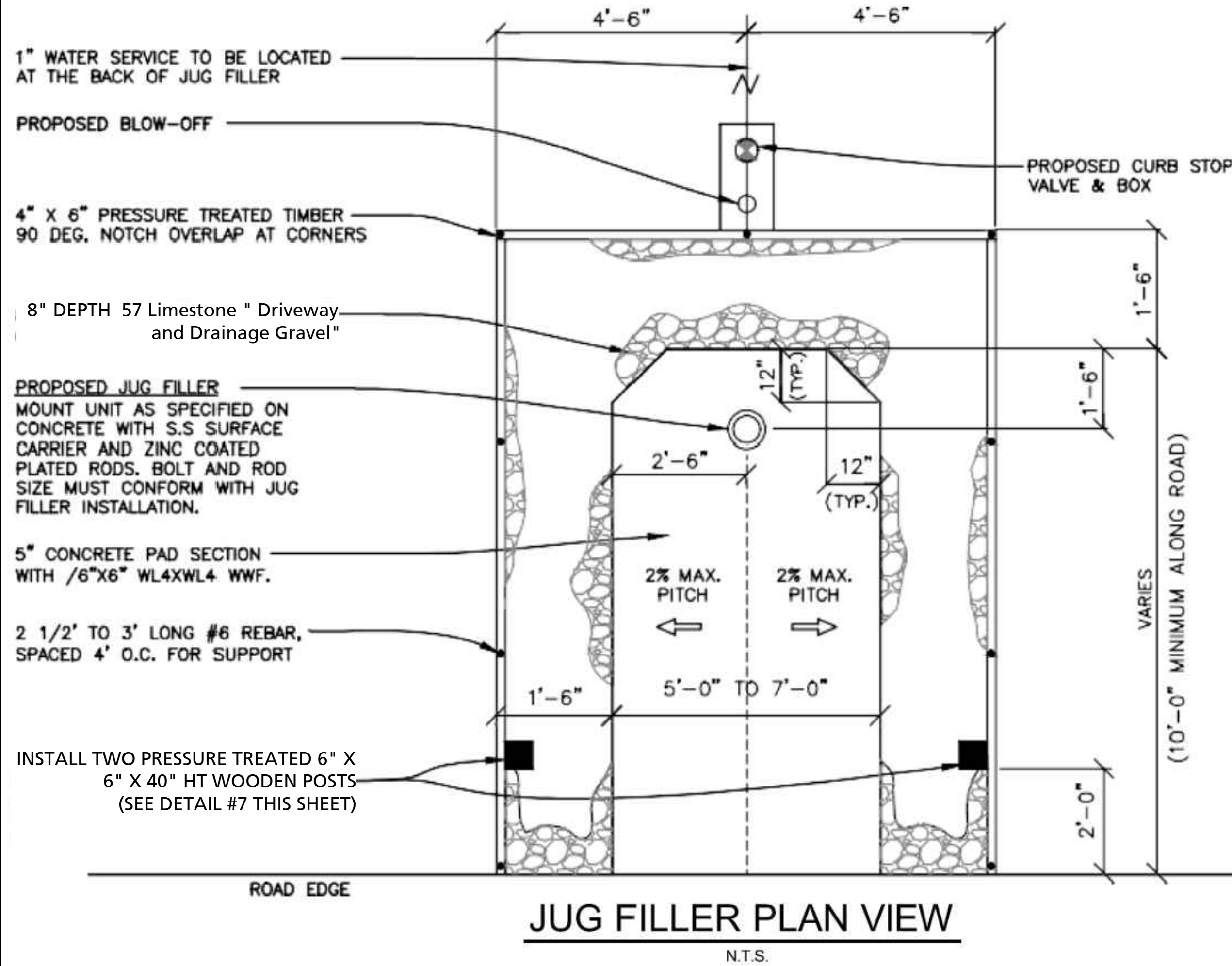


10 Exterior Backflow Preventer w/ HotBox
NO SCALE

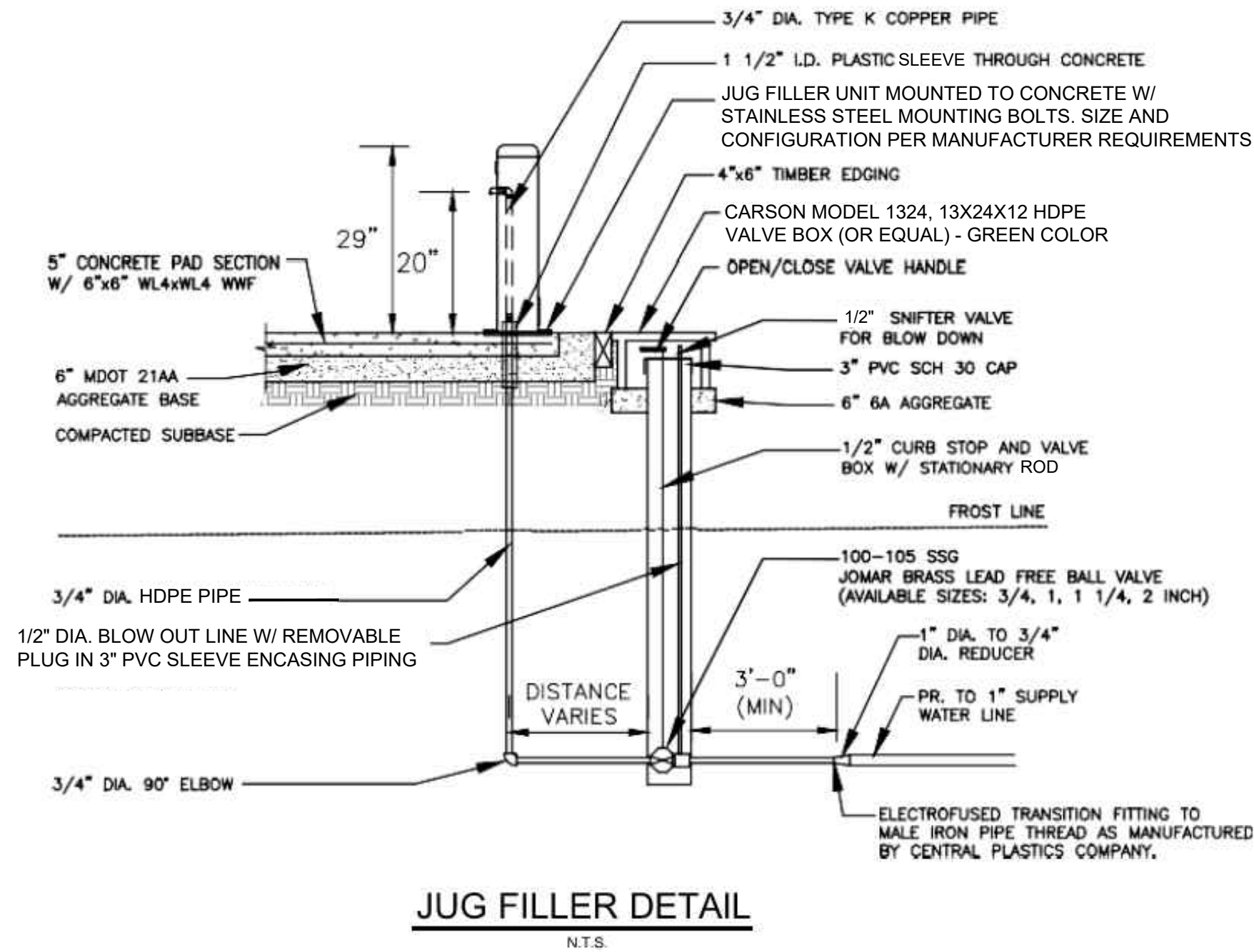


JUG FILLER TYPE

STERN-WILLIAMS MODEL 7000-31, 32"H x 4-1/2" DIA WITH SURFACE TYPE WITH MOUNTING PLATE WELDED TO PEDESTAL AND SELF-CLOSING LEVER STYLE VALVE. POWDER BLUE IN COLOR.

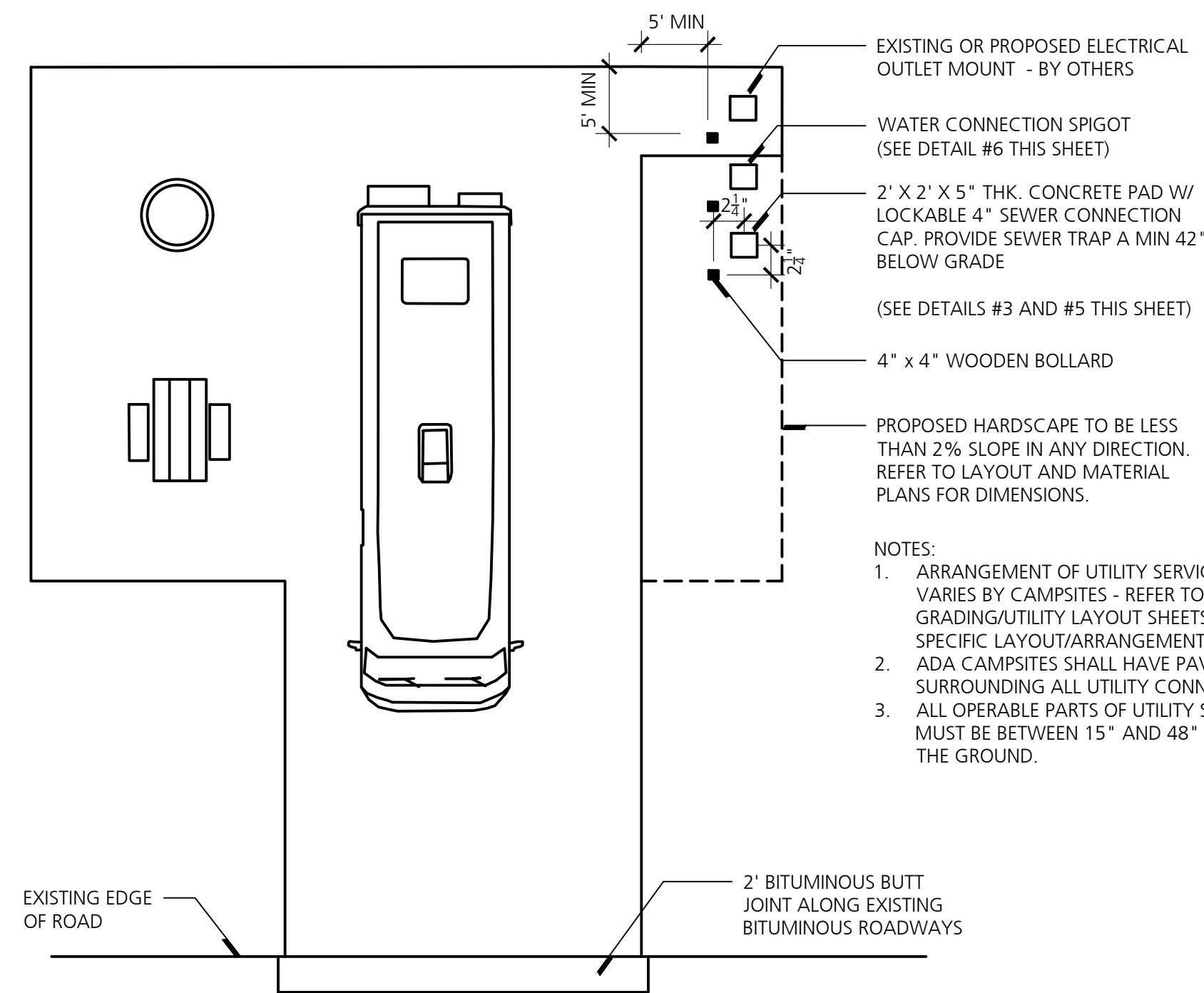


1 Jug Filler Replacement Detail
NO SCALE



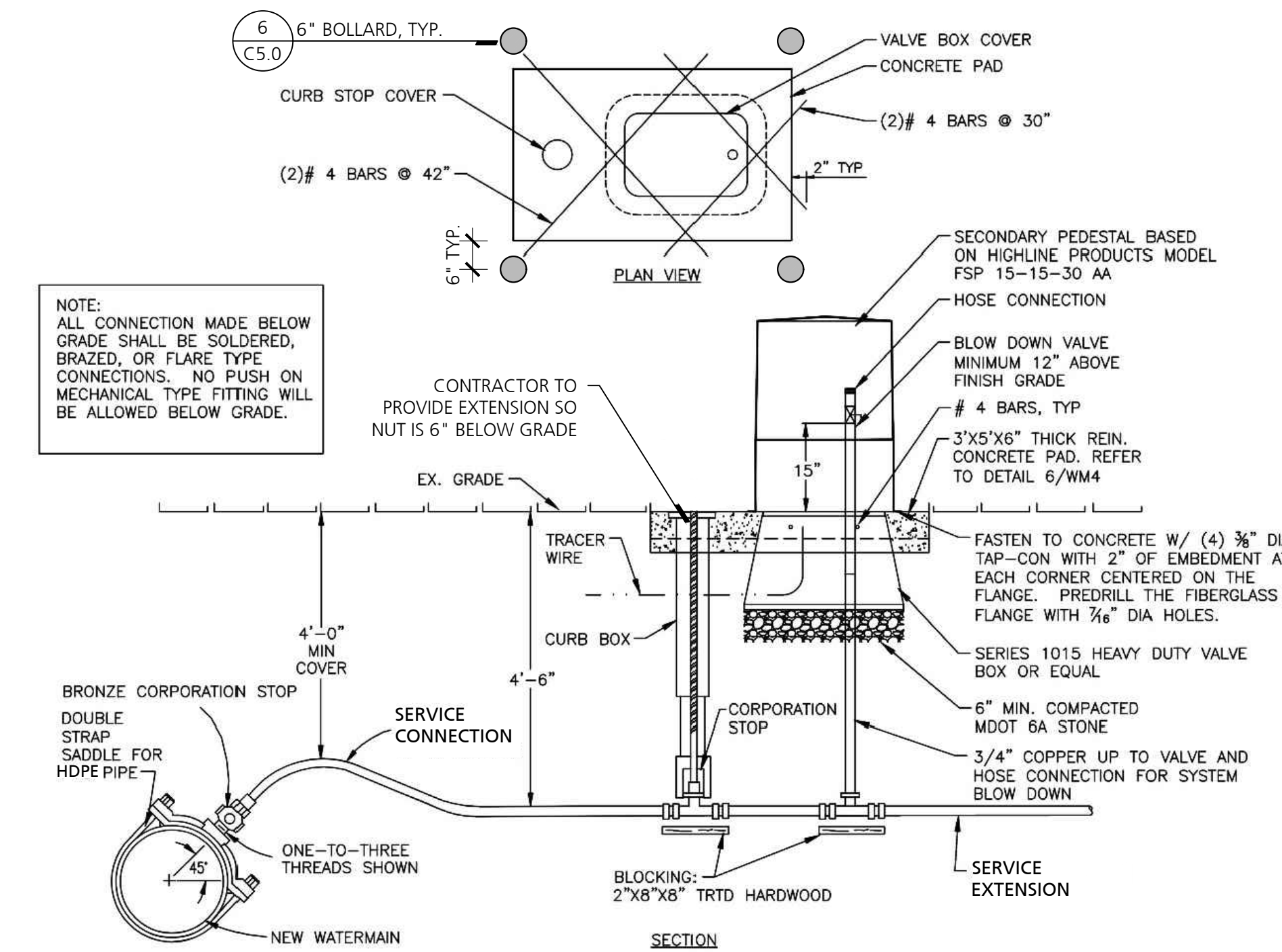
JUG FILLER DETAIL

N.T.S.



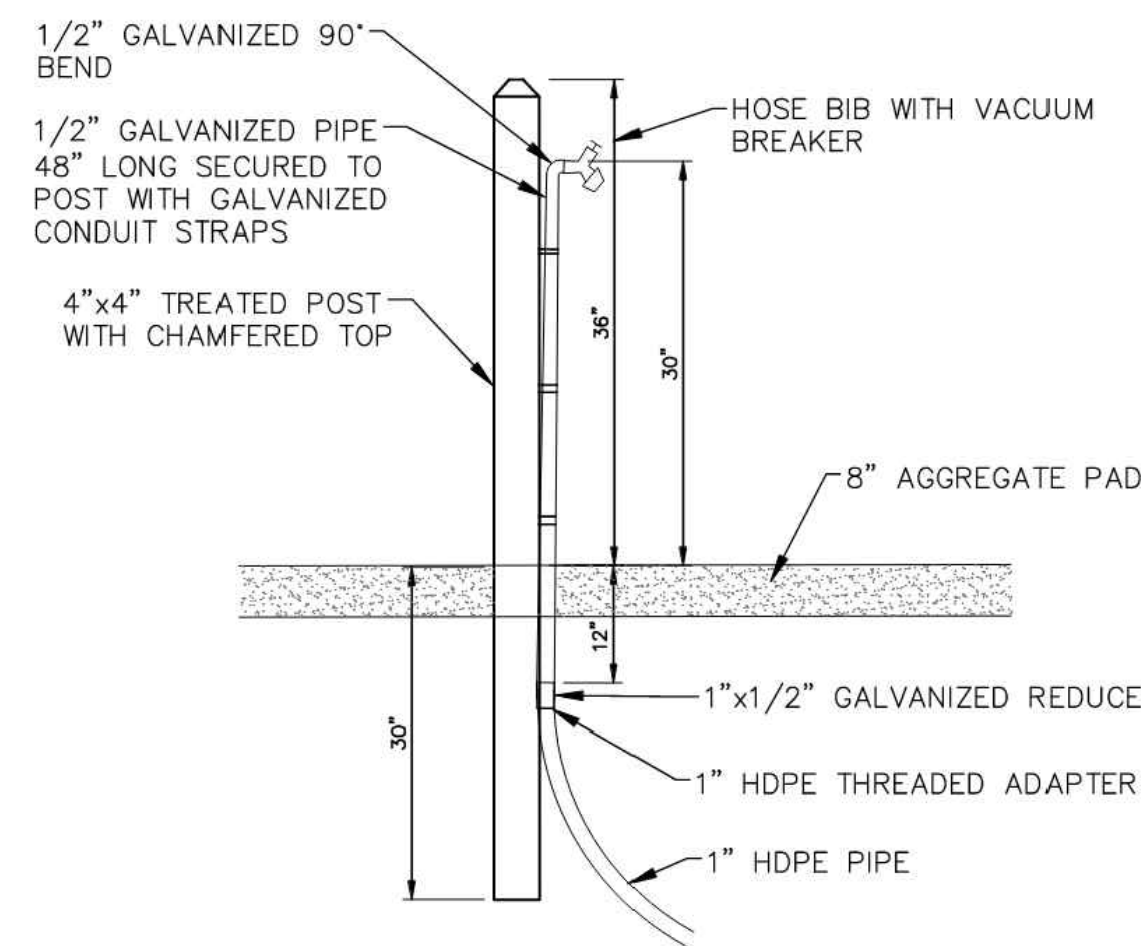
2 Typ. Full Utility Service Camp Site

NO SCALE

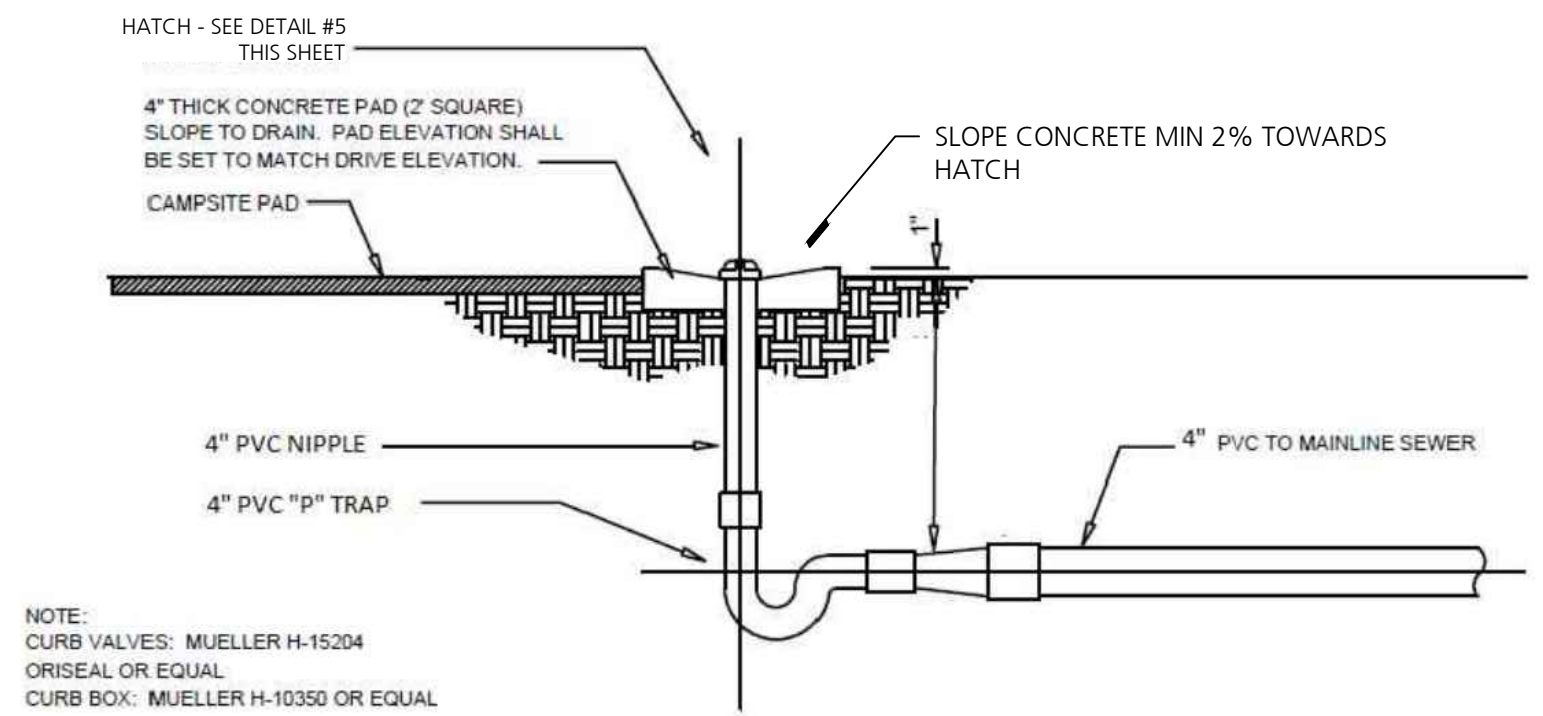


4 Water Service Detail

NO SCALE

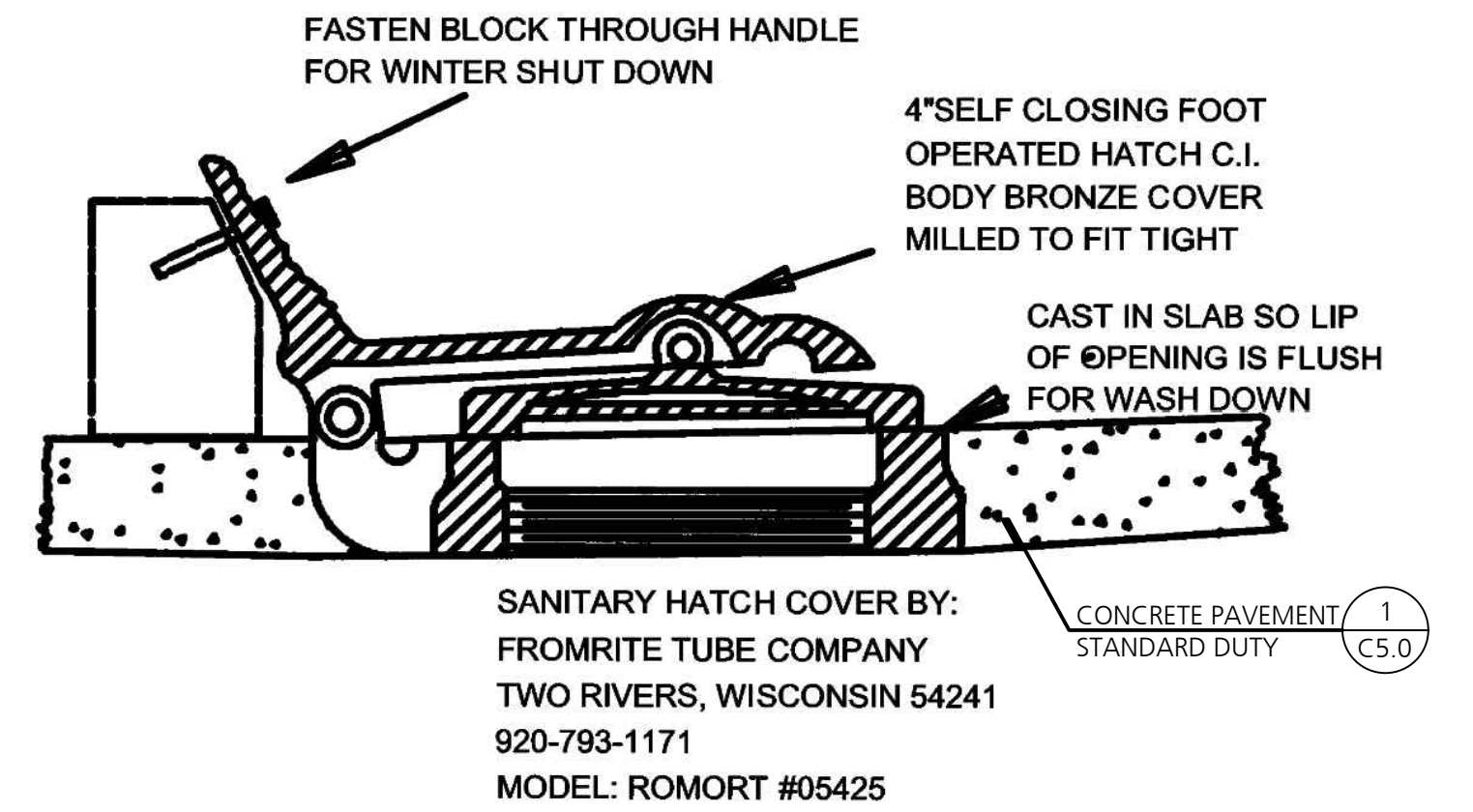


6 Full Hook Up Site Water Service Connection
NO SCALE



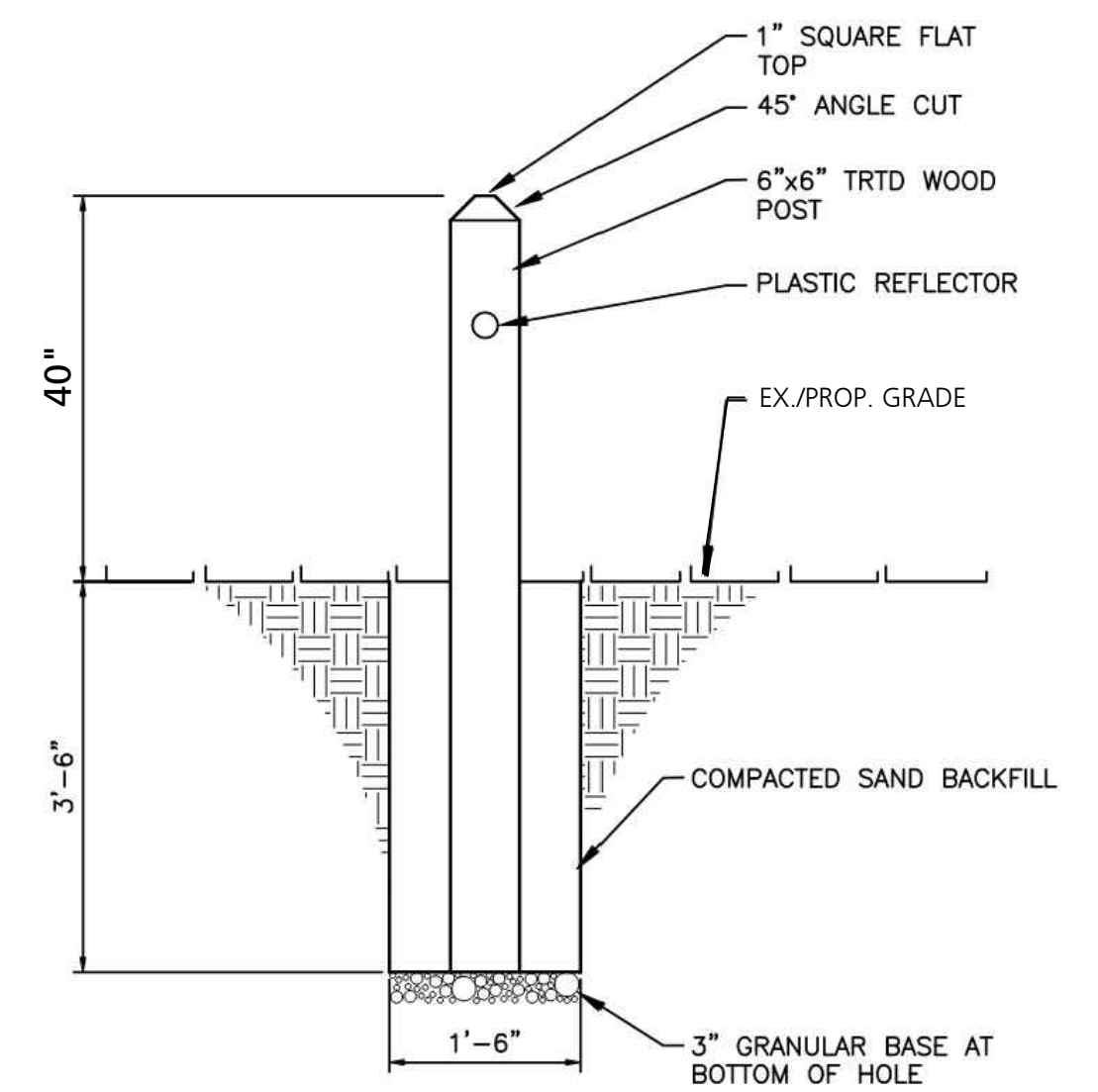
3 Full Hook Up Site Sanitary Outlet

NO SCALE

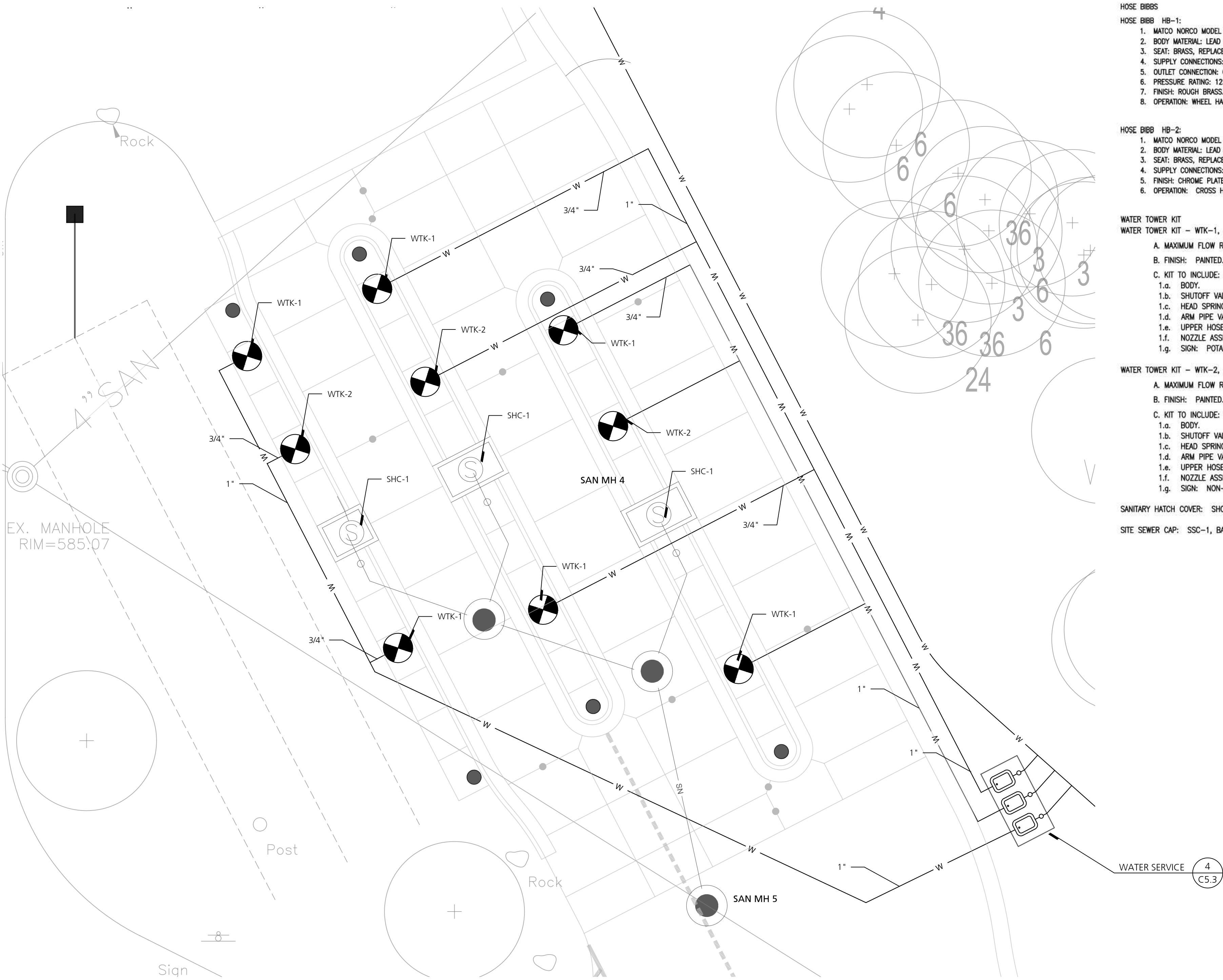


5 Typ. Concrete Pad/Sanitary Hatch

NO SCALE



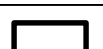
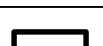
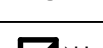
7 Typ. Wood Post Detail
NO SCALE



- HOSE BIBBS
- HOSE BIBB HB-1:
1. MATCO NORCO MODEL 206T/VBLF OR EQUAL.
 2. BODY MATERIAL: LEAD FREE BRASS.
 3. SEAT: BRASS, REPLACEABLE.
 4. SUPPLY CONNECTIONS: NPS 1/2 THREADED.
 5. OUTLET CONNECTION: GARDEN-HOSE THREAD WITH VACUUM BREAKER.
 6. PRESSURE RATING: 125 PSIG.
 7. FINISH: ROUGH BRASS.
 8. OPERATION: WHEEL HANDLE.
- HOSE BIBB HB-2:
1. MATCO NORCO MODEL SCV-055 SELF CLOSING VALVE OR EQUAL.
 2. BODY MATERIAL: LEAD FREE BRASS.
 3. SEAT: BRASS, REPLACEABLE.
 4. SUPPLY CONNECTIONS: NPS 1/2 THREADED.
 5. FINISH: CHROME PLATED.
 6. OPERATION: CROSS HANDLE.
- WATER TOWER KIT
- WATER TOWER KIT - WTK-1, BASED ON TOWER COMPANY PART# 05400 OR EQUAL FOR POTABLE WATER
- A. MAXIMUM FLOW RATE: 2.0 GPM, UNLESS OTHERWISE INDICATED.
- B. FINISH: PAINTED.
- C. KIT TO INCLUDE:
- 1.a. BODY.
 - 1.b. SHUTOFF VALVE
 - 1.c. HEAD SPRING
 - 1.d. ARM PIPE VACUUM BREAKER
 - 1.e. UPPER HOSE ASSEMBLY
 - 1.f. NOZZLE ASSEMBLY
 - 1.g. SIGN: POTABLE WATER
- WATER TOWER KIT - WTK-2, BASED ON TOWER COMPANY PART# 05400 OR EQUAL FOR POTABLE WATER
- A. MAXIMUM FLOW RATE: 2.0 GPM, UNLESS OTHERWISE INDICATED.
- B. FINISH: PAINTED.
- C. KIT TO INCLUDE:
- 1.a. BODY.
 - 1.b. SHUTOFF VALVE
 - 1.c. HEAD SPRING
 - 1.d. ARM PIPE VACUUM BREAKER
 - 1.e. UPPER HOSE ASSEMBLY
 - 1.f. NOZZLE ASSEMBLY
 - 1.g. SIGN: NON-POTABLE WATER
- SANITARY HATCH COVER: SHC-1, BASED ON TOWER COMPANY ORDER# 05425 OR EQUAL.
- SITE SEWER CAP: SSC-1, BASED ON TOWER COMPANY ORDER #05470 OR EQUAL.

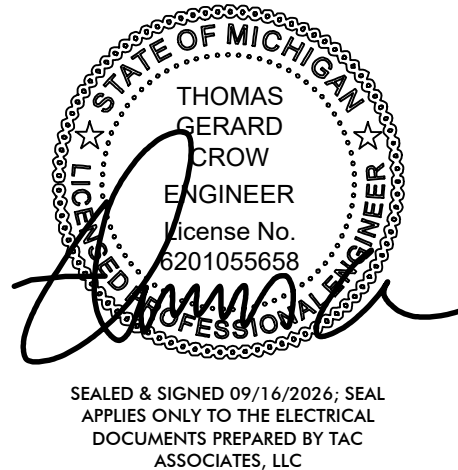
DUMP STATION PLUMBING PLAN
SCALE: 1/8" = 1'-0"

1 Plumbing Site Plans, Details, and Notes

ELECTRICAL SYMBOL LIST	
SYMBOL	DESCRIPTION
	SITE LIGHTING FIXTURE - POLE MOUNTED (DOUBLE HEAD INDICATED)
	SITE LIGHTING FIXTURE - BUILDING MOUNTED. SEE FIXTURE SCHEDULE
	SINGLE POLE SWITCH
	THREE WAY SWITCH
	FOUR WAY SWITCH
	WALL MOUNTED OCCUPANCY SENSOR. REFER TO SCHEDULE ON LIGHTING DRAWINGS
	2' X 4' FIXTURE
	1' X 4' FIXTURE
	2' X 2' FIXTURE
	RECESSED ROUND LED FIXTURE
	WALL MOUNTED LIGHT FIXTURE
	NIGHT LIGHT FIXTURE
	NIGHT LIGHT / EMERGENCY FLUORESCENT FIXTURE
	EXIT LIGHT, SINGLE FACE
	EXIT LIGHT DOUBLE FACE (SHADING INDICATES FACE OF FIXTURE)
	EMERGENCY FIXTURE (2X2 FLUORESCENT EMERGENCY FIXTURE INDICATED)
	WALL MOUNTED EMERGENCY BATTERY UNIT (EBU)
	CEILING MOUNTED EMERGENCY BATTERY UNIT (EBU)
	DUPLEX RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE MOUNTED AT 6" ABOVE COUNTER TOP
	SPECIAL PURPOSE OUTLET - TYPE AND SIZE AS INDICATED ON PLAN
	COMBINATION TELEPHONE/DATA OUTLET
	WALL MOUNTED COMBINATION TELEPHONE/DATA OUTLET, MOUNTED AT 48" A.F.F.
	CABLE TELEVISION SYSTEM OUTLET
	TELEPHONE ONLY OUTLET
	WALL MOUNTED TELEPHONE ONLY OUTLET, MOUNTED AT 54" A.F.F.
	PANEL BOARD
	JUNCTION BOX
	FIRE ALARM SYSTEM AUDIBLE / VISUAL NOTIFICATION APPLIANCE
	FIRE ALARM SYSTEM VISUAL NOTIFICATION APPLIANCE
	FIRE ALARM SYSTEM HEAT DETECTOR
	FIRE ALARM SYSTEM SMOKE DETECTOR
	FIRE ALARM SYSTEM MANUAL PULL STATION
	NIGHT LIGHT
	DEVICE OR LIGHTING FIXTURE SERVED FROM EMERGENCY POWER
	ABOVE FINISH FLOOR
	EXISTING ELECTRICAL DEVICE OR FIXTURE TO REMAIN
	NEW LOCATION OF RELOCATED ELECTRICAL DEVICE OR FIXTURE
	WEATHER PROOF
	GROUND FAULT INTERRUPTER

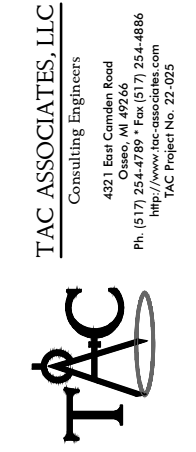
ELECTRICAL GENERAL NOTES	
1.	EXTENT OF DEMOLITION IS NOT INTENDED TO BE SHOWN IN FULL ON THESE DRAWINGS. FINAL DESIGNED CONDITIONS ARE SHOWN. EACH TRADE/CONTRACTOR IS RESPONSIBLE FOR REMOVAL AS REQUIRED TO ACHIEVE FINAL DESIGN CONDITIONS. REFERENCES TO EXISTING AS IDENTIFIED ARE TO CLARIFY SCOPE OF NEW CONSTRUCTION.
2.	ALL WORK CONDITIONS ARE TO BE FIELD VERIFIED AND DETAILS ADJUSTED AS REQUIRED TO MAINTAIN FIRE RESISTIVE RATINGS, INTEGRITY OF INSTALLED SYSTEMS (EXISTING AND NEW) AND THE MATCHING OF WORK WITH EXISTING CONDITIONS AND FINISHES.
3.	REMOVAL WORK SHALL BE EXECUTED WITH DUE CARE, INCLUDING PROTECTION OF EXISTING MATERIALS/SYSTEMS TO REMAIN SHORING, BRACING, ETC. EACH TRADE/SUBCONTRACTORS WILL BE RESPONSIBLE FOR ANY DAMAGE THEY CAUSE TO OTHERS WORK.
4.	THE FULL EXTENT OF THE WORK FOR EACH TRADE IS IDENTIFIED THROUGHOUT ALL THE DRAWINGS. DO NOT ASSUME OR OMIT INDIVIDUAL TRADE WORK NOT SHOWN IN THE INDIVIDUAL TRADE DRAWINGS. FAILURE TO REVIEW ALL DRAWINGS FOR AN INDIVIDUAL TRADE'S COMPLETE SCOPE OF WORK WILL RESULT IN DENIAL FOR ANY CHANGE ORDER REQUESTS FOR MISSED ITEMS DURING BIDDING.
5.	SUBCONTRACTORS AND ALL TRADES MUST EXAMINE AREAS, DIMENSIONS CONDITIONS AND SUBSTRATES AFFECTING THE WORK AND THE CONDITIONS UNDER WHICH THE WORK IS TO BE INSTALLED, APPLIED AND COMPLETED. NOTIFY THE ARCHITECT IN WRITING OF UNSATISFACTORY CONDITIONS AND OTHER CONDITIONS DETRIMENTAL TO THE PROPER AND TIMELY COMPLETION OF THE WORK. A. DO NOT PROCEED WITH THE WORK UNTIL THE UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN THE MANNER ACCEPTABLE TO THE CONTRACTOR OR TRADE PERFORMING THE WORK. PROCEED WITH INSTALLATION ONLY AFTER UNSAFE OR UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. B. BEGINNING WORK MEANS ACCEPTANCE OF THE CONDITIONS. C. NO CHANGE ORDERS FOR ADDITIONAL WORK WILL BE ACCEPTED FOR CONDITIONS NOT IDENTIFIED DURING THE EXAMINATION PERIOD PRIOR TO THE COMMENCING OF WORK.
6.	CONTRACTOR(S) WARRANTS THEY HAVE EXAMINED THOROUGHLY ALL DRAWINGS AND SPECIFICATIONS DIRECTLY AND INDIRECTLY RELATED TO THEIR WORK. BY BEGINNING THE WORK, CONTRACTOR CERTIFIES THAT ALL NECESSARY ITEMS REQUIRED TO PERFORM HIS WORK HAVE BEEN IDENTIFIED AND DOCUMENTED IN THE DRAWINGS AND/OR SPECIFICATIONS. A. NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES, MISSING INFORMATION OR ANY UNCLEAR ITEMS WHICH WILL AFFECT THE WORK TO BE PERFORMED. DO NOT PROCEED WITH THE WORK UNTIL THE DISCREPANCIES, MISSING INFORMATION OR ANY UNCLEAR ITEMS HAVE BEEN CLARIFIED OR CORRECTED TO THE CONTRACTOR OR TRADE PERFORMING THE WORK. B. BEGINNING THE WORK INDICATES FULL ACCEPTANCE AND CORRECTNESS OF THE INFORMATION PROVIDED. C. NO CHANGE ORDERS FOR ADDITIONAL WORK WILL BE ACCEPTED FOR ANY DISCREPANCIES, MISSING INFORMATION OR UNCLEAR ITEMS OR INFORMATION NOT IDENTIFIED DURING THE EXAMINATION PERIOD PRIOR TO THE COMMENCING OF WORK.
7.	THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY FIRESTOPPING AROUND ALL PENETRATIONS OF FIRE RATED WALLS, CEILINGS AND FLOORS. REFER TO ARCHITECTURAL AND ELECTRICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING THE SPECIFIC FIRESTOPPING REQUIREMENTS AND PRODUCT SPECIFICATIONS.
8.	ALL ANCHORS FOR ELECTRICAL SYSTEMS SHALL BE STEEL. REFER TO SPECIFICATIONS FOR SPECIFIC APPROVED PRODUCTS. UNDER NO CIRCUMSTANCES SHALL PLASTIC ANCHORS BE USED.

ELECTRICAL DRAWING INDEX	
SHEET NUMBER	SHEET TITLE
E0.0	ELECTRICAL DRAWING INDEX, SYMBOL LIST & GENERAL NOTES
E1.0	PARTIAL SITE PLAN - WEST - ELECTRICAL DEMOLITION
E1.1	PARTIAL SITE PLAN - EAST - ELECTRICAL DEMOLITION
E2.0	PARTIAL SITE PLAN - WEST - ELECTRICAL NEW WORK
E2.1	PARTIAL SITE PLAN - EAST - ELECTRICAL NEW WORK
E3.0	WEST CAMPGROUND POWER ONE-LINE DIAGRAM - DEMOLITION
E3.1	WEST CAMPGROUND POWER ONE-LINE DIAGRAM - NEW WORK
E3.2	EAST CAMPGROUND POWER ONE-LINE DIAGRAM - DEMOLITION
E3.3	EAST CAMPGROUND POWER ONE-LINE DIAGRAM - NEW WORK
E4.0	MISCELLANEOUS DETAILS & WIRING DIAGRAMS
E5.0	ELECTRICAL SCHEDULES
E5.1	ELECTRICAL SCHEDULES
E5.2	ELECTRICAL SCHEDULES
E5.3	ELECTRICAL SCHEDULES
E5.4	ELECTRICAL SCHEDULES
E5.5	ELECTRICAL SCHEDULES
E5.6	ELECTRICAL SCHEDULES
E5.7	ELECTRICAL SCHEDULES



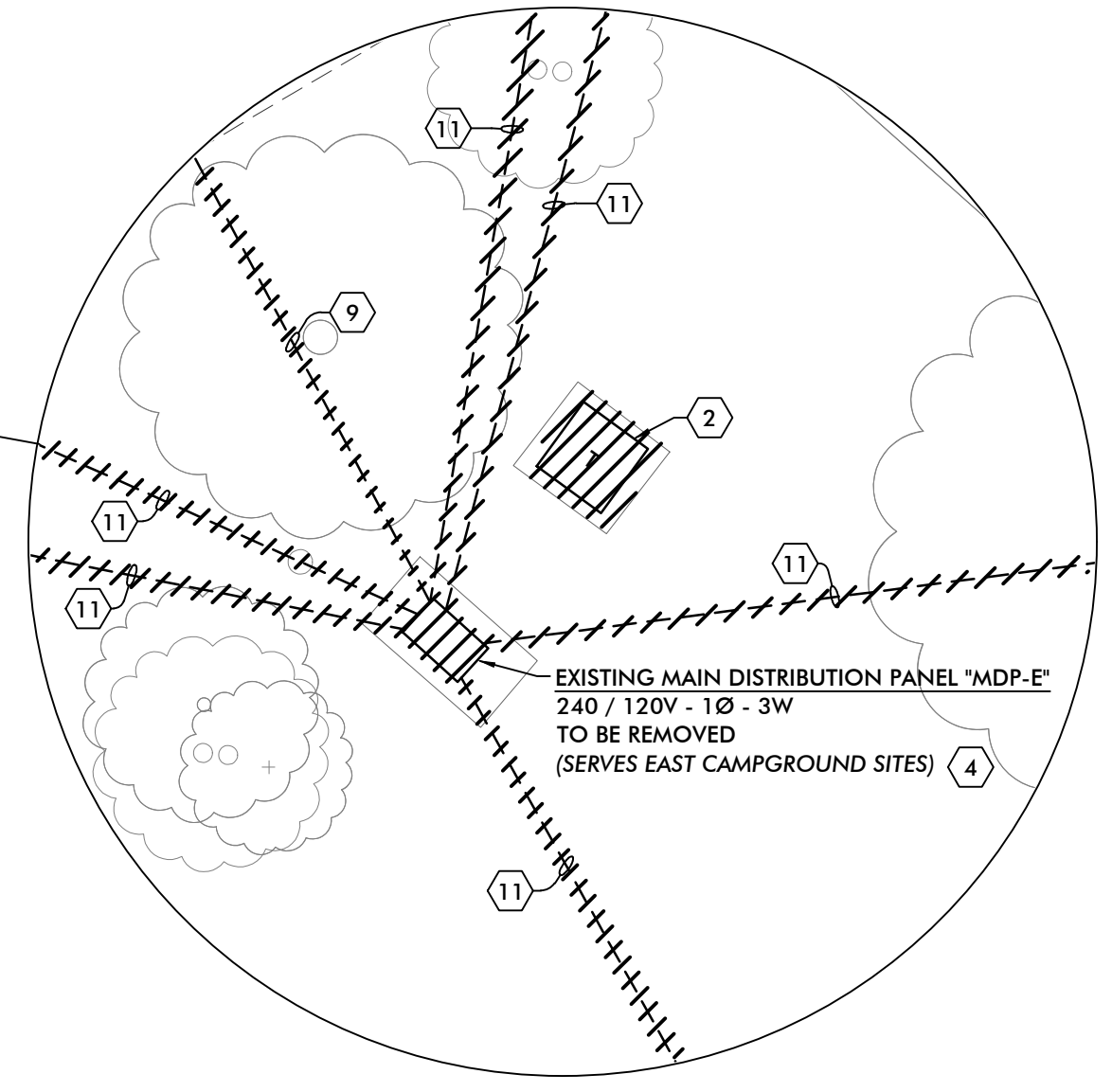
SHEET	IDENTIFICATION NO.	ISSUED FOR	DATE	DESIGNED: TGC
	FILE NO. 7912243MAA	☐ PRELIMINARY ☒ CONSTRUCTION ☐ FINAL RECORD	SEP. 15, 2026	DRAWN: CAD CHECKED: TGC APPROVED: JB

MDNR Bay City State Park
Campground Improvements



Beckett & Raeder, Inc.
Professional Engineer
Civil Engineering
Michigan License No. 620105565
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STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
STATE FACILITIES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION
ADAM P. LACH, P.E., DIRECTOR



1. REFER TO CIVIL PLANS FOR ADDITIONAL INFORMATION REGARDING PROPOSED WALKWAYS, PATIOS AND OTHER RENOVATION WORK ASSOCIATED WITH THE PROJECT.
2. COORDINATE WORK WITH OTHER TRADES. COORDINATE LOCATIONS OF UNDERGROUND UTILITIES AND OTHER OBSTRUCTIONS WITH CIVIL TRADES. CALL "MISS DIG" TO MARK UTILITIES BEFORE START OF WORK.

ALL FEEDER AND BRANCH CIRCUIT WIRING SHALL BE INSTALLED IN CONDUIT. CONDUIT SHALL BE DIRECTIONALLY BORED FROM THE NEW MAIN DISTRIBUTION PANEL TO THE RESPECTIVE LOAD SERVED. EXISTING CONDUIT SHALL BE RECONFIGURED / RE-USED WHERE FEASIBLE, AND CONNECTED TO THE NEW CONDUIT EITHER DIRECTLY WITH A LISTED CONDUIT ADAPTER OR VIA A GRADE MOUNTED PULL BOX / HANDHOLE. REFER TO SPECIFICATIONS FOR CONDUIT TYPES, SIZES, AND INSTALLATION DETAILS. CONDUIT SHALL BE INSTALLED A MINIMUM OF 2" BELOW FINISHED GRADE SURFACE. GRADE MOUNTED PULL BOXES / HANDHOLES SHALL BE LISTED FOR VEHICLE TRAFFIC STRENGTH. NOTE THAT DRAWINGS DO NOT REFLECT THE LOCATIONS WHERE PULL BOXES / HANDHOLES MAY BE REQUIRED.

- 1 EXISTING TELEPHONE SERVICE PEDESTAL TO REMAIN.
- 2 EXISTING PANEL "MDP" AND PANEL "LB" LOCATED INSIDE TOILET/SHOWER BUILDING MECHANICAL ROOM TO BE RECONNECTED TO NEW OUTDOOR MAIN DISTRIBUTION PANEL. REFER TO WEST CAMPGROUND POWER ONE-LINE DIAGRAM - NEW WORK ON SHEET E3.1 FOR ADDITIONAL INFORMATION.
- 3 EXISTING BAY CITY POWER PAD MOUNTED SERVICE TRANSFORMER. COORDINATE EXACT SCOPE OF WORK, AND EXACT RECONFIGURATION DETAILS IN FIELD WITH THE BAY CITY LIGHT & POWER SERVICE PLANNER PRIOR TO START OF CONSTRUCTION AND PRIOR TO ROUGH-IN OF ANY BOXES, RACEWAYS, ETC. REFER TO WEST CAMPGROUND POWER ONE-LINE DIAGRAM - NEW WORK ON SHEET E3.1 FOR ADDITIONAL INFORMATION.
- 4 NEW BAY CITY POWER UTILITY METERING C/T CABINET AND UTILITY METER SOCKET, INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE EXACT SCOPE OF WORK AND DETAILS ASSOCIATED WITH THE INSTALLATION OF THE C/T CABINET AND METER SOCKET WITH THE BAY CITY POWER SERVICE PLANNER.
- 5 REFER TO WEST CAMPGROUND POWER ONE-LINE DIAGRAM - NEW WORK ON SHEET E3.1 FOR ADDITIONAL INFORMATION.
- 6 NEW UNISTRUT RACK BY ELECTRICAL CONTRACTOR TO SUPPORT MOUNTING OF BAY CITY POWER UTILITY METERING C/T CABINET AND UTILITY METER SOCKET. COORDINATE EXACT PHYSICAL DIMENSIONS OF UNISTRUT RACK BASED UPON COORDINATION WITH THE BAY CITY POWER UTILITY SERVICE PLANNER AND THE DIMENSIONS OF THE EQUIPMENT TO BE MOUNTED ON THE RACK.
- 7 NEW LOAD CENTER PANEL TO BE FLUSH MOUNTED IN THE SAME LOCATION IN MINI CABIN AS THE EXISTING LOAD CENTER PANEL REMOVED BY DEMOLITION WORK. PROVIDE MODIFICATIONS TO THE EXISTING WALL CONSTRUCTION AS REQUIRED TO FACILITATE INSTALLATION OF NEW PANEL. COORDINATE WALL REPAIR WITH CONSTRUCTION MANAGER TO RESTORE WALL TO SAME CONDITION AS PRIOR TO START OF CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL RECONNECT ALL EXISTING BRANCH CIRCUITS IN MINI CABIN TO NEW PANEL AS NOTED ON THE PANEL SCHEDULES. NOTE THAT THE ELECTRICAL CONTRACTOR SHALL PERFORM CIRCUIT TRACING TO IDENTIFY THE HOMERUNS IN THE MINI CABIN PRIOR TO START OF DEMOLITION WORK.
- 8 NEW RV CAMPSITE ELECTRIC SUPPLY PEDESTAL, TYPE AS INDICATED. REFER TO RV CAMPSITE ELECTRIC SUPPLY PEDESTAL SCHEDULE THIS SHEET FOR ADDITIONAL INFORMATION REGARDING THE PEDESTAL TO BE PROVIDED BASED ON THE PEDESTAL TYPE NOTED. REFER TO TYPICAL CAMPSITE ELECTRIC SERVICE LOCATOR DETAILS ON SHEET E4.0 FOR ADDITIONAL INFORMATION REGARDING THE LOCATION OF THE PEDESTAL WITHIN THE CAMPSITE.
- 9 NEW UNDERGROUND FEEDERS SERVING CAMPSITE PEDESTALS. REFER TO WEST CAMPGROUND POWER ONE-LINE DIAGRAM - NEW WORK ON SHEET E3.1 FOR FEEDER SIZES AND ADDITIONAL INFORMATION.
- 10 NEW GRADE MOUNTED PULL BOX TO FACILITATE RE-FEEDING OF EXISTING BUILDING PANELS (OR EXISTING PUMP STATION, AS INDICATED) AND CONNECTING NEW UNDERGROUND CONDUIT TO EXISTING CONDUIT. NOTE THAT BOX IS FOR PULLING PURPOSES ONLY. CONDUCTORS SHALL NOT BE SPICED. REFER TO SPECIFICATIONS FOR BOX DETAILS.
- 11 NEW UNDERGROUND FEEDERS SERVING EXISTING PANEL IN BUILDING (OR PUMP STATION AS INDICATED). REFER TO WEST CAMPGROUND POWER ONE-LINE DIAGRAM - NEW WORK ON SHEET E3.1 FOR FEEDER SIZES AND ADDITIONAL INFORMATION. NOTE THAT THE FEEDERS ARE TO BE INSTALLED IN NEW AND EXISTING CONDUIT, WITH THE EXISTING CONDUIT INTERCEPTED AND CONNECTED TO THE NEW CONDUIT AT THE PULL BOX INDICATED.
- 12 NEW UNDERGROUND FEEDERS SERVING NEW LOAD CENTER PANEL IN CABIN. ROUTE FEEDERS UNDERGROUND FROM CIRCUIT BREAKER IN PEDESTAL TO NEW PANEL IN CABIN. UTILIZE EXISTING CONDUIT AT CABIN AND CONNECT TO NEW CONDUIT NOTED. REFER TO WEST CAMPGROUND POWER ONE-LINE DIAGRAM - NEW WORK ON SHEET E3.1 FOR ADDITIONAL INFORMATION.
- 13 NEW UNDERGROUND BRANCH CIRCUITS FROM HOST CAMPSITE PEDESTAL TO EXISTING PAVILION LIGHTING AND RECEPTACLES. ELECTRICAL CONTRACTOR SHALL INTERCEPT THE EXISTING UNDERGROUND CONDUIT AND PROVIDE NEW CONDUIT AND WIRING FROM THE PEDESTAL TO THE FIRST JUNCTION BOX AT THE PAVILION TO FACILITATE RE-FEEDING THE EXISTING LOADS.
- 14 NEW PEDESTAL WITH (1) 20A, 125V RECEPTACLE TO SERVE PUMP AT CATCH BASIN. MOUNT PEDESTAL WITHIN FIVE (5) FEET OF CATCH BASIN. REFER TO RV CAMPSITE ELECTRIC SUPPLY PEDESTAL SCHEDULE THIS SHEET FOR ADDITIONAL INFORMATION REGARDING THE PEDESTAL TO BE PROVIDED.

RV CAMPSITE ELECTRIC SUPPLY PESTEDAL TO BE GALVANIZED STEEL CONSTRUCTION WITH POWDER COAT FINISH (IN THE MANUFACTURES STANDARD COLOR), DIRECT EARTH BURIAL POST, SINGLE-SIDED OR DOUBLE-SIDE AS NOTED IN THE SCHEDULE ABOVE, WELDED FLANGE NEMA 3K CONSTRUCTION, DEAD END, 100 AMPERE LOAD CENTER WITH 200 AMPERE BREAKERS, 100 AMPERE AMPERE RATING, 220/240V, 12-3W, 10 AMPERE LOAD CENTER WITH 50A-2P, 30A-1P AND 20A-1P CIRCUIT BREAKERS TO FEED EACH RECEPTACLE NOTED IN THE SCHEDULE ABOVE, AS WELL AS ADDITIONAL CIRCUIT BREAKERS WHERE NOTED TO SERVE SITE LOADS ADJACENT TO THE PESTEDAL. PESTEDAL TO INCLUDE STABILIZER BASE (OPTION). PESTEDAL TO BE MANUFACTURED BY MIDWEST ELECTRICAL PRODUCTS, OR EQUAL BY MILLBANK OR SIEMENS. ALL RECEPTACLES IN PESTEDAL SHALL BE EXTRA-HIGH DUTY GRADE AND TYPE "WR" LISTED FOR USE IN RECREATION VEHICLES. IF THE MANUFACTURER OF THE PESTEDAL IS NOT ABLE TO FURNISH THE NOTED RECEPTACLES, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE RECEPTACLES SEPARATELY AND INSTALL THE RECEPTACLES IN THE PESTEDAL IN THE FIELD. REFER TO SPECIFICATION SECTIONS 262416 "PANELBOARDS" AND 262726 "WIRING DEVICES" FOR ADDITIONAL REQUIREMENTS ASSOCIATED WITH THE LOAD CENTER AND WIRING DEVICES WITHIN THE PESTEDAL. INSTALLATION OF THE PESTEDALS, CABLES, CABLES, AND WIRING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. WARRANTY TO BE TWO (2) - YEARS FROM SUBSTANTIAL COMPLETION FOR PEDESTAL MANUFACTURE, INCLUDING CIRCUIT BREAKERS, WIRING DEVICES AND ENCLOSURE.

ALL 125V, 20 AMPERE RECEPTACLES INSTALLED ON THE PROJECT IN PUBLIC AREAS SHALL BE WEATHER-RESISTANT / TAMPER-RESISTANT TYPE, AS REQUIRED FOR COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE (NEC).

ALL EXISTING ITEMS INDICATED IN THE CONTRACT DRAWINGS HAVE BEEN TAKEN FROM THE OWNER'S
 LIMITED RECORD DRAWINGS AND SUBSTANTIAL FIELD OBSERVATIONS AND VERIFICATION. THIS
 CONTRACTOR AND ALL RELATED SUB-CONTRACTORS SHALL VISIT THE SITE AND COMPLETELY
 UNDERSTAND THE WORK WHERE THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PARTURE
 FROM THE DESIGN INTENT OF THE DOCUMENTS IS REQUIRED DUE TO THE ACTUAL FIELD
 CONDITIONS OBSERVED BY THE CONTRACTOR, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN
 WRITING FOR RESOLUTION PRIOR TO SUBMITTING FINAL BID OR ENTERING INTO A CONTRACT FOR
 CONSTRUCTION. FAILURE TO PROVIDE THE ARCHITECT WITH NOTIFICATION SHALL RESULT IN THE
 CONTRACTOR BEING RESPONSIBLE FOR THE COST OF THE CORRECTIONS. ALL WORK TO MEET THE DESIGN INTENT WITH
 NO ADDITIONAL COST BEING INCURRED BY THE OWNER.

MDNR Bay City State Park Campground Improvements

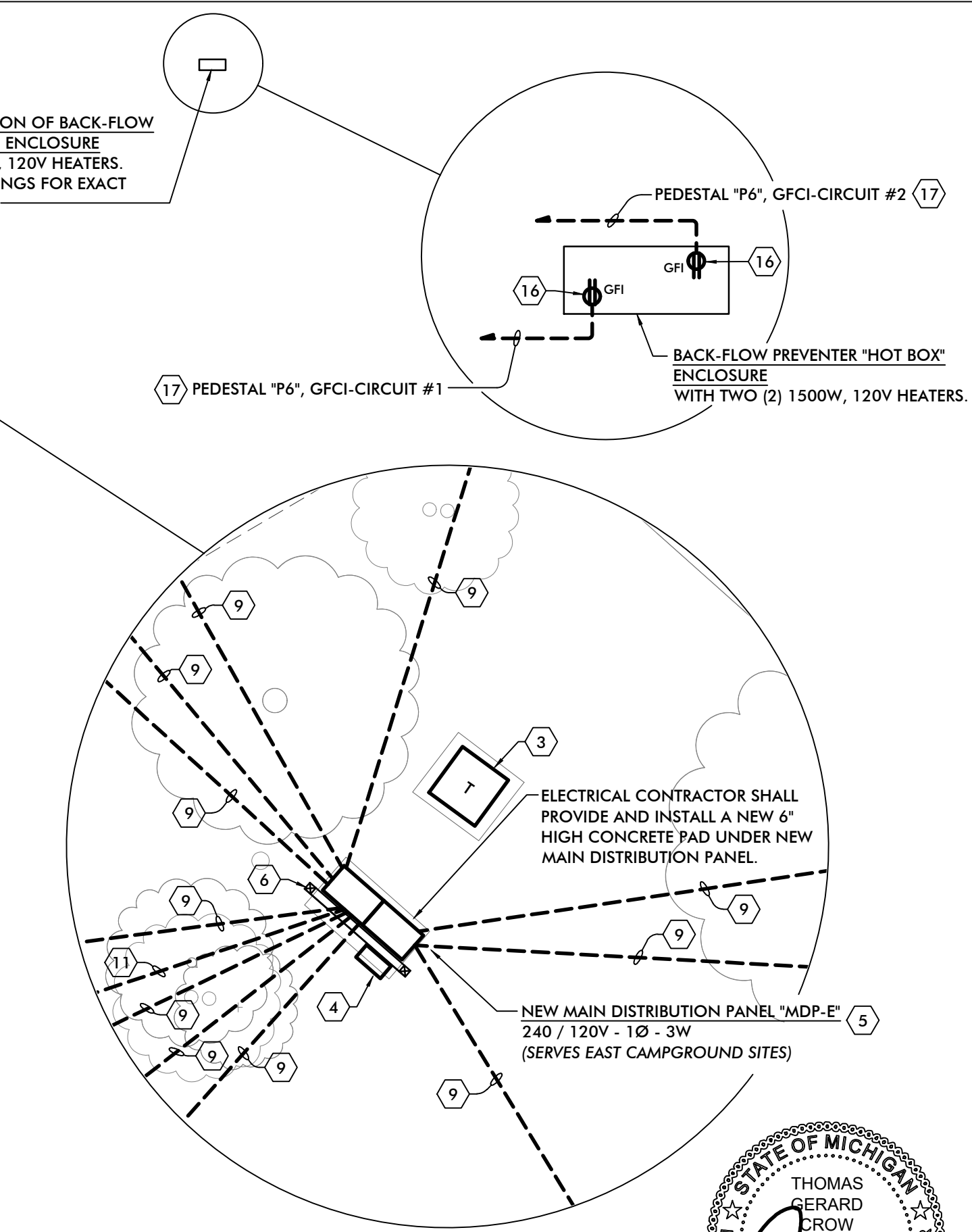
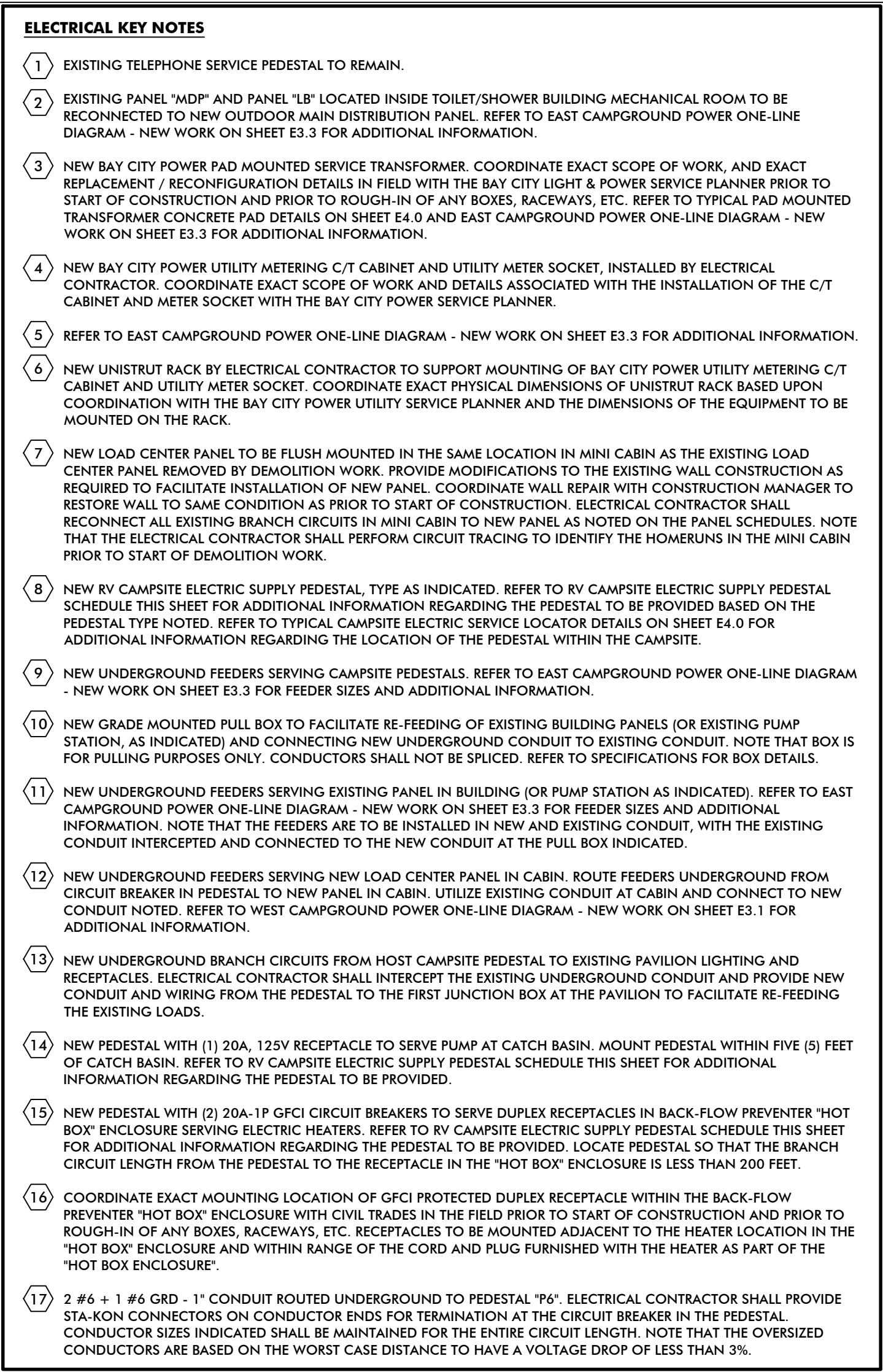
DESIGNED: TGC
DRAWN: CAD
CHECKED: TGC
APPROVED: JJB

ISSUED FOR	DATE
PRELIMINARY ☐	SEP. 15, 2026
CONSTRUCTION ☒	
FINAL RECORD ☐	

SHEET	IDENTIFICATION NO.
E2.0	FILE NO. 75/22413MAA

THOMAS
GERARD
CROW
ENGINEER
License No.
6201055658
MICHIGAN
PROFESSIONAL ENGINEER

SEALED & SIGNED 09/16/2026; SEAL
APPLIES ONLY TO THE ELECTRICAL
DOCUMENTS PREPARED BY TAC

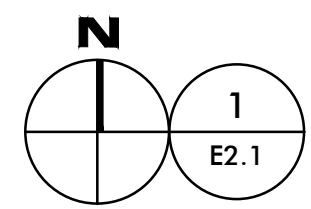


CONTRACTORS PRE-BID NOTIFICATION:

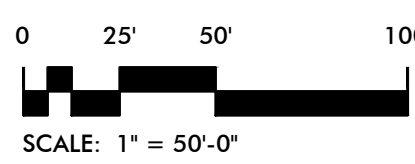
ALL EXISTING ITEMS INDICATED IN THE CONTRACT DRAWINGS HAVE BEEN TAKEN FROM THE OWNER'S LIMITED RECORD DRAWINGS AND SUBSTANTIAL FIELD OBSERVATIONS AND VERIFICATION. THIS CONTRACTOR AND ALL RELATED SUB-CONTRACTORS SHALL VISIT THE SITE AND COMPLETELY UNDERSTAND THE CONDITIONS UNDER WHICH THE PROJECT MUST BE PERFORMED. IF A DEVIATURE FROM THE DESIGN INTENT OF THE DOCUMENTS IS REQUIRED DUE TO THE ACTUAL FIELD CONDITIONS OBSERVED BY THE CONTRACTOR, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING FOR RESOLUTION PRIOR TO SUBMITTING FINAL BID OR ENTERING INTO A CONTRACT FOR CONSTRUCTION. FAILURE TO PROVIDE THE ARCHITECT WITH NOTIFICATION SHALL RESULT IN THE CONTRACTOR BEING FIELD RESPONSIBLE TO COMPLETE ALL WORK TO MEET THE DESIGN INTENT WITH NO ADDITIONAL COST BEING INCURRED BY THE OWNER.

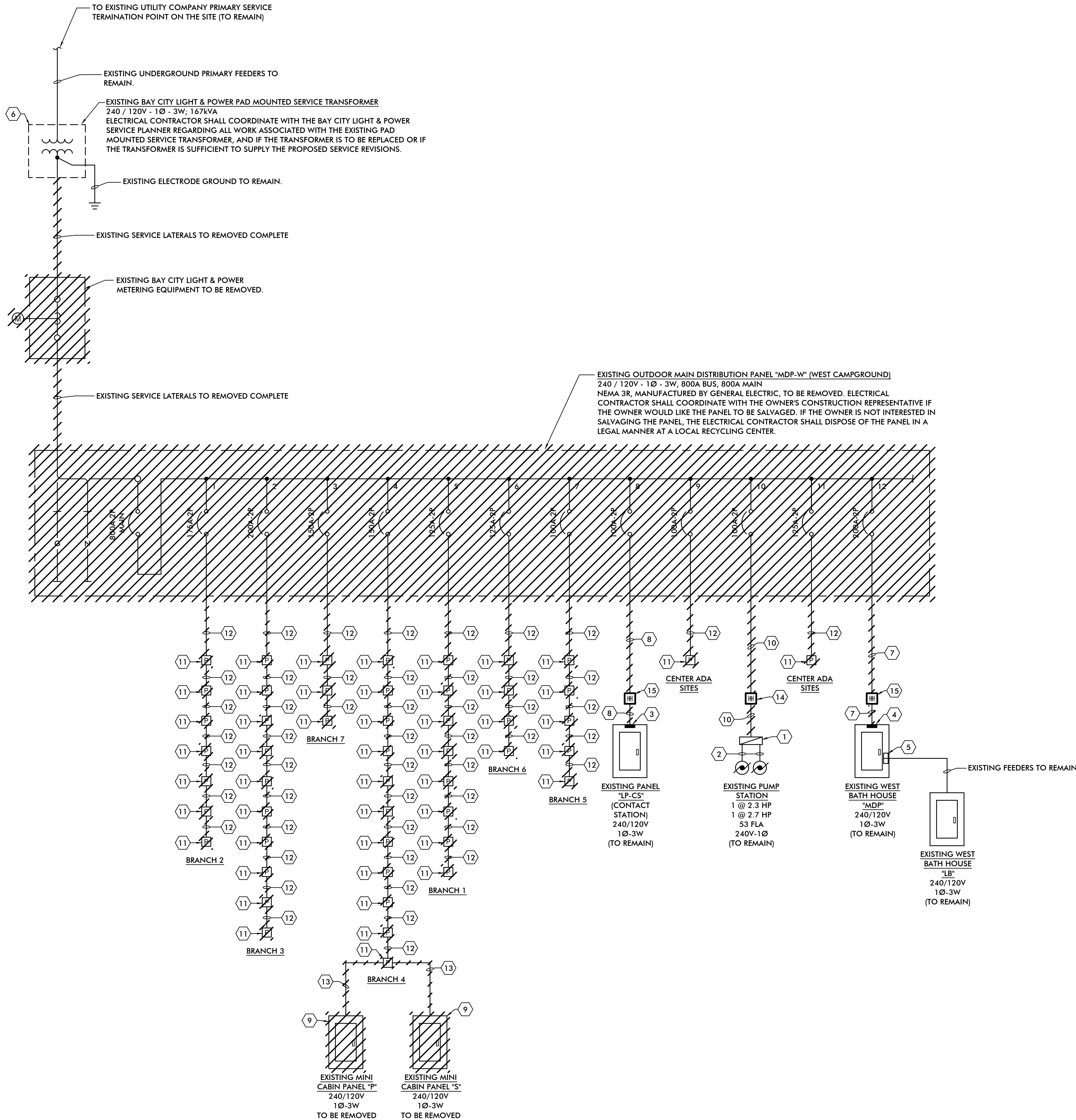
RV CAMPSITE ELECTRIC SUPPLY PEDESTAL SCHEDULE		
TYPE	ARRANGEMENT	QTY OF RECEPTACLES (OR CIRCUIT BREAKERS)
P1	SINGLE	(1) 30A, 125V, 2 POLE 3 WIRE GROUNDING "WR" TYPE (1) 20A, 125V, GFCI 2 POLE 3 WIRE GROUNDING "WR" TYPE.
P2	SINGLE	(1) 50A, 125/250V, 3 POLE 4 WIRE GROUNDING "WR" TYPE (1) 30A, 125V, 2 POLE 3 WIRE GROUNDING "WR" TYPE. (1) 20A, 125V, GFCI 2 POLE 3 WIRE GROUNDING "WR" TYPE.
P3	SINGLE	(1) 50A, 125/250V, 3 POLE 4 WIRE GROUNDING "WR" TYPE (1) 30A, 125V, 2 POLE 3 WIRE GROUNDING "WR" TYPE. (1) 20A, 125V, GFCI 2 POLE 3 WIRE GROUNDING "WR" TYPE. (2) 20A-1P GFCI CIRCUIT BREAKERS (PAVILION CIRCUITS)
P4	BACK TO BACK	(1) 30A, 125V, 2 POLE 3 WIRE GROUNDING "WR" TYPE. (1) 20A, 125V, GFCI 2 POLE 3 WIRE GROUNDING "WR" TYPE. (2) 50A-2P CIRCUIT BREAKERS (MINI CABIN FEEDS)
P5	SINGLE	(1) 20A, 125V, GFCI 2 POLE 3 WIRE GROUNDING TYPE.
P6	SINGLE	(0) RECEPTACLES. (2) 20A-1P GFCI CIRCUIT BREAKERS ("HOT BOX" HEATERS)

RV CAMPSITE ELECTRIC SUPPLY PEDESTAL TO BE GALVANIZED STEEL CONSTRUCTION WITH POWDER COAT FINISH (IN THE MANUFACTURES STANDARD COLOR), DIRECT EARTH BURIAL POST, SINGLE-SIDED OR DOUBLE-SIDE AS NOTED IN THE SCHEDULE ABOVE, WELDED FLANGE NEMA 3R CONSTRUCTION, DEAD FRONT CONSTRUCTION, UNMETERED, WITH 200 AMPERE RATED LOOP FEED LUGS, 10,000AIC RATING, 120/240V-1Ø-3W, 100 AMPERE LOAD CENTER WITH 50A-2P, 30A-1P AND 20A-1P CIRCUIT BREAKERS TO FEED EACH RECEPTACLE NOTED IN THE SCHEDULE ABOVE, AS WELL AS ADDITIONAL CIRCUIT BREAKERS WHERE NOTED TO SERVE SITE LOADS ADJACENT TO THE PEDESTAL. PEDESTAL TO INCLUDE STABILIZER BASE OPTION. PEDESTAL TO BE MANUFACTURED BY MIDWEST ELECTRICAL PRODUCTS, OR EQUAL BY MILBARK OR SIEMENS. ALL RECEPTACLES IN PEDESTAL SHALL BE EXTRA-HEAVY-DUTY GRADE AND THE "WR" LISTED IN THE SCHEDULE ABOVE. REQUIRED TO BE LISTED BY THE UL. IF THE PEDESTAL MANUFACTURE IS NOT ABLE TO FURNISH THE NOTED RECEPTACLES, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE RECEPTACLES SEPARATELY AND INSTALL THE RECEPTACLES IN THE PEDESTAL IN THE FIELD. REFER TO SPECIFICATION SECTIONS 262416 "PANELBOARDS" AND 262726 "WIRING DEVICES" FOR ADDITIONAL REQUIREMENTS ASSOCIATED WITH THE LOAD CENTER AND WIRING DEVICES WITHIN THE PEDESTAL, INCLUDING MAINTENANCE MATERIALS, RECEPTACLE SPECIFICATIONS, ETC. PEDESTAL WARRANTY TO BE TWO (2) - YEARS FROM SUBSTANTIAL COMPLETION FOR PEDESTAL COMPONENTS, INCLUDING CIRCUIT BREAKERS, WIRING DEVICES AND ENCLOSURE.



PARTIAL SITE PLAN - EAST - ELECTRICAL NEW WORK





WEST CAMPGROUND POWER ONE-LINE DIAGRAM - DEMOLITION

NO SCALE

ONE-LINE DIAGRAM GENERAL NOTES

1. REFER TO SHEETS E5.0 THROUGH E5.6 FOR NEW ELECTRIC PANEL SCHEDULES AND LOAD CALCULATIONS FOR THE NEW LIGHTING PANELS TO BE INSTALLED ON THE PROJECT, AS WELL AS VOLTAGE DROP CALCULATIONS.
2. REFER TO SHEET E5.7 FOR REQUIREMENTS REGARDING SHORT-CIRCUIT, TIME CURRENT AND ARC FLASH HAZARD ANALYSIS STUDY TO BE PERFORMED BY THIS ELECTRICAL CONTRACTOR AS PART OF HER/HIS SCOPE OF WORK.

DEMOLITION ONE-LINE DIAGRAM KEY NOTES

1. EXISTING OUTDOOR PUMP STATION CONTROL PANEL TO REMAIN.
2. EXISTING BRANCH CIRCUIT CONDUIT AND WIRING FROM THE PUMP STATION CONTROL PANEL TO THE PUMP STATION PUMPS TO REMAIN.
3. EXISTING 100A-2P MAIN CIRCUIT BREAKER IN PANEL TO REMAIN.
4. EXISTING 200A-2P MAIN CIRCUIT BREAKER IN PANEL TO REMAIN.
5. EXISTING 100A-2P CIRCUIT BREAKER SERVING SUB-PANEL TO REMAIN.
6. EXISTING BAY CITY LIGHT & POWER PAD MOUNTED SERVICE TRANSFORMER. COORDINATE MODIFICATIONS / REPLACEMENT OF THE EXISTING TRANSFORMER WITH THE BAY CITY LIGHT & POWER SERVICE PLANNER IN THE FIELD PRIOR TO START OF CONSTRUCTION. REFER TO NEW WORK PLAN FOR CURRENT BASIS OF DESIGN.
7. ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING FEEDER CONDUIT AND WIRING SERVING EXISTING TOILET/SHOWER BUILDING PANELS COMPLETE FROM EXISTING OUTDOOR MAIN DISTRIBUTION PANEL TO NEW GRADE MOUNTED PULL BOX / HANDHOLE NOTED. CONTINUE DEMOLITION OF EXISTING FEEDER WIRING COMPLETE FROM THE EXISTING OUTDOOR MAIN DISTRIBUTION PANEL TO THE EXISTING PANEL 'MDP' IN THE TOILET/SHOWER BUILDING FOR REPLACEMENT WITH NEW. EXISTING UNDERGROUND CONDUIT TO BE RECONFIGURED TO ALLOW FOR RECONNECTION TO NEW VIA THE NEW PULL BOX / HANDHOLE NOTED ON THE NEW WORK PLANS.
8. ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING FEEDER CONDUIT AND WIRING SERVING EXISTING CONTACT STATION BUILDING PANEL COMPLETE FROM EXISTING OUTDOOR MAIN DISTRIBUTION PANEL TO NEW GRADE MOUNTED PULL BOX / HANDHOLE NOTED. CONTINUE DEMOLITION OF EXISTING FEEDER WIRING COMPLETE FROM THE EXISTING OUTDOOR MAIN DISTRIBUTION PANEL TO THE EXISTING PANEL 'LP-CS' IN THE CONTACT STATION BUILDING FOR REPLACEMENT WITH NEW. EXISTING UNDERGROUND CONDUIT TO BE RECONFIGURED TO ALLOW FOR RECONNECTION TO NEW VIA THE NEW PULL BOX / HANDHOLE NOTED ON THE NEW WORK PLANS.
9. ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING LOAD CENTER PANEL NOTED IN MINI CABIN AND REPLACE WITH NEW, LARGER PANEL IN THE SAME LOCATION. REFER TO NEW WORK PLANS FOR ADDITIONAL INFORMATION. ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING FEEDER SERVING PANEL COMPLETE TO SOURCE TO FACILITATE THE PANEL REVISIONS INDICATED ON THE DEMOLITION AND NEW WORK PLANS. EXISTING CONDUIT SHALL REMAIN AND BE RECONFIGURED WHERE FEASIBLE TO ALLOW FOR INSTALLATION OF NEW PANEL AND INSTALLATION OF NEW FEEDERS TO SERVE PANEL WHERE THE EXISTING CONDUIT IS OF SUFFICIENT SIZE. EXISTING BRANCH CIRCUITS SERVED FROM THE PANEL SHALL BE CAREFULLY DISCONNECTED FROM THE EXISTING LOAD CENTER PANEL TO ALLOW FOR THE REMOVAL AND REPLACEMENT OF THE PANEL. AND RECONNECTED TO THE NEW LOAD CENTER PANEL TO BE INSTALLED BY NEW WORK. REFER TO WEST CAMPGROUND POWER ONE-LINE DIAGRAM - NEW WORK ON SHEET E3.1 FOR ADDITIONAL INFORMATION.
10. ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING BRANCH CIRCUIT CONDUIT AND WIRING SERVING PUMP STATION COMPLETE FROM EXISTING OUTDOOR MAIN DISTRIBUTION PANEL TO NEW GRADE MOUNTED PULL BOX / HANDHOLE NOTED. CONTINUE DEMOLITION OF EXISTING BRANCH CIRCUIT WIRING COMPLETE FROM THE EXISTING OUTDOOR MAIN DISTRIBUTION PANEL TO THE EXISTING PUMP STATION CONTROLLER FOR REPLACEMENT WITH NEW. EXISTING UNDERGROUND CONDUIT TO BE RECONFIGURED TO ALLOW FOR RECONNECTION TO NEW VIA THE NEW PULL BOX / HANDHOLE NOTED ON THE NEW WORK PLANS.
11. ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE THE EXISTING CAMPSITE PEDESTAL COMPLETE.
12. ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING UNDERGROUND PEDESTAL FEEDERS COMPLETE. EXISTING UNDERGROUND CONDUIT SHALL BE REMOVED AND/OR RECONFIGURED WHERE FEASIBLE TO SUPPORT INSTALLATION OF NEW PEDESTALS AS INDICATED ON THE NEW WORK PLANS. WHERE IT IS NOT FEASIBLE TO REUSE / RECONFIGURE THE EXISTING UNDERGROUND CONDUIT THE ELECTRICAL CONTRACTOR SHALL REMOVE THE EXISTING CONDUIT BELOW GRADE A MINIMUM OF 24" BELOW THE FINISHED GRADE, CAP AND ABANDON IN PLACE.
13. ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING UNDERGROUND FEEDERS FROM THE EXISTING PEDESTAL TO THE EXISTING MINI CABIN LOAD CENTER COMPLETE. EXISTING UNDERGROUND CONDUIT SHALL BE REMOVED AND/OR RECONFIGURED WHERE FEASIBLE TO SUPPORT INSTALLATION OF NEW FEEDER FROM THE NEW PEDESTAL TO THE NEW LOAD CENTER PANEL IN THE MINI CABIN AS INDICATED ON THE NEW WORK PLANS. WHERE IT IS NOT FEASIBLE TO REUSE / RECONFIGURE THE EXISTING UNDERGROUND CONDUIT THE ELECTRICAL CONTRACTOR SHALL REMOVE THE EXISTING CONDUIT COMPLETE.
14. NEW GRADE MOUNTED PULL BOX / HANDHOLE TO BE INSTALLED IN GREEN SPACE ADJACENT TO EXISTING PUMP STATION CONTROL PANEL TO INTERCEPT THE EXISTING FEEDER CONDUIT SERVING THE PUMP STATION TO ALLOW FOR RE-FEEDING OF THE EXISTING PUMP STATION FROM THE NEW OUTDOOR MAIN DISTRIBUTION PANEL AS INDICATED ON THE NEW WORK ONE-LINE DIAGRAM. NOTE THAT THE EXISTING FEEDER CONDUCTORS ARE TO BE REMOVED COMPLETE AND NEW FEEDERS ARE TO BE INSTALLED CONTINUOUS AND WITHOUT SPLICES.
15. NEW GRADE MOUNTED PULL BOX / HANDHOLE TO BE INSTALLED IN GREEN SPACE ADJACENT TO THE NEW OUTDOOR MAIN DISTRIBUTION PANEL, WHERE FEASIBLE, TO INTERCEPT THE EXISTING FEEDER CONDUIT SERVING THE EXISTING LIGHTING PANEL IN THE BUILDING NOTED TO ALLOW FOR RE-FEEDING OF THE EXISTING PANEL FROM THE NEW OUTDOOR MAIN DISTRIBUTION PANEL AS INDICATED ON THE NEW WORK ONE-LINE DIAGRAM. NOTE THAT THE EXISTING FEEDER CONDUCTORS ARE TO BE REMOVED COMPLETE AND NEW FEEDERS ARE TO BE INSTALLED CONTINUOUS AND WITHOUT SPLICES. THE GRADE MOUNTED PULL BOX / HANDHOLE SHALL BE LOCATED SUCH THAT THE MAXIMUM LENGTH OF THE EXISTING UNDERGROUND CONDUIT CAN BE PRESERVED FOR RE-USE TO INSTALL THE NEW FEEDERS. NOTE: THE ELECTRICAL CONTRACTOR SHALL PROVIDE AN ALLOWANCE IN THEIR BID TO COMPLETELY REPLACE THE EXISTING UNDERGROUND CONDUIT IN THE EVENT THAT THE EXISTING CONDUIT IS FOUND TO EITHER BE NOT THERE (i.e. DIRECT BURY CONDUCTORS WERE INSTALLED), NOT IN SUITABLE CONDITION FOR RE-USE, OR NOT OF ADEQUATE SIZE TO FACILITATE THE INSTALLATION OF THE NEW FEEDERS REQUIRED DUE TO THE NEED TO ACCOUNT FOR VOLTAGE DROP ACROSS THE LENGTH OF THE FEEDER RUN.



SEALED & SIGNED 09/16/2026; SEAL APPLIES ONLY TO THE ELECTRICAL DOCUMENTS PREPARED BY TAC ASSOCIATES, LLC

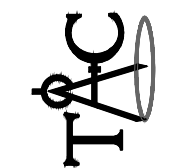
STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
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ADAM P. LACH, P.E., DIRECTOR



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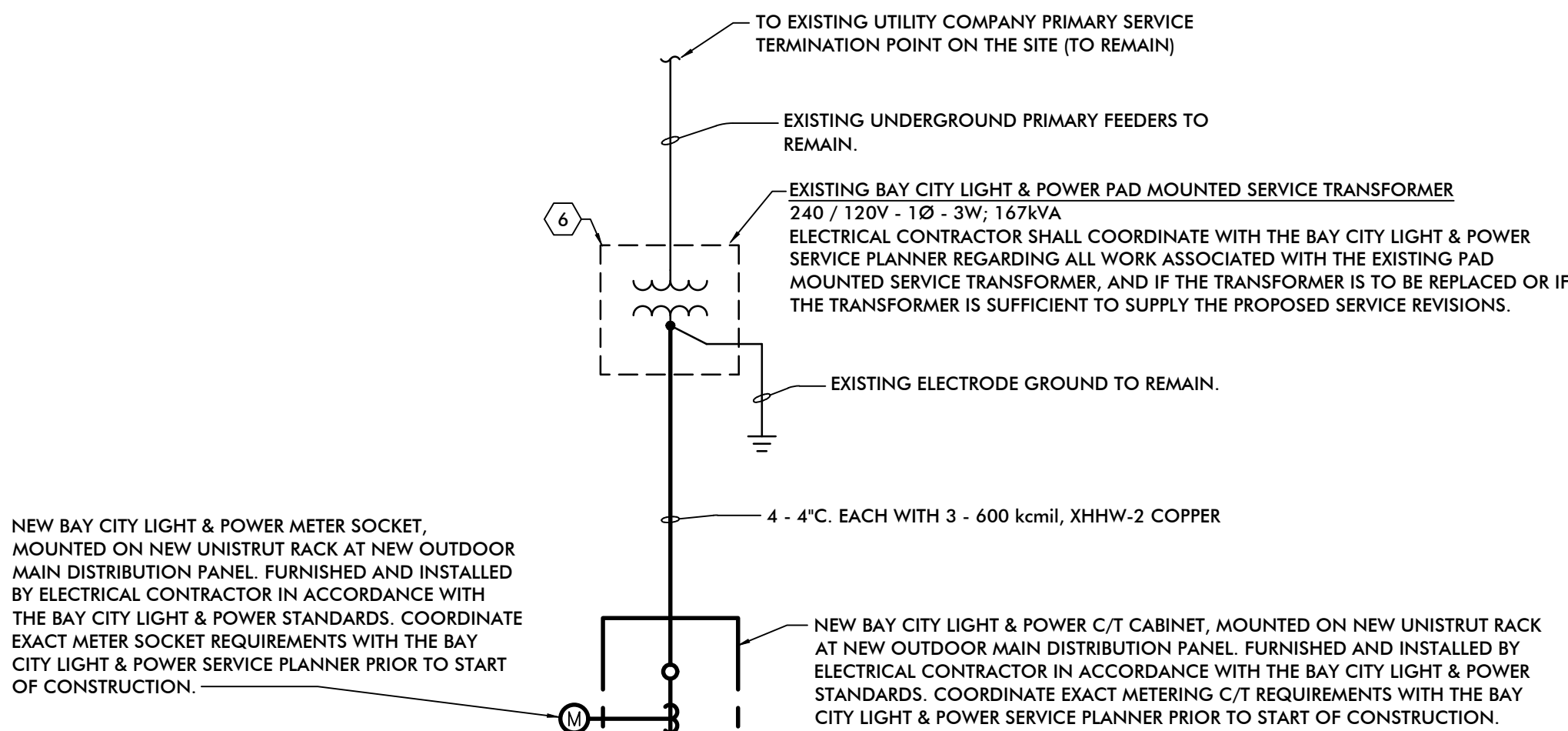
MDNR Bay City State Park
Campground Improvements

DESIGNED: TGC
DRAWN: CAD
CHECKED: TGC
APPROVED: JB

DATE: SEP 15, 2026

ISSUED FOR: ☐ PRELIMINARY ☒ CONSTRUCTION ☐ FINAL RECORD

IDENTIFICATION NO.
FILE NO. 751/22434AA
SHEET E3.0



TAMPER-RESISTANT RECEPTACLE REQUIREMENT NOTE:

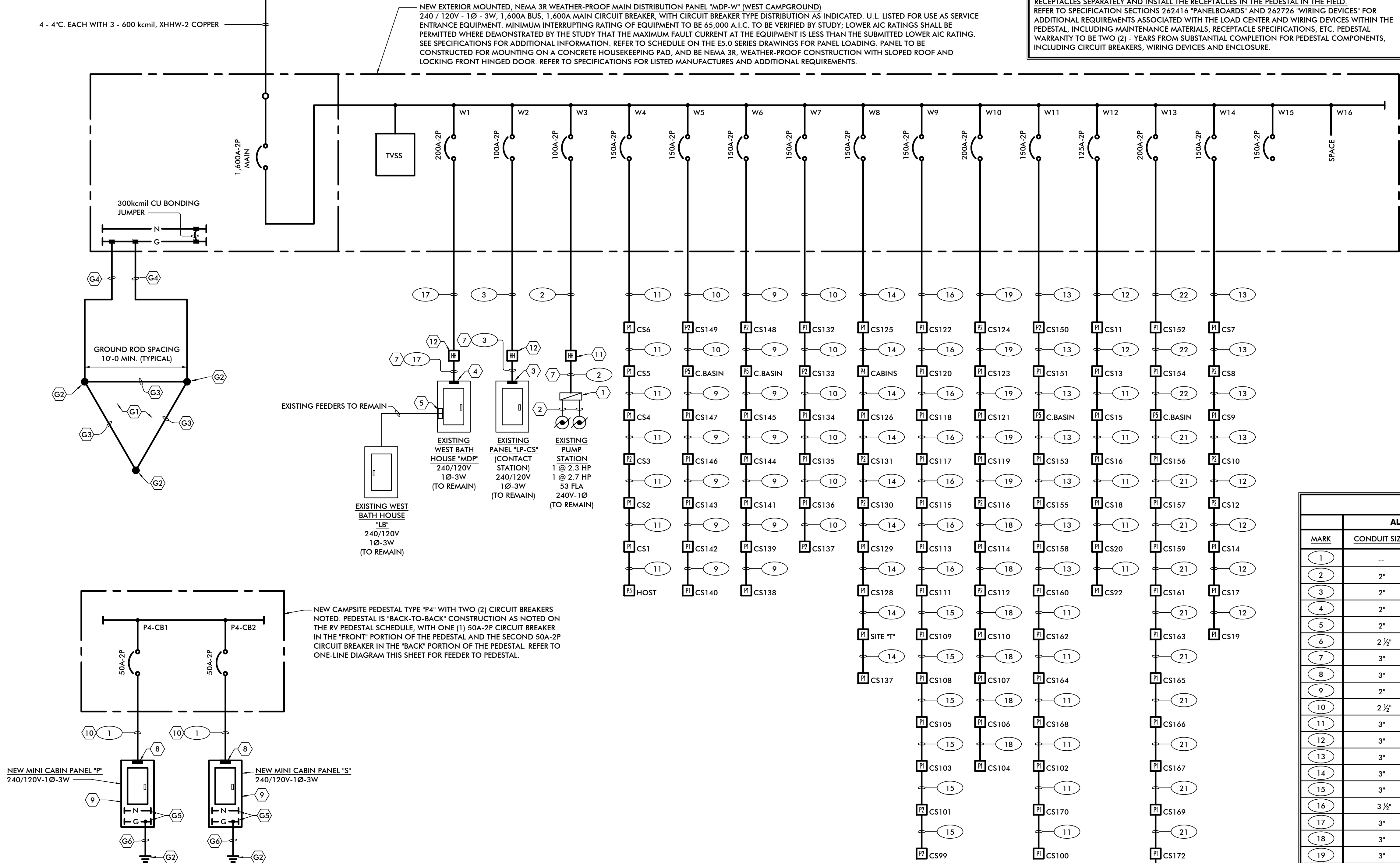
ALL 125V, 20 AMPERE RECEPTACLES INSTALLED ON THE PROJECT IN PUBLIC AREAS SHALL BE WEATHER-RESISTANT / TAMPER-RESISTANT TYPE, AS REQUIRED FOR COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE (NEC).

RV CAMPSITE ELECTRIC SUPPLY PEDESTAL SCHEDULE		
TYPE	ARRANGEMENT	QTY OF RECEPTACLES (OR CIRCUIT BREAKERS)
P1	SINGLE	(1) 30A, 125V, 2 POLE 3 WIRE GROUNDING "WR" TYPE (1) 20A, 125V, GFCI 2 POLE 3 WIRE GROUNDING "WR" TYPE.
P2	SINGLE	(1) 50A, 125/250V, 3 POLE 4 WIRE GROUNDING "WR" TYPE (1) 30A, 125V, 2 POLE 3 WIRE GROUNDING "WR" TYPE. (1) 20A, 125V, GFCI 2 POLE 3 WIRE GROUNDING "WR" TYPE.
P3	SINGLE	(1) 50A, 125/250V, 3 POLE 4 WIRE GROUNDING "WR" TYPE (1) 30A, 125V, 2 POLE 3 WIRE GROUNDING "WR" TYPE. (1) 20A, 125V, GFCI 2 POLE 3 WIRE GROUNDING "WR" TYPE. (2) 20A-1P GFCI CIRCUIT BREAKERS (PAVILION CIRCUITS)
P4	BACK TO BACK	(1) 30A, 125V, 2 POLE 3 WIRE GROUNDING "WR" TYPE. (1) 20A, 125V, GFCI 2 POLE 3 WIRE GROUNDING "WR" TYPE. (2) 50A-2P CIRCUIT BREAKERS (MINI CABIN FEEDS)
P5	SINGLE	(1) 20A, 125V, GFCI 2 POLE 3 WIRE GROUNDING TYPE.
P6	SINGLE	(0) RECEPTACLES. (2) 20A-1P GFCI CIRCUIT BREAKERS ("HOT BOX" HEATERS)

RV CAMPSITE ELECTRIC SUPPLY PEDESTAL TO BE GALVANIZED STEEL CONSTRUCTION WITH POWDER COAT FINISH (IN THE MANUFACTURES STANDARD COLOR), DIRECT EARTH BURIAL POST, SINGLE-SIDED OR DOUBLE-SIDE AS NOTED IN THE SCHEDULE ABOVE, WELDED FLANGE NEMA 3R CONSTRUCTION, DEAD FRONT CONSTRUCTION, UNMETERED, WITH 200 AMPERE RATED LOOP FEED LUGS, 10,000AIC RATING, 120/240V, 1Ø, 3W, 100 AMPERE LOAD CENTER WITH 50A-1P AND 20A-1P CIRCUIT BREAKERS TO FEED EACH RECEPTACLE NOTED IN THE SCHEDULE ABOVE, AS WELL AS ADDITIONAL CIRCUIT BREAKERS WHERE NOTED TO SERVE SITE LOADS ADJACENT TO THE PEDESTAL. PEDESTAL TO INCLUDE STABILIZER BASE OPTION. PEDESTAL TO BE MANUFACTURED BY MIDWEST ELECTRICAL PRODUCTS, OR EQUAL BY MILLBANK OR SIEMENS. ALL RECEPTACLES IN PEDESTAL SHALL BE EXTRA-HEAVY-DUTY GRADE AND TYPE "WR" LISTED (WEATHER-RESISTANT) AS REQUIRED FOR COMPLIANCE WITH THE N.E.C. IF THE PEDESTAL MANUFACTURE IS NOT ABLE TO FURNISH THE NOTED RECEPTACLES, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE RECEPTACLES SEPARATELY AND INSTALL THE RECEPTACLES IN THE PEDESTAL IN THE FIELD. REFER TO SPECIFICATION SECTIONS 262416 "PANELBOARDS" AND 262726 "WIRING DEVICES" FOR ADDITIONAL REQUIREMENTS ASSOCIATED WITH THE LOAD CENTER AND WIRING DEVICES WITHIN THE PEDESTAL, INCLUDING MAINTENANCE MATERIALS, RECEPTACLE SPECIFICATIONS, ETC. PEDESTAL WARRANTY TO BE TWO (2) - YEARS FROM SUBSTANTIAL COMPLETION FOR PEDESTAL COMPONENTS, INCLUDING CIRCUIT BREAKERS, WIRING DEVICES AND ENCLOSURE.

- ONE-LINE DIAGRAM GENERAL NOTES**
- REFER TO ONE-LINE DIAGRAM GENERAL NOTES ON SHEET E3.3.
- DEMOLITION ONE-LINE DIAGRAM KEY NOTES**
- EXISTING OUTDOOR PUMP STATION CONTROL PANEL TO REMAIN.
 - EXISTING BRANCH CIRCUIT CONDUIT AND WIRING FROM THE PUMP STATION CONTROL PANEL TO THE PUMP STATION PUMPS TO REMAIN.
 - EXISTING 100A-2P MAIN CIRCUIT BREAKER IN PANEL TO REMAIN.
 - EXISTING 200A-2P MAIN CIRCUIT BREAKER IN PANEL TO REMAIN.
 - EXISTING 100A-2P CIRCUIT BREAKER SERVING SUB-PANEL TO REMAIN.
 - EXISTING BAY CITY LIGHT & POWER PAD MOUNTED SERVICE TRANSFORMER. COORDINATE MODIFICATIONS / REPLACEMENT OF THE EXISTING TRANSFORMER WITH THE BAY CITY LIGHT & POWER SERVICE PLANNER IN THE FIELD PRIOR TO START OF CONSTRUCTION. REFER TO NEW WORK PLAN FOR CURRENT BASIS OF DESIGN.
 - EXISTING UNDERGROUND CONDUIT SERVING THE LOAD OR PANEL NOTED TO BE RECONFIGURED TO ALLOW FOR RECONNECTION TO NEW CONDUIT VIA THE NEW PULL BOX / HANDHOLE NOTED. VERIFY EXISTING CONDUIT SIZE IN FIELD. IF EXISTING CONDUIT SIZE IS SMALLER THAN NEW CONDUIT SIZE NOTED, OR IF THE CONDUCTORS WERE DIRECT BURIED, ELECTRICAL CONTRACTOR SHALL PROVIDE NEW CONDUIT PER THE SCHEDULE TO SUPPORT THE INSTALLATION OF THE NEW CONDUCTORS TO THE EXISTING PANEL OR LOAD INDICATED.
 - NEW 50A-2P MAIN CIRCUIT BREAKER IN NEW LOAD CENTER INDICATED.
 - NEW FLUSH MOUNTED LOAD CENTER PANEL TO BE INSTALLED IN THE SAME LOCATION IN THE MINI CABIN TO RE-FEED THE EXISTING LOADS, AND PROVIDE A MAIN SERVICE DISCONNECT AND SERVICE FOR THE MINI-SPLIT A/C UNIT IN THE CABIN FOR COMPLIANCE WITH THE N.E.C. EXISTING BRANCH CIRCUITS SERVED FROM THE PANEL SHALL BE CAREFULLY RECONNECTED TO THE NEW LOAD CENTER PANEL TO BE INSTALLED BY NEW WORK. REFER TO WEST CAMPGROUND POWER ONE-LINE DIAGRAM - DEMOLITION ON SHEET E3.0 FOR ADDITIONAL INFORMATION.
 - EXISTING UNDERGROUND CONDUIT SERVING THE MINI CABIN SHALL BE RECONFIGURED WHERE FEASIBLE TO SUPPORT INSTALLATION OF NEW FEEDER FROM THE NEW PEDESTAL TO THE NEW LOAD CENTER PANEL IN THE MINI CABIN AS INDICATED. PROVIDE NEW CONDUIT AS REQUIRED TO FACILITATE INSTALLATION OF THE NEW CONDUCTORS NOTED.
 - NEW GRADE MOUNTED PULL BOX / HANDHOLE TO BE INSTALLED IN GREEN SPACE ADJACENT TO EXISTING PUMP STATION CONTROL PANEL TO INTERCEPT THE EXISTING FEEDER CONDUIT SERVING THE PUMP STATION TO ALLOW FOR RE-FEEDING OF THE EXISTING PUMP STATION FROM THE NEW OUTDOOR MAIN DISTRIBUTION PANEL AS INDICATED. NOTE THAT THE NEW FEEDERS ARE TO BE INSTALLED CONTINUOUS AND WITHOUT SPLICES. THE GRADE MOUNTED PULL BOX / HANDHOLE SHALL BE LOCATED SUCH THAT THE MAXIMUM LENGTH OF THE EXISTING UNDERGROUND CONDUIT CAN BE PRESERVED FOR RE-USE TO INSTALL THE NEW FEEDERS. NOTE: THE ELECTRICAL CONTRACTOR SHALL PROVIDE AN ALLOWANCE IN THEIR BID TO COMPLETELY REPLACE THE EXISTING UNDERGROUND CONDUIT IN THE EVENT THAT THE EXISTING CONDUIT IS FOUND TO EITHER BE NOT THERE (i.e. DIRECT BURY CONDUCTORS WERE INSTALLED), NOT IN SUITABLE CONDITION FOR RE-USE, OR NOT OF ADEQUATE SIZE TO FACILITATE THE INSTALLATION OF THE NEW FEEDERS REQUIRED DUE TO THE NEED TO ACCOUNT FOR VOLTAGE DROP ACROSS THE LENGTH OF THE FEEDER RUN.
 - NEW GRADE MOUNTED PULL BOX / HANDHOLE TO BE INSTALLED IN GREEN SPACE ADJACENT TO THE NEW OUTDOOR MAIN DISTRIBUTION PANEL, WHERE FEASIBLE, TO INTERCEPT THE EXISTING FEEDER CONDUIT SERVING THE EXISTING LIGHTING PANEL IN THE BUILDING NOTED TO ALLOW FOR RE-FEEDING OF THE EXISTING PANEL FROM THE NEW OUTDOOR MAIN DISTRIBUTION PANEL AS INDICATED. NOTE THAT THE NEW FEEDERS ARE TO BE INSTALLED CONTINUOUS AND WITHOUT SPLICES. THE GRADE MOUNTED PULL BOX / HANDHOLE SHALL BE LOCATED SUCH THAT THE MAXIMUM LENGTH OF THE EXISTING UNDERGROUND CONDUIT CAN BE PRESERVED FOR RE-USE TO INSTALL THE NEW FEEDERS. NOTE: THE ELECTRICAL CONTRACTOR SHALL PROVIDE AN ALLOWANCE IN THEIR BID TO COMPLETELY REPLACE THE EXISTING UNDERGROUND CONDUIT IN THE EVENT THAT THE EXISTING CONDUIT IS FOUND TO EITHER BE NOT THERE (i.e. DIRECT BURY CONDUCTORS WERE INSTALLED), NOT IN SUITABLE CONDITION FOR RE-USE, OR NOT OF ADEQUATE SIZE TO FACILITATE THE INSTALLATION OF THE NEW FEEDERS REQUIRED DUE TO THE NEED TO ACCOUNT FOR VOLTAGE DROP ACROSS THE LENGTH OF THE FEEDER RUN.

- ELECTRIC SERVICE GROUNDING ELECTRODE SYSTEM KEY NOTES**
- GROUNDING ELECTRODE SYSTEM DESCRIPTION: 2 #3/0 Cu GROUND TO A MINIMUM OF THREE (3) 3/4" DIAMETER x 10'-0" LONG COPPER GROUND RODS DRIVEN NEAR THE OUTDOOR MAIN DISTRIBUTION PANEL. PROVIDE INSPECTION PIT BOX (aka "TEST WELL") FOR EACH ROD TO ALLOW FOR PERIODIC INSPECTION OF THE GROUND ROD. INSPECTION PIT TO BE INSTALLED FLUSH WITH GRADE. THE THREE (3) GROUND RODS SHALL BE INTERCONNECTED WITH #3/0 BARE COPPER CONDUCTOR BELOW GRADE WITH A CADWELD CONNECTION AT EACH ROD OCCURRING WITHIN THE INSPECTION PIT. THE 2 #3/0 GROUNDING ELECTRODE CONDUCTORS SHALL BE CONNECTED AS FOLLOWS: 1 CONDUCTOR CONNECTED TO OPPOSITE CORNERS OF THE PATTERN OF GROUND RODS INSTALLED TO FORM A GROUND MAT ADJACENT TO THE MAIN DISTRIBUTION PANEL. THE ELECTRICAL CONTRACTOR SHALL CONFIRM THAT THE RESISTANCE TO GROUND OF THE GROUNDING ELECTRODES IS 25 OHMS OR LESS, AS REQUIRED BY N.E.C. ARTICLE 250.56. IF THE RESISTANCE TO GROUND IS GREATER THAN 25 OHMS, THE ELECTRICAL CONTRACTOR SHALL DRIVE ADDITIONAL GROUND RODS A MINIMUM OF 10'-0" (ONE ROD LENGTH) APART UNTIL THE CODE REQUIRED RESISTANCE TO GROUND IS MET.
 - 3/4" DIAMETER x 10'-0" LONG COPPER GROUND ROD, DRIVEN WITH THE TOP OF ROD A MINIMUM OF 24" BELOW GRADE. PROVIDE INSPECTION PIT BOX (aka "TEST WELL") AT ROD TO ALLOW FOR PERIODIC INSPECTION OF THE GROUND ROD. TOP OF INSPECTION PIT TO BE INSTALLED FLUSH WITH GRADE.
 - #3/0 BARE COPPER CONDUCTOR INSTALLED BELOW GRADE A MINIMUM OF 24" BELOW FINISHED GRADE, WITH A CADWELD CONNECTION AT EACH ROD OCCURRING WITHIN THE INSPECTION PIT.
 - #3/0 BARE COPPER CONDUCTOR INSTALLED BELOW GRADE A MINIMUM OF 24" BELOW FINISHED GRADE, FROM THE GROUND ROD INDICATED TO THE MAIN DISTRIBUTION PANEL NOTED. CONNECT GROUND CONDUCTOR TO GROUND ROD WITH A CADWELD CONNECTION, OCCURRING WITHIN THE INSPECTION PIT.
 - NEUTRAL BAR AND GROUND BAR ARE NOT BONDED IN ACCORDANCE WITH NEC ARTICLE 250.32(B)(1), TO ELIMINATE THE CREATION OF PARALLEL PATHS FOR NEUTRAL CURRENT ALONG THE ELECTRICAL SYSTEM.
 - #6 BARE COPPER CONDUCTOR INSTALLED BELOW GRADE A MINIMUM OF 24" BELOW FINISHED GRADE, FROM THE GROUND ROD INDICATED TO THE LOAD CENTER PANEL NOTED. CONNECT GROUND CONDUCTOR TO GROUND ROD WITH A CADWELD CONNECTION, OCCURRING WITHIN THE INSPECTION PIT.



MINI CABINS POWER ONE-LINE DIAGRAM - NEW WORK

NO SCALE

WEST CAMPGROUND POWER ONE-LINE DIAGRAM - NEW WORK

NO SCALE

CONDUIT AND WIRING SCHEDULE					
ALUMINUM CONDUCTORS - BASE BID			COPPER CONDUCTORS - BID ADD ALTERNATE - SEE BID FORM		
MARK	CONDUIT SIZE	WIRING	CONDUIT SIZE	WIRING	
1	--	-- (USE COPPER FOR THIS FEEDER)	1"	3 #6 + 1 #10 GRD	
2	2"	3 #2/0 + 1 #4 GRD	1 1/2"	3 #1 + 1 #4 GRD	
3	2"	3 #3/0 + 1 #3 GRD	2"	3 #2/0 + 1 #3 GRD	
4	2"	3 #2/0 + 1 #4 GRD	1 1/2"	3 #1 + 1 #6 GRD	
5	2"	3 #3/0 + 1 #2 GRD	2"	3 #1/0 + 1 #4 GRD	
6	2 1/2"	3 #4/0 + 1 #2 GRD	2"	3 #1/0 + 1 #4 GRD	
7	3"	3 - 250kcmil + 1 #1 GRD	2"	3 #3/0 + 1 #3 GRD	
8	3"	3 - 300kcmil + 1 #1/0 GRD	2"	3 #3/0 + 1 #3 GRD	
9	2"	3 #3/0 + 1 #4 GRD	2"	3 #1/0 + 1 #6 GRD	
10	2 1/2"	3 #4/0 + 1 #3 GRD	2"	3 #2/0 + 1 #4 GRD	
11	3"	3 - 250kcmil + 1 #2 GRD	2"	3 #3/0 + 1 #4 GRD	
12	3"	3 - 300kcmil + 1 #1 GRD	2 1/2"	3 #4/0 + 1 #3 GRD	
13	3"	3 - 350kcmil + 1 #1/0 GRD	2 1/2"	3 #4/0 + 1 #3 GRD	
14	3"	3 - 400kcmil + 1 #1/0 GRD	3"	3 - 250kcmil + 1 #2 GRD	
15	3"	3 - 500kcmil + 1 #2/0 GRD	3"	3 - 350kcmil + 1 #1/0 GRD	
16	3 1/2"	3 - 600kcmil + 1 #3/0 GRD	3"	3 - 350kcmil + 1 #1/0 GRD	
17	3"	3 - 250kcmil + 1 #4 GRD	2"	3 #3/0 + 1 #6 GRD	
18	3"	3 - 300kcmil + 1 #3 GRD	2 1/2"	3 #4/0 + 1 #4 GRD	
19	3"	3 - 350kcmil + 1 #2 GRD	2 1/2"	3 #4/0 + 1 #4 GRD	
20	3"	3 - 500kcmil + 1 #1 GRD	3"	3 - 300kcmil + 1 #3 GRD	
21	3 1/2"	3 - 600kcmil + 1 #1/0 GRD	3"	3 - 350kcmil + 1 #2 GRD	
22	3 1/2"	3 - 600kcmil + 1 #1/0 GRD	3"	3 - 400kcmil + 1 #2 GRD	

ALL WIRING INDICATED IN SCHEDULE IS TO BE ALUMINUM, 90°C RATED CONDUCTORS UNLESS OTHERWISE NOTED. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL WIRE SIZES INDICATED FOR FEEDERS AND BRANCH CIRCUITS ARE BASED ON ADJUSTMENTS TO THE CONDUCTOR SIZE TO LIMIT THE VOLTAGE DROP TO A MAXIMUM OF 3% FOR THE FEEDER, ACROSS THE LENGTH OF THE FEEDER, WITH THE EQUIPMENT GROUNDING CONDUCTOR ADJUSTED PROPORTIONALLY IN ACCORDANCE WITH N.E.C. ARTICLE 250.122(B). THE ABOVE SCHEDULE IS BASED ON SEPARATE CONDUCTORS INSTALLED IN CONDUIT. APPLIES ONLY TO THE ELECTRICAL DOCUMENTS PREPARED BY TAC ASSOCIATES, LLC.



THOMAS
GERARD
CROW
ENGINEER
License No.
6201055658
PROFESSIONAL ENGINEER

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ASSOCIATES, LLC

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APPLIES ONLY TO THE ELECTRICAL
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- 1 EXISTING 200A-2P MAIN CIRCUIT BREAKER IN PANEL TO REMAIN.
- 2 EXISTING 100A-2P CIRCUIT BREAKER SERVING SUB-PANEL TO REMAIN.
- 3 EXISTING BAY CITY LIGHT & POWER PAD MOUNTED SERVICE TRANSFORMER TO BE REMOVED AND REPLACED WITH NEW TRANSFORMER BY BAY CITY LIGHT & POWER. COORDINATE REPLACEMENT OF THE EXISTING TRANSFORMER WITH THE BAY CITY LIGHT & POWER SERVICE PLANNER IN THE FIELD PRIOR TO START OF CONSTRUCTION. REFER TO NEW WORK PLAN FOR CURRENT BASIS OF DESIGN.
- 4 ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING FEEDER CONDUIT AND WIRING SERVING EXISTING TOILET/SHOWER BUILDING PANELS COMPLETE FROM EXISTING OUTDOOR MAIN DISTRIBUTION PANEL TO NEW GRADE MOUNTED PULL BOX / HANDHOLE NOTED. CONTINUE DEMOLITION OF EXISTING FEEDER WIRING COMPLETE FROM THE EXISTING OUTDOOR MAIN DISTRIBUTION PANEL TO THE EXISTING PANEL "MDP" IN THE TOILET/SHOWER BUILDING FOR REPLACEMENT WITH NEW. EXISTING UNDERGROUND CONDUIT TO BE RECONFIGURED TO ALLOW FOR RECONNECTION TO NEW VIA THE NEW PULL BOX / HANDHOLE NOTED ON THE NEW WORK PLANS.
- 5 ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE THE EXISTING CAMPSITE PEDESTAL COMPLETE.
- 6 ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING UNDERGROUND PEDESTAL FEEDERS COMPLETE EXISTING UNDERGROUND CONDUIT SHALL BE REMOVED AND/OR RECONFIGURED WHERE FEASIBLE TO SUPPORT INSTALLATION OF NEW PEDESTALS AS INDICATED ON THE NEW WORK PLANS. WHERE IT IS NOT FEASIBLE TO REUSE / RECONFIGURE THE EXISTING UNDERGROUND CONDUIT THE ELECTRICAL CONTRACTOR SHALL REMOVE THE EXISTING CONDUIT BELOW GRADE A MINIMUM OF 2'4" BELOW THE FINISHED GRADE, CAP AND ABANDON IN PLACE.
- 7 NEW GRADE MOUNTED PULL BOX / HANDHOLE TO BE INSTALLED IN GREEN SPACE ADJACENT TO THE NEW OUTDOOR MAIN DISTRIBUTION PANEL, WHERE FEASIBLE, TO INTERCEPT THE EXISTING FEEDER CONDUIT SERVING THE EXISTING LIGHTING PANEL. IN THE BUILDING NOTED TO ALLOW FOR RE-FEEDING OF THE EXISTING PANEL FROM THE NEW OUTDOOR MAIN DISTRIBUTION PANEL (SEE DETAIL DRAWING CALLED) IN THE EXISTING ONE-LINE DIAGRAM. NOTE THAT THE EXISTING FEEDER CONDUCTORS ARE TO BE REMOVED COMPLETE AND NEW FEEDERS ARE TO BE INSTALLED CONTINUOUS AND WITHOUT SPICES, THE GRADE MOUNTED PULL BOX / HANDHOLE SHALL BE LOCATED SUCH THAT THE MAXIMUM LENGTH OF THE EXISTING UNDERGROUND CONDUIT CAN BE PRESERVED FOR RE-USE TO INSTALL THE NEW FEEDERS. NOTE: THE ELECTRICAL CONTRACTOR SHALL PROVIDE AN ALLOWANCE IN THEIR BID TO COMPLETELY REPLACE THE EXISTING UNDERGROUND CONDUIT IN THE EVENT THAT THE EXISTING CONDUIT IS FOUND TO EITHER BE NON-CONFORMING (i.e. DISINTEGRATED OR COLLAPSED) OR NOT IN TOLERABLE CONDITION FOR RE-USE OR NOT OF ADEQUATE SIZE TO FACILITATE THE INSTALLATION OF THE NEW FEEDERS REQUIRED DUE TO THE NEED TO ACCOUNT FOR VOLTAGE DROP ACROSS THE LENGTH OF THE FEEDER RUN.

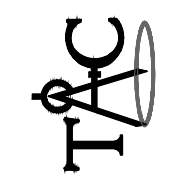
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<http://www.tac-associates.com>
TAC Project No. 22-025



MDNR Bay City State Park Campground Improvements

DESIGNED: TGC
DRAWN: CAD
CHECKED: TGC
APPROVED: IR

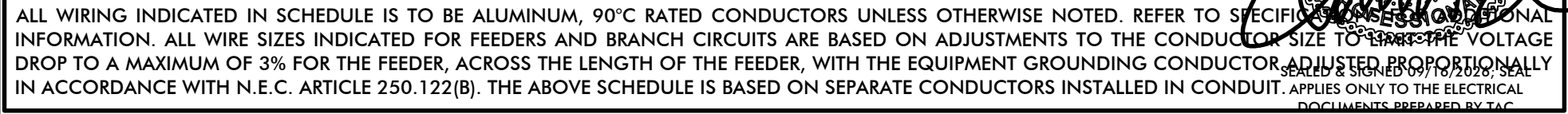
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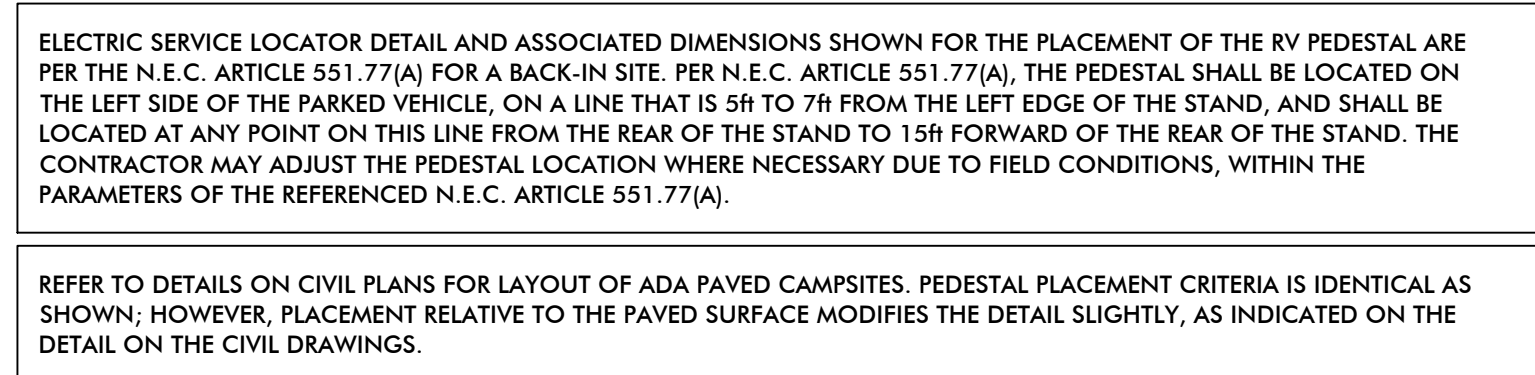
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PRELIMINARY	☐
CONSTRUCTION	☒
FINAL RECORD	☐

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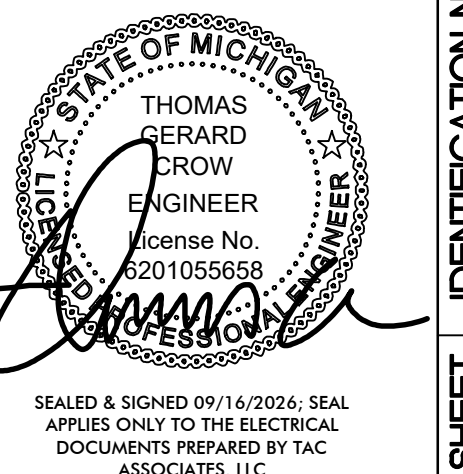




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- Diagram illustrating the connection of a ground rod to a concrete pad and equipment enclosure:
- GROUND ROD (TYPICAL FOR 4)**: A vertical rod passing through the concrete pad.
 - CONCRETE PAD**: The base structure.
 - BUILDING ENCLOSURE**: A rectangular structure on the pad.
 - BRING GROUND ROD LEADS THRU CABLE OPENING ON PRIMARY SIDE OF EQUIPMENT. #4 WIRE MINIMUM (COPPER)**: A cable leading from the ground rod into the enclosure.



EXISTING PANEL SCHEDULE - FOR REFERENCE ONLY													
TYPE	DESCRIPTION	CB	VA	#	ØA	ØB	#	VA	CB	DESCRIPTION		TYPE	
O	Existing Womens Hand Dryer - SEE NOTE - 1	20/1	1500	1	10100		2	8600	100/2	SUB-PANEL "LB"		C	
O	Existing Womens Hand Dryer - SEE NOTE - 1	20/1	1500	3		9880	4	8380				C	
M	Existing Womens Flush Valves - SEE NOTE - 1	20/1	300	5	600		6	300	20/1	Existing Mens Flush Valves - SEE NOTE - 1		M	
M	Existing Exhaust Fan - SEE NOTE - 1	20/1	670	7		1145	8	475	20/1	Existing Small Mech. Circ. Pump - SEE NOTE - 1		M	
M	Existing Small Mech Water Heater - SEE NOTE - 1	15/1	600	9	1075		10	475	15/1	Existing Small Mech. Circ. Pump - SEE NOTE - 1		M	
M	Existing Big Mech Water Heater - SEE NOTE - 1	15/1	600	11		1075	12	475	20/1	Existing Boiler Circ Pump - SEE NOTE - 1		M	
M	Existing Boiler - SEE NOTE - 1	20/1	600	13	1075		14	475	20/1	Existing Big Mech Circ Pump - SEE NOTE - 1		M	
M	Existing Exhaust Fan - SEE NOTE - 1	20/1	670	15		2170	16	1500	20/1	Existing Men's Hand Dryer - SEE NOTE - 1		O	
O	Existing Mens Hand Dryer - SEE NOTE - 1	20/1	1500	17	1500		18			SPACE			
O	Existing B.F. Toilet Hand Dryer - SEE NOTE - 1	20/1	1500	19		1500	20			SPACE			
	SPACE			21			22			SPACE			
	SPACE			23			24			SPACE			
	SPACE			25			26			SPACE			
	SPACE			27			28			SPACE			
	SPACE			29			30			SPACE			
					14350	15770							
					ØA	ØB							
					119.58	131.42							
PANELBOARD INFORMATION										NEC ARTICLE 220 DEMAND CALCULATIONS			
DESIGNATION:		MDP			AMPS PER PHASE					CONTINUOUS LOAD (C):			
VOLTAGE:		120/240			PANEL LOCATION					KITCHEN LOAD (K):			
PHASE-WIRE:		1Ø-3W			Bath House Mechanical Room					RECEPT BASE LOAD (D):			
BUS AMPACITY:		225A			TYPICAL BATH HOUSE PANEL					RECEPT DEMAND LOAD (D):			
MAIN TYPE:		200A MCB								LIGHTING LOAD (L):			
MINIMUM A.I.C.:		10,000								ELECTRIC HEAT LOAD (H):			
NEUTRAL SIZE:		100%			REMARKS					MECHANICAL LOAD (M):			
MOUNTING:		SURFACE								OTHER LOAD (O):			
TOTAL POLES:		30								CONNECTED 1Ø LOAD (kVA):			
										CONNECTED 1Ø LOAD (AMPS):			
ENGINEER:		TGC								DEMAND 1Ø LOAD (kVA):			
DATE:		4/14/23								DEMAND 1Ø LOAD (AMPS):			

NEW MAIN DISTRIBUTION PANEL SCHEDULE "MDP-W"							
VOLTAGE: 240/120 MAINS: M.C.B. 1,600A BUS SIZE: 1600A NEUTRAL: 100%				MOUNTING: FLOOR MINIMUM A.I.C.: 65,000 TVSS: YES			
LOCATION:				REMARKS:			
CIRCUIT #	CIRCUIT BREAKER		LOAD DESCRIPTION	kVA		FLA	
	TRIP	POLE		CONN.	DEMAND	CONN.	DEMAND
1	200A	2	Existing West Bath House (Panels "MDP" & "LB")	30.1	30.1	125.5	125.5
2	100A	2	Existing Contact Station Panel ("LP-CS")	13.0	13.0	54.3	54.3
3	100A	2	Existing Pump Station (53FLA, 240V-1PH)	12.7	12.7	53.0	53.0
4	150A	2	RV Pedestal Feeder No. W4	44.4	24.4	185.0	101.8
5	150A	2	RV Pedestal Feeder No. W5	32.4	19.4	135.0	81.0
6	150A	2	RV Pedestal Feeder No. W6	32.4	19.4	135.0	81.0
7	150A	2	RV Pedestal Feeder No. W7	38.4	23.0	160.0	96.0
8	150A	2	RV Pedestal Feeder No. W8	56.2	30.9	234.2	128.8
9	150A	2	RV Pedestal Feeder No. W9	63.6	30.5	265.0	127.2
10	200A	2	RV Pedestal Feeder No. W10	64.8	32.4	270.0	135.0
11	150A	2	RV Pedestal Feeder No. W11	54.0	27.0	225.0	112.5
12	125A	2	RV Pedestal Feeder No. W12	25.2	13.9	105.0	57.8
13	200A	2	RV Pedestal Feeder No. W13	69.6	33.4	290.0	139.2
14	150A	2	RV Pedestal Feeder No. W14	54.0	29.7	225.0	123.8
15	150A	2P	SPARE			0.0	0.0
16		2P	SPACE (225A FRAME)			0.0	0.0
TOTALS:				590.9	340.0	2461.9	1416.7

- NOTES:
1. BASIS OF DESIGN PANEL IS CUTLER-HAMMER SWITCHBOARD CONSTRUCTION, CIRCUIT BREAKER TYPE, NEMA 3R WEATHER-PROOF CONSTRUCTION, FOR MOUNTING ON A CONCRETE PAD. PANEL TO BE U.L. LISTED FOR USE AS SERVICE ENTRANCE EQUIPMENT.
 2. REFER TO ELECTRIC SERVICE LOAD CALCULATIONS FOR ACTUAL DEMAND LOAD. SCHEDULE ABOVE REFLECTS AN ADDITION OF DEMAND LOADS BASED ON SEPARATE DEMAND FACTORS, WHEREAS THE FINAL DEMAND LOAD WILL ACTUALLY BE LOWER THAN INDICATED ABOVE DUE TO THE APPLICATION OF A SINGLE DEMAND FACTOR ON THE GROUP OF RV PEDESTALS FED FROM THE MDP, RATHER THAN THE QUANTITY FED ON THE INDIVIDUAL FEEDERS LISTED IN THE SCHEDULE.

Electric Service Sizing Calculations - New MDP-W - West				
Load Description	Load (VA)	Sizing Factor	Sizing Load (VA)	
<u>Existing West Bath House</u>				
Lighting	6,300	1.25	7,875	
Receptacles	4,680	100% first 10,000VA, 50% thereafter	4,680	
Mechanical	5,640	1.00	5,640	
Largest Motor		25% Additional Load per NEC 220.50 and 430.24	168	
Kitchen Equipment	0	Per Table 220.56 of NEC - Demand Factors for kitchens - Other than Dwelling Units - with 0 unit of equipment, use a demand factor of 100%	0	
Other Power Loads	13,500	1.00	13,500	
SUB-TOTAL (VA) - Existing West Bath House	30,120		31,863	
<u>Existing Contact Station</u>				
Lighting	2,700	1.25	3,375	
Receptacles	4,320	100% first 10,000VA, 50% thereafter	4,320	
Mechanical	6,000	1.00	6,000	
Largest Motor		25% Additional Load per NEC 220.50 and 430.24	375	
Kitchen Equipment	0	Per Table 220.56 of NEC - Demand Factors for kitchens - Other than Dwelling Units - with 0 unit of equipment, use a demand factor of 100%	0	
Other Power Loads	0	1.00	0	
SUB-TOTAL (VA) - Existing Contact Station	13,020		14,070	
<u>Existing Pump Station</u>				
Mechanical	12,720	1.00	12,720	
Largest Motor		25% Additional Load per NEC 220.50 and 430.24	1,020	
SUB-TOTAL (VA) - Existing Pump Station	12,720		13,740	
<u>RV Pedestals - West Campground</u>				
		(See RV Pedestal Sizing Calculations Schedule For Demand Factor and Additional Details / Calculations)		
New RV Pedestals (See RV Pedestal Sizing Schedule)	535,000		219,350	
TOTAL (VA)	590,860		279,023	
at 240v single phase (Amperes)	2,462	Amperes	1,163	Amperes
<u>Service Calculations Based Upon the Following:</u>				
NEC Article 230.42				
Lighting: Per NEC 220.12 AND Table 220.12; NEC 220.42; and calculated at 125% as continuous load				
Fixed Electric Heating: per NEC 220.51 and calculated at 125% as continuous load per NEC 424.3(B)				
Receptacles: Per NEC 220.44				
Mechanical / Motors: Per NEC 220.50, 430.24 - 430.26, 430.62, Table 430.250 and NEC 440.6, based upon the equipment served.				
Elevators / Intermittent Duty Motors: Per NEC 430.22 and Table 430.22(E).				
Noncoincident Loads: Per NEC 220.60 Where Electric Heating is the Largest Load when compared to Air Conditioning.				
Commercial Kitchen Equipment: Per NEC 220.56 and Table 220.56				
RV Pedestals: Per NEC Article 551.73(A), (C), (D) and Table 551.73(A)				

NEW MAIN DISTRIBUTION PANEL SCHEDULE "MDP-E"							
VOLTAGE: 240/120 MAINS: M.C.B. 1,200A BUS SIZE: 1200A NEUTRAL: 100%				MOUNTING: FLOOR MINIMUM A.I.C.: 65,000 TVSS: YES			
LOCATION:				REMARKS:			
CIRCUIT #	CIRCUIT BREAKER		LOAD DESCRIPTION	kVA		FLA	
	TRIP	POLE		CONN.	DEMAND	CONN.	DEMAND
1	200A	2P	Existing West Bath House (Panels "MDP" & "LB")	30.1	30.1	125.5	125.5
2	150A	2P	RV Pedestal Feeder No. E2	55.2	27.6	230.0	115.0
3	150A	2P	RV Pedestal Feeder No. E3	55.2	27.6	230.0	115.0
4	150A	2P	RV Pedestal Feeder No. E4	44.4	24.4	185.0	101.8
5	150A	2P	RV Pedestal Feeder No. E5	57.6	31.7	240.0	132.0
6	150A	2P	RV Pedestal Feeder No. E6	45.6	25.1	190.0	104.5
7	150A	2P	RV Pedestal Feeder No. E7	57.6	28.8	240.0	120.0
8	125A	2P	RV Pedestal Feeder No. E8	30.0	18.0	125.0	75.0
9	125A	2P	RV Pedestal Feeder No. E9	36.0	18.0	150.0	75.0
10	150A	2P	RV Pedestal Feeder No. E10	46.8	28.1	195.0	117.0
11	150A	2P	RV Pedestal Feeder No. E11	51.6	25.8	215.0	107.5
12	150A	2P	RV Pedestal Feeder No. E12	44.4	24.4	185.0	101.8
13	150A	2P	SPARE			0.0	0.0
14			SPACE (225A FRAME)			0.0	0.0
15			SPACE (225A FRAME)			0.0	0.0
16			SPACE (225A FRAME)			0.0	0.0
TOTALS:				554.5	309.6	2310.5	1290.0

- NOTES:
1. BASIS OF DESIGN PANEL IS CUTLER-HAMMER SWITCHBOARD CONSTRUCTION, CIRCUIT BREAKER TYPE, NEMA 3R WEATHER-PROOF CONSTRUCTION, FOR MOUNTING ON A CONCRETE PAD. PANEL TO BE U.L. LISTED FOR USE AS SERVICE ENTRANCE EQUIPMENT.
 2. REFER TO ELECTRIC SERVICE LOAD CALCULATIONS FOR ACTUAL DEMAND LOAD. SCHEDULE ABOVE REFLECTS AN ADDITION OF DEMAND LOADS BASED ON SEPARATE DEMAND FACTORS, WHEREAS THE FINAL DEMAND LOAD WILL ACTUALLY BE LOWER THAN INDICATED ABOVE DUE TO THE APPLICATION OF A SINGLE DEMAND FACTOR ON THE GROUP OF RV PEDESTALS FED FROM THE MDP, RATHER THAN THE QUANTITY FED ON THE INDIVIDUAL FEEDERS LISTED IN THE SCHEDULE.

Electric Service Sizing Calculations - New MDP-E - East				
Load Description	Load (VA)	Sizing Factor	Sizing Load (VA)	
<u>Existing East Bath House</u>				
Lighting	6,300	1.25	7,875	
Receptacles	4,680	100% first 10,000VA, 50% thereafter	4,680	
Mechanical	5,640	1.00	5,640	
Largest Motor		25% Additional Load per NEC 220.50 and 430.24	168	
		Per Table 220.56 of NEC - Demand Factors for kitchens - Other than Dwelling Units - with 0 unit of equipment, use a demand factor of 100%		
Kitchen Equipment	0		0	
Other Power Loads	13,500	1.00	13,500	
SUB-TOTAL (VA) - Existing East Bath House	30,120		31,863	
<u>RV Pedestals - East Campground</u>				
		(See RV Pedestal Sizing Calculations Schedule For Demand Factor and Additional Details / Calculations)		
New RV Pedestals (See RV Pedestal Sizing Schedule)	524,400		215,004	
TOTAL (VA)	554,520		246,867	
at 240v single phase (Amperes)	2,311	Amperes	1,029	Amperes
<u>Service Calculations Based Upon the Following:</u>				
NEC Article 230.42				
Lighting: Per NEC 220.12 AND Table 220.12; NEC 220.42; and calculated at 125% as continuous load				
Fixed Electric Heating: per NEC 220.51 and calculated at 125% as continuous load per NEC 424.3(B)				
Receptacles: Per NEC 220.44				
Mechanical / Motors: Per NEC 220.50, 430.24 - 430.26, 430.62, Table 430.250 and NEC 440.6, based upon the equipment served.				
Elevators / Intermittent Duty Motors: Per NEC 430.22 and Table 430.22(E).				
Noncoincident Loads: Per NEC 220.60 Where Electric Heating is the Largest Load when compared to Air Conditioning.				
Commercial Kitchen Equipment: Per NEC 220.56 and Table 220.56				
RV Pedestals: Per NEC Article 551.73(A), (C), (D) and Table 551.73(A)				



RV PEDESTAL FEEDER SIZING CALCULATIONS SCHEDULE																
Feeder Number	Area Served	MINI CABINS		20 Ampere Receptacles		30 Ampere Receptacles		50 Ampere Receptacles		Total QTY Receptacles	Demand Factor NEC Table 551.73(A)	kVA		FLA		Minimum Feeder Size (Before Adjustment for Voltage Drop)
		Qty	Load	Qty	Load	Qty	Load	Qty	Load			CONN.	DEMAND	CONN.	DEMAND	
MDP-W-4	West Campground	0	0	1	2400	5	3600	2	12000	7	0.55	44.4	24.4	185.0	101.8	#3/0 Aluminum
MDP-W-5	West Campground	0	0	1	2400	5	3600	1	12000	6	0.60	32.4	19.4	135.0	81.0	#3/0 Aluminum
MDP-W-6	West Campground	0	0	1	2400	5	3600	1	12000	6	0.60	32.4	19.4	135.0	81.0	#3/0 Aluminum
MDP-W-7	West Campground	0	0	0	2400	4	3600	2	12000	6	0.60	38.4	23.0	160.0	96.0	#3/0 Aluminum
MDP-W-8	West Campground	2	5300	0	2400	6	3600	2	12000	8	0.55	56.2	30.9	234.2	128.8	#3/0 Aluminum
MDP-W-9	West Campground	0	0	0	2400	11	3600	2	12000	13	0.48	63.6	30.5	265.0	127.2	#3/0 Aluminum
MDP-W-10	West Campground	0	0	0	2400	8	3600	3	12000	11	0.50	64.8	32.4	270.0	135.0	250 kcmil Aluminum
MDP-W-11	West Campground	0	0	1	2400	11	3600	1	12000	12	0.50	54.0	27.0	225.0	112.5	#3/0 Aluminum
MDP-W-12	West Campground	0	0	0	2400	7	3600	0	12000	7	0.55	25.2	13.9	105.0	57.8	#2/0 Aluminum
MDP-W-13	West Campground	0	0	1	2400	12	3600	2	12000	14	0.48	69.6	33.4	290.0	139.2	250 kcmil Aluminum
MDP-W-14	West Campground	0	0	0	2400	5	3600	3	12000	8	0.55	54.0	29.7	225.0	123.8	#3/0 Aluminum
TOTAL - MDP-W	West Campground	2	5300	5	2400	79	3600	19	12000	98	0.41	535.0	219.4	2229.2	914.0	-
MDP-E-2	East Campground	-	-	1	2400	8	3600	2	12000	10	0.50	55.2	27.6	230.0	115.0	#3/0 Aluminum
MDP-E-3	East Campground	-	-	1	2400	8	3600	2	12000	10	0.50	55.2	27.6	230.0	115.0	#3/0 Aluminum
MDP-E-4	East Campground	-	-	1	2400	5	3600	2	12000	7	0.55	44.4	24.4	185.0	101.8	#3/0 Aluminum
MDP-E-5	East Campground	-	-	0	2400	6	3600	3	12000	9	0.55	57.6	31.7	240.0	132.0	#3/0 Aluminum
MDP-E-6	East Campground	-	-	0	2400	6	3600	2	12000	8	0.55	45.6	25.1	190.0	104.5	#3/0 Aluminum
MDP-E-7	East Campground	-	-	2	2400	8	3600	2	12000	10	0.50	57.6	28.8	240.0	120.0	#3/0 Aluminum
MDP-E-8	East Campground	-	-	0	2400	5	3600	1	12000	6	0.60	30.0	18.0	125.0	75.0	#2/0 Aluminum
MDP-E-9	East Campground	-	-	0	2400	10	3600	0	12000	10	0.50	36.0	18.0	150.0	75.0	#2/0 Aluminum
MDP-E-10	East Campground	-	-	0	2400	3	3600	3	12000	6	0.60	46.8	28.1	195.0	117.0	#3/0 Aluminum
MDP-E-11	East Campground	-	-	0	2400	11	3600	1	12000	12	0.50	51.6	25.8	215.0	107.5	#3/0 Aluminum
MDP-E-12	East Campground	-	-	1	2400	5	3600	2	12000	7	0.55	44.4	24.4	185.0	101.8	#3/0 Aluminum
TOTAL - MDP-E	East Campground	-	-	6	2400	75	3600	20	12000	95	0.41	524.4	215.0	2185.0	895.9	-

NOTES:

1.

LOAD CALCULATIONS IN ACCORDANCE WITH N.E.C. ARTICLE 551.73. MINIMUM FEEDER SIZE INDICATED IS BEFORE THE ADJUSTMENT FOR VOLTAGE DROP, AND REFLECTS THE MINIMUM AMPACITY OF THE FEEDER REQUIRED BY THE N.E.C. BASED ON THE DEMAND LOAD INDICATED IN THE SCHEDULE, AND THE SELECTED OVERCURRENT PROTECTIVE DEVICE SIZE SERVING THE FEEDER. THE ACTUAL MINIMUM FEEDER SIZE IS LOWER IF EVALUATED STRICTLY BASED ON THE DEMAND LOAD OF THE FEEDER, WITHOUT CONSIDERATION FOR THE SETTING OF THE OVERCURRENT PROTECTIVE DEVICE SERVING THE FEEDER. TO AVOID CONFUSION, THIS "ACTUAL" MINIMUM SIZE IS NOT SHOWN.

EXISTING PANEL SCHEDULE - FOR REFERENCE ONLY												
TYPE	DESCRIPTION	CB	VA	#	ØA	ØB	#	VA	CB	DESCRIPTION	TYPE	
D	Existing Office SE - SEE NOTE - 2	20/1	720	1	1520		2	800	15/1	Existing South Door South Recept, Lights - SEE NOTE - 2	L	
D	Existing Right Side Recep Area - SEE NOTE - 2	20/1	900	3		1980	4	1080	20/1	Existing Right Side Recep Area - SEE NOTE - 2	D	
L	Existing Office Light, Outside W. Path Light - SEE NOTE - 2	15/1	800	5	1880		6	1080	20/1	Existing Hall Office, West N. Wall - SEE NOTE - 2	D	
L	Existing Reception Light, Front Porch Light - SEE NOTE - 2	15/1	800	7		2300	8	1500	20/1	Existing Hot Water Heater - SEE NOTE - 2	M	
C	SPARE - SEE NOTE - 2	15/1		9			10		20/1	SPARE - SEE NOTE - 2 (GFCI C.B.)	C	
D	Existing Bath Receptacle, Outside Receptacle - SEE NOTE - 2	20/1	540	11		840	12	300	20/1	Existing Outside Light on Pole - SEE NOTE - 2	L	
M	Existing Heater (PTAC) - SEE NOTE - 2	30/2	2250	13	2250		14		40/2	SPARE (OFF)	C	
M			2250	15		2250	16				C	
			SPACE		17			18				SPACE
	SPACE			19			20			SPACE		
					5650	7370						
					ØA	ØB						
					47.08	61.42						
PANELBOARD INFORMATION					NEC ARTICLE 220 DEMAND CALCULATIONS							
DESIGNATION: LP-CS					CONTINUOUS LOAD (C): _____							
VOLTAGE: 120/240					KITCHEN LOAD (K): _____							
PHASE-WIRE: 1Ø-3W					RECEPT BASE LOAD (D): 4320							
BUS AMPACITY: 125A					RECEPT DEMAND LOAD (D): _____							
MAIN TYPE: 100A MCB					LIGHTING LOAD (L): 2700							
MINIMUM A.I.C.:					ELECTRIC HEAT LOAD (H): _____							
NEUTRAL SIZE: 100%					MECHANICAL LOAD (M): 6000							
MOUNTING: FLUSH					OTHER LOAD (O): _____							
TOTAL POLES: 20					CONNECTED 1Ø LOAD (kVA): 13.02							
					CONNECTED 1Ø LOAD (AMPS): 54.25							
					DEMAND 1Ø LOAD (kVA): 13.02							
					DEMAND 1Ø LOAD (AMPS): 54.25							
ENGINEER: TGC												
DATE: 4/14/23												

NOTES:

- ALL EXISTING LOADS INDICATED IN THE ABOVE PANEL SCHEDULE ARE ESTIMATED BASED UPON THE LIMITED ACCURATE AS-BUILT INFORMATION, PANEL SCHEDULES AND CIRCUIT NUMBERS AT DEVICES.
- ELECTRICAL CONTRACTOR SHALL PERFORM CIRCUIT TRACING OF ALL EXISTING BRANCH CIRCUITS PRIOR TO START OF CONSTRUCTION TO VERIFY EXISTING LOAD SERVED. ELECTRICAL CONTRACTOR SHALL UPDATE THE PANEL TYPED CIRCUIT DIRECTORY BASED ON THE CIRCUIT TRACING; REFLECT CIRCUIT DIRECTORY CHANGES ON AS-BUILT RECORD DRAWINGS.



WEST CAMPGROUND FEEDER VOLTAGE DROP CALCULATION SCHEDULE - ALUMINUM FEEDERS																								
Feeder Circuit No.	RV Pedestal Number (Starts at Homerun) - SEE NOTE - 1	Mini Cabins		20 Ampere Receptacles		30 Ampere Receptacles		50 Ampere Receptacles		Total QTY Receptacles	Demand Factor NEC Table551.73(A)	kVA		FLA		Feeder Size (Per NOTE - 3)	Feeder Length (Feet) - SEE NOTE - 3	Resistance (R) (Per N.E.C. Table 8)	Voltage Drop - Volts (DC Resistive Method)	Percent Voltage Drop	REMARKS			
		Qty	Load	Qty	Load	Qty	Load	Qty	Load			CONN.	DEMAND	CONN.	DEMAND									
MDP-W-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	30.1	30.1	125.5	125.5	250kcmil	140	0.0847	3.0	1.2%				
MDP-W-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13.0	13.0	54.3	54.3	#3/0	500	0.126	6.8	2.8%				
MDP-W-3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12.7	12.7	53.0	53.0	#2/0	330	0.159	5.6	2.3%				
MDP-W-4	CS6	0	0	1	2400	5	3600	2	12000	7	0.55	44.4	24.4	185.0	101.8	250kcmil	230	0.0847	4.0	1.7%				
	CS5	0	0	1	2400	4	3600	2	12000	6	0.60	40.8	24.5	170.0	102.0	250kcmil	35	0.0847	4.6	1.9%				
	CS4	0	0	1	2400	3	3600	2	12000	5	0.65	37.2	24.2	155.0	100.8	250kcmil	30	0.0847	5.1	2.1%				
	CS3	0	0	1	2400	2	3600	2	12000	4	0.75	33.6	25.2	140.0	105.0	250kcmil	35	0.0847	5.7	2.4%				
	CS2	0	0	1	2400	2	3600	1	12000	3	0.80	21.6	17.3	90.0	72.0	250kcmil	35	0.0847	6.1	2.6%				
	CS1	0	0	1	2400	1	3600	1	12000	2	0.90	18.0	16.2	75.0	67.5	250kcmil	35	0.0847	6.5	2.7%				
MDP-W-5	CS149	0	0	1	2400	5	3600	1	12000	6	0.60	32.4	19.4	135.0	81.0	#4/0	270	0.1	4.4	1.8%				
	CATCH BASIN	0	0	1	2400	5	3600	0	12000	5	0.65	20.4	13.3	85.0	55.3	#4/0	15	0.1	4.5	1.9%				
	CS147	0	0	0	2400	5	3600	0	12000	5	0.65	18.0	11.7	75.0	48.8	#3/0	20	0.126	4.8	2.0%				
	CS146	0	0	0	2400	4	3600	0	12000	4	0.75	14.4	10.8	60.0	45.0	#3/0	35	0.126	5.2	2.2%				
	CS143	0	0	0	2400	3	3600	0	12000	3	0.80	10.8	8.6	45.0	36.0	#3/0	35	0.126	5.5	2.3%				
	CS142	0	0	0	2400	2	3600	0	12000	2	0.90	7.2	6.5	30.0	27.0	#3/0	35	0.126	5.7	2.4%				
MDP-W-6	CS148	0	0	1	2400	5	3600	1	12000	6	0.60	32.4	19.4	135.0	81.0	#3/0	200	0.126	4.1	1.7%				
	CATCH BASIN	0	0	1	2400	5	3600	0	12000	5	0.65	20.4	13.3	85.0	55.3	#3/0	50	0.126	4.8	2.0%				
	CS145	0	0	0	2400	5	3600	0	12000	5	0.65	18.0	11.7	75.0	48.8	#3/0	15	0.126	5.0	2.1%				
	CS144	0	0	0	2400	4	3600	0	12000	4	0.75	14.4	10.8	60.0	45.0	#3/0	50	0.126	5.5	2.3%				
	CS141	0	0	0	2400	3	3600	0	12000	3	0.80	10.8	8.6	45.0	36.0	#3/0	50	0.126	6.0	2.5%				
	CS139	0	0	0	2400	2	3600	0	12000	2	0.90	7.2	6.5	30.0	27.0	#3/0	50	0.126	6.3	2.6%				
MDP-W-7	CS132	0	0	0	2400	4	3600	2	12000	6	0.60	38.4	23.0	160.0	96.0	#4/0	160	0.1	3.1	1.3%				
	CS133	0	0	0	2400	3	3600	2	12000	5	0.65	34.8	22.6	145.0	94.3	#4/0	50	0.1	4.0	1.7%				
	CS134	0	0	0	2400	3	3600	1	12000	4	0.75	22.8	17.1	95.0	71.3	#4/0	40	0.1	4.6	1.9%				
	CS135	0	0	0	2400	2	3600	1	12000	3	0.80	19.2	15.4	80.0	64.0	#4/0	55	0.1	5.3	2.2%				
	CS136	0	0	0	2400	1	3600	1	12000	2	0.90	15.6	14.0	65.0	58.5	#4/0	50	0.1	5.9	2.4%				
	CS125	2	5300	0	2400	6	3600	2	12000	8	0.55	56.2	30.9	234.2	128.8	400kcmil	65	0.0529	0.9	0.4%	SEE NOTE - 2			
MDP-W-8	MINI CABINS	2	5300	0	2400	5	3600	2	12000	7	0.55	52.6	28.9	219.2	120.5	400kcmil	175	0.0529	3.1	1.3%	SEE NOTE - 2			
	CS126	0	0	0	2400	5	3600	2	12000	7	0.55	42.0	23.1	175.0	96.3	400kcmil	75	0.0529	3.9	1.6%	SEE NOTE - 2			
	CS131	0	0	0	2400	4	3600	2	12000	6	0.60	38.4	23.0	160.0	96.0	400kcmil	80	0.0529	4.7	2.0%	SEE NOTE - 2			
	CS130	0	0	0	2400	4	3600	1	12000	5	0.65	26.4	17.2	110.0	71.5	400kcmil	100	0.0529	5.5	2.3%	SEE NOTE - 2			
	CS129	0	0	0	2400	4	3600	0	12000	4	0.75	14.4	10.8	60.0	45.0	400kcmil	120	0.0529	6.0	2.5%	SEE NOTE - 2			
	CS128	0	0	0	2400	3	3600	0	12000	3	0.80	10.8	8.6	45.0	36.0	400kcmil	70	0.0529	6.3	2.6%	SEE NOTE - 2			
MDP-W-9	SITE "T"	0	0	0	2400	2	3600	0	12000	2	0.90	7.2	6.5	30.0	27.0	400kcmil	45	0.0529	6.4	2.7%	SEE NOTE - 2			
	CS122	0	0	0	2400	11	3600	2	12000	13	0.48	63.6	30.5	265.0	127.2	600kcmil	290	0.0353	2.6	1.1%	SEE NOTE - 2			
	CS120	0	0	0	2400	10	3600	2	12000	12	0.50	60.0	30.0	250.0	125.0	600kcmil	50	0.0353	3.0	1.3%	SEE NOTE - 2			
	CS118	0	0	0	2400	9	3600	2	12000	11	0.50	56.4	28.2	235.0	117.5	600kcmil	35	0.0353	3.3	1.4%	SEE NOTE - 2			
	CS117	0	0	0	2400	8	3600	2	12000	10	0.50	52.8	26.4	220.0	110.0	600kcmil	40	0.0353	3.6	1.5%	SEE NOTE - 2			
	CS115	0	0	0	2400	7	3600	2	12000	9	0.55	49.2	27.1	205.0	112.8	600kcmil	50	0.0353	4.0	1.7%	SEE NOTE - 2			
	CS113	0	0	0	2400	6	3600	2	12000	8	0.55	45.6	25.1	190.0	104.5	600kcmil	50	0.0353	4.4	1.8%	SEE NOTE - 2			
	CS111	0	0	0	2400	5	3600	2	12000	7	0.55	42.0	23.1	175.0	96.3	600kcmil	50	0.0353	4.8	2.0%	SEE NOTE - 2			
	CS109	0	0	0	2400	4	3600	2	12000	6	0.60	38.4	23.0	160.0	96.0	500kcmil	40	0.0424	5.1	2.1%	SEE NOTE - 2			
	CS108	0	0	0	2400	3	3600	2	12000	5	0.65	34.8	22.6	145.0	94.3	500kcmil	40	0.0424	5.4	2.2%	SEE NOTE - 2			
	CS105	0	0	0	2400	2	3600	2	12000	4	0.75	31.2	23.4	130.0	97.5	500kcmil	50	0.0424	5.8	2.4%	SEE NOTE - 2			
MDP-W-10	CS103	0	0	0	2400	1	3600	2	12000	3	0.80	27.6	22.1	115.0	92.0	500kcmil	45	0.0424	6.2	2.6%	SEE NOTE - 2			
	CS101	0	0	0	2400	0	3600	2	12000	2	0.90	24.0	21.6	100.0	90.0	500kcmil	45	0.0424	6.5	2.7%	SEE NOTE - 2			
	CS124	0	0	0	2400	8	3600	3	12000	11	0.50	64.8	32.4	270.0	135.0	350kcmil	85	0.0605	1.4	0.6%				
	CS123	0	0	0	2400	8	3600	2	12000	10	0.50	52.8	26.4	220.0	110.0	350kcmil	65	0.0605	2.3	0.9%				
	CS121	0	0	0	2400	7	3600	2	12000	9	0.55	49.2	27.1	205.0	112.8	350kcmil	60	0.0605	3.1	1.3%				
	CS119	0	0	0	2400	6	3600	2	12000	8	0.55	45.6	25.1	190.0	104.5	350kcmil	60	0.0605	3.8	1.6%				
	CS116	0	0	0	2400	5	3600	2	12000	7	0.55	42.0	23.1	175.0										

WEST CAMPGROUND FEEDER VOLTAGE DROP CALCULATION SCHEDULE - COPPER FEEDERS																							
Feeder Circuit No.	RV Pedestal Number (Starts at Homerun) - SEE NOTE - 1	Mini Cabins		20 Ampere Receptacles		30 Ampere Receptacles		50 Ampere Receptacles		Total QTY Receptacles	Demand Factor NEC Table551.73(A)	kVA		FLA		Feeder Size (Per NOTE - 3)	Feeder Length (Feet) - SEE NOTE - 3	Resistance (R) (Per N.E.C. Table 8)	Voltage Drop - Volts (DC Resistive Method)	Percent Voltage Drop		REMARKS	
		Qty	Load	Qty	Load	Qty	Load	Qty	Load			CONN.	DEMAND	CONN.	DEMAND								
MDP-W-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	30.1	30.1	125.5	125.5	#3/0	140	0.0766	2.7	1.1%			
MDP-W-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13.0	13.0	54.3	54.3	#2/0	500	0.0967	5.2	2.2%			
MDP-W-3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12.7	12.7	53.0	53.0	#1	330	0.154	5.4	2.2%			
MDP-W-4	CS6	0	0	1	2400	5	3600	2	12000	7	0.55	44.4	24.4	185.0	101.8	#3/0	230	0.0766	3.6	1.5%			
	CS5	0	0	1	2400	4	3600	2	12000	6	0.60	40.8	24.5	170.0	102.0	#3/0	35	0.0766	4.1	1.7%			
	CS4	0	0	1	2400	3	3600	2	12000	5	0.65	37.2	24.2	155.0	100.8	#3/0	30	0.0766	4.6	1.9%			
	CS3	0	0	1	2400	2	3600	2	12000	4	0.75	33.6	25.2	140.0	105.0	#3/0	35	0.0766	5.2	2.1%			
	CS2	0	0	1	2400	2	3600	1	12000	3	0.80	21.6	17.3	90.0	72.0	#3/0	35	0.0766	5.5	2.3%			
	CS1	0	0	1	2400	1	3600	1	12000	2	0.90	18.0	16.2	75.0	67.5	#3/0	35	0.0766	5.9	2.5%			
MDP-W-5	CS149	0	0	1	2400	5	3600	1	12000	6	0.60	32.4	19.4	135.0	81.0	#2/0	270	0.0967	4.2	1.8%			
	CATCH BASIN	0	0	1	2400	5	3600	0	12000	5	0.65	20.4	13.3	85.0	55.3	#2/0	15	0.0967	4.4	1.8%			
	CS147	0	0	0	2400	5	3600	0	12000	5	0.65	18.0	11.7	75.0	48.8	#1/0	20	0.122	4.6	1.9%			
	CS146	0	0	0	2400	4	3600	0	12000	4	0.75	14.4	10.8	60.0	45.0	#1/0	35	0.122	5.0	2.1%			
	CS143	0	0	0	2400	3	3600	0	12000	3	0.80	10.8	8.6	45.0	36.0	#1/0	35	0.122	5.3	2.2%			
	CS142	0	0	0	2400	2	3600	0	12000	2	0.90	7.2	6.5	30.0	27.0	#1/0	35	0.122	5.6	2.3%			
MDP-W-6	CS148	0	0	1	2400	5	3600	1	12000	6	0.60	32.4	19.4	135.0	81.0	#1/0	200	0.122	4.0	1.6%			
	CATCH BASIN	0	0	1	2400	5	3600	0	12000	5	0.65	20.4	13.3	85.0	55.3	#1/0	50	0.122	4.6	1.9%			
	CS145	0	0	0	2400	5	3600	0	12000	5	0.65	18.0	11.7	75.0	48.8	#1/0	15	0.122	4.8	2.0%			
	CS144	0	0	0	2400	4	3600	0	12000	4	0.75	14.4	10.8	60.0	45.0	#1/0	50	0.122	5.4	2.2%			
	CS141	0	0	0	2400	3	3600	0	12000	3	0.80	10.8	8.6	45.0	36.0	#1/0	50	0.122	5.8	2.4%			
	CS139	0	0	0	2400	2	3600	0	12000	2	0.90	7.2	6.5	30.0	27.0	#1/0	50	0.122	6.1	2.6%			
MDP-W-7	CS132	0	0	0	2400	4	3600	2	12000	6	0.60	38.4	23.0	160.0	96.0	#2/0	160	0.0967	3.0	1.2%			
	CS133	0	0	0	2400	3	3600	2	12000	5	0.65	34.8	22.6	145.0	94.3	#2/0	50	0.0967	3.9	1.6%			
	CS134	0	0	0	2400	3	3600	1	12000	4	0.75	22.8	17.1	95.0	71.3	#2/0	40	0.0967	4.4	1.8%			
	CS135	0	0	0	2400	2	3600	1	12000	3	0.80	19.2	15.4	80.0	64.0	#2/0	55	0.0967	5.1	2.1%			
	CS136	0	0	0	2400	1	3600	1	12000	2	0.90	15.6	14.0	65.0	58.5	#2/0	50	0.0967	5.7	2.4%			
	CS125	2	5300	0	2400	6	3600	2	12000	8	0.55	56.2	30.9	234.2	128.8	250kcmil	65	0.0515	0.9	0.4%			
MDP-W-8	MINI CABINS	2	5300	0	2400	5	3600	2	12000	7	0.55	52.6	28.9	219.2	120.5	250kcmil	175	0.0515	3.0	1.3%			
	CS126	0	0	0	2400	5	3600	2	12000	7	0.55	42.0	23.1	175.0	96.3	250kcmil	75	0.0515	3.8	1.6%			
	CS131	0	0	0	2400	4	3600	2	12000	6	0.60	38.4	23.0	160.0	96.0	250kcmil	80	0.0515	4.6	1.9%			
	CS130	0	0	0	2400	4	3600	1	12000	5	0.65	26.4	17.2	110.0	71.5	250kcmil	100	0.0515	5.3	2.2%			
	CS129	0	0	0	2400	4	3600	0	12000	4	0.75	14.4	10.8	60.0	45.0	250kcmil	120	0.0515	5.9	2.4%			
	CS128	0	0	0	2400	3	3600	0	12000	3	0.80	10.8	8.6	45.0	36.0	250kcmil	70	0.0515	6.1	2.6%			
MDP-W-9	SITE "T"	0	0	0	2400	2	3600	0	12000	2	0.90	7.2	6.5	30.0	27.0	250kcmil	45	0.0515	6.2	2.6%			
	CS122	0	0	0	2400	11	3600	2	12000	13	0.48	63.6	30.5	265.0	127.2	350kcmil	290	0.0367	2.7	1.1%			
	CS120	0	0	0	2400	10	3600	2	12000	12	0.50	60.0	30.0	250.0	125.0	350kcmil	50	0.0367	3.2	1.3%			
	CS118	0	0	0	2400	9	3600	2	12000	11	0.50	56.4	28.2	235.0	117.5	350kcmil	35	0.0367	3.5	1.4%			
	CS117	0	0	0	2400	8	3600	2	12000	10	0.50	52.8	26.4	220.0	110.0	350kcmil	40	0.0367	3.8	1.6%			
	CS115	0	0	0	2400	7	3600	2	12000	9	0.55	49.2	27.1	205.0	112.8	350kcmil	50	0.0367	4.2	1.8%			
	CS113	0	0	0	2400	6	3600	2	12000	8	0.55	45.6	25.1	190.0	104.5	350kcmil	50	0.0367	4.6	1.9%			
	CS111	0	0	0	2400	5	3600	2	12000	7	0.55	42.0	23.1	175.0	96.3	350kcmil	50	0.0367	4.9	2.1%			
	CS109	0	0	0	2400	4	3600	2	12000	6	0.60	38.4	23.0	160.0	96.0	350kcmil	40	0.0367	5.2	2.2%			
	CS108	0	0	0	2400	3	3600	2	12000	5	0.65	34.8	22.6	145.0	94.3	350kcmil	40	0.0367	5.5	2.3%			
	CS105	0	0	0	2400	2	3600	2	12000	4	0.75	31.2	23.4	130.0	97.5	350kcmil	50	0.0367	5.9	2.4%			
	CS103	0	0	0	2400	1	3600	2	12000	3	0.80	27.6	22.1	115.0	92.0	350kcmil	45	0.0367	6.2	2.6%			
	CS101	0	0	0	2400	0	3600	2	12000	2	0.90	24.0	21.6	100.0	90.0	350kcmil	45	0.0367	6.5	2.7%			
MDP-W-10	CS124	0	0	0	2400	8	3600	3	12000	11	0.50	64.8	32.4	270.0	135.0	#4/0	85	0.0608	1.4	0.6%			
	CS123	0	0	0	2400	8	3600	2	12000	10	0.50	52.8	26.4	220.0	110.0	#4/0	65	0.0608	2.3	0.9%			
	CS121	0	0	0	2400	7	3600	2	12000	9	0.55	49.2	27.1	205.0	112.8	#4/0	60	0.0608	3.1	1.3%			
	CS119	0	0	0	2400	6	3600	2	12000	8	0.55	45.6	25.1	190.0	104.5	#4/0	60	0.0608	3.8	1.6%			
	CS116	0	0	0	2400	5	3600	2	12000	7	0.55	42.0	23.1	175.0	96.3	#4/0	55	0.0608	4.5	1.9%			
	CS114	0																					

EAST CAMPGROUND FEEDER VOLTAGE DROP CALCULATION SCHEDULE - ALUMINUM FEEDERS																						
Feeder Circuit No.	RV Pedestal Number (Starts at Homerun) - SEE NOTE - 1	Mini Cabins		20 Ampere Receptacles		30 Ampere Receptacles		50 Ampere Receptacles		Total QTY Receptacles	Demand Factor NEC Table551.73(A)	kVA		FLA		Feeder Size (SEE NOTE - 3)	Feeder Length (Feet) - SEE NOTE - 3	Resistance (R) (Per N.E.C. Table 8)	Voltage Drop - Volts (DC Resistive Method)	Percent Voltage Drop	REMARKS	
		Qty	Load	Qty	Load	Qty	Load	Qty	Load			CONN.	DEMAND	CONN.	DEMAND							
MDP-E-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	30.1	30.1	125.5	125.5	500kcmil	530	0.0424	5.6	2.4%		
MDP-E-2	CS44	0	0	1	2400	8	3600	2	12000	10	0.50	55.2	27.6	230.0	115.0	#3/0	65	0.126	1.9	0.8%		
	CS188	0	0	1	2400	8	3600	1	12000	9	0.55	43.2	23.8	180.0	99.0	#3/0	40	0.126	2.9	1.2%		
	CS41	0	0	1	2400	8	3600	0	12000	8	0.55	31.2	17.2	130.0	71.5	#3/0	40	0.126	3.6	1.5%		
	CS186	0	0	1	2400	7	3600	0	12000	7	0.55	27.6	15.2	115.0	63.3	#3/0	40	0.126	4.2	1.8%		
	CATCH BASIN	0	0	1	2400	6	3600	0	12000	6	0.60	24.0	14.4	100.0	60.0	#3/0	20	0.126	4.5	1.9%		
	CS39	0	0	0	2400	6	3600	0	12000	6	0.60	21.6	13.0	90.0	54.0	#3/0	20	0.126	4.8	2.0%		
	CS184	0	0	0	2400	5	3600	0	12000	5	0.65	18.0	11.7	75.0	48.8	#3/0	40	0.126	5.3	2.2%		
	CS37	0	0	0	2400	4	3600	0	12000	4	0.75	14.4	10.8	60.0	45.0	#3/0	30	0.126	5.6	2.4%		
	CS182	0	0	0	2400	3	3600	0	12000	3	0.80	10.8	8.6	45.0	36.0	#3/0	45	0.126	6.1	2.5%		
	CS35	0	0	0	2400	2	3600	0	12000	2	0.90	7.2	6.5	30.0	27.0	#3/0	35	0.126	6.3	2.6%		
MDP-E-3	CS89	0	0	1	2400	8	3600	2	12000	10	0.50	55.2	27.6	230.0	115.0	600kcmil	560	0.0353	4.5	1.9%	SEE NOTE - 2	
	CS179	0	0	1	2400	8	3600	1	12000	9	0.55	43.2	23.8	180.0	99.0	500kcmil	45	0.0424	4.9	2.1%	SEE NOTE - 2	
	CATCH BASIN	0	0	1	2400	8	3600	0	12000	8	0.55	31.2	17.2	130.0	71.5	350kcmil	15	0.0605	5.1	2.1%		
	CS91	0	0	0	2400	8	3600	0	12000	8	0.55	28.8	15.8	120.0	66.0	350kcmil	20	0.0605	5.2	2.2%		
	CS177	0	0	0	2400	7	3600	0	12000	7	0.55	25.2	13.9	105.0	57.8	350kcmil	40	0.0605	5.5	2.3%		
	CS93	0	0	0	2400	6	3600	0	12000	6	0.60	21.6	13.0	90.0	54.0	350kcmil	25	0.0605	5.7	2.4%		
	CS175	0	0	0	2400	5	3600	0	12000	5	0.65	18.0	11.7	75.0	48.8	350kcmil	45	0.0605	5.9	2.5%		
	CS96	0	0	0	2400	4	3600	0	12000	4	0.75	14.4	10.8	60.0	45.0	350kcmil	25	0.0605	6.1	2.5%		
	CS173	0	0	0	2400	3	3600	0	12000	3	0.80	10.8	8.6	45.0	36.0	350kcmil	30	0.0605	6.2	2.6%		
	CS98	0	0	0	2400	2	3600	0	12000	2	0.90	7.2	6.5	30.0	27.0	350kcmil	45	0.0605	6.3	2.6%		
MDP-E-4	CATCH BASIN	0	0	1	2400	5	3600	2	12000	7	0.55	44.4	24.4	185.0	101.8	350kcmil	220	0.0605	2.7	1.1%		
	CS185	0	0	0	2400	5	3600	2	12000	7	0.55	42.0	23.1	175.0	96.3	250kcmil	20	0.0847	3.0	1.3%		
	CS79	0	0	0	2400	4	3600	2	12000	6	0.60	38.4	23.0	160.0	96.0	250kcmil	45	0.0847	3.8	1.6%		
	CS183	0	0	0	2400	3	3600	2	12000	5	0.65	34.8	22.6	145.0	94.3	250kcmil	30	0.0847	4.2	1.8%		
	CS81	0	0	0	2400	2	3600	2	12000	4	0.75	31.2	23.4	130.0	97.5	250kcmil	55	0.0847	5.2	2.1%		
MDP-E-5	CS181	0	0	0	2400	1	3600	2	12000	3	0.80	27.6	22.1	115.0	92.0	250kcmil	30	0.0847	5.6	2.3%		
	CS84	0	0	0	2400	1	3600	1	12000	2	0.90	15.6	14.0	65.0	58.5	250kcmil	45	0.0847	6.1	2.5%		
	CS83	0	0	0	2400	6	3600	3	12000	9	0.55	57.6	31.7	240.0	132.0	600kcmil	390	0.0353	3.6	1.5%	SEE NOTE - 2	
	CS85	0	0	0	2400	5	3600	3	12000	8	0.55	54.0	29.7	225.0	123.8	600kcmil	40	0.0353	4.0	1.7%	SEE NOTE - 2	
	CS87	0	0	0	2400	4	3600	3	12000	7	0.55	50.4	27.7	210.0	115.5	600kcmil	40	0.0353	4.3	1.8%	SEE NOTE - 2	
	CS88	0	0	0	2400	4	3600	2	12000	6	0.60	38.4	23.0	160.0	96.0	600kcmil	30	0.0353	4.5	1.9%	SEE NOTE - 2	
	CS90	0	0	0	2400	3	3600	2	12000	5	0.65	34.8	22.6	145.0	94.3	600kcmil	190	0.0353	5.8	2.4%	SEE NOTE - 2	
	CS92	0	0	0	2400	2	3600	2	12000	4	0.75	31.2	23.4	130.0	97.5	600kcmil	40	0.0353	6.1	2.5%	SEE NOTE - 2	
	CS94	0	0	0	2400	2	3600	1	12000	3	0.80	19.2	15.4	80.0	64.0	600kcmil	50	0.0353	6.3	2.6%	SEE NOTE - 2	
	CS95	0	0	0	2400	2	3600	0	12000	2	0.90	7.2	6.5	30.0	27.0	600kcmil	50	0.0353	6.4	2.7%	SEE NOTE - 2	
MDP-E-6	CS66	0	0	0	2400	6	3600	2	12000	8	0.55	45.6	25.1	190.0	104.5	#4/0	85	0.1	1.8	0.7%		
	CS72	0	0	0	2400	5	3600	2	12000	7	0.55	42.0	23.1	175.0	96.3	#4/0	70	0.1	3.1	1.3%		
	CS67	0	0	0	2400	4	3600	2	12000	6	0.60	38.4	23.0	160.0	96.0	#4/0	20	0.1	3.5	1.5%		
	CS189	0	0	0	2400	3	3600	2	12000	5	0.65	34.8	22.6	145.0	94.3	#4/0	25	0.1	4.0	1.7%		
	CS73	0	0	0	2400	2	3600	2	12000	4	0.75	31.2	23.4	130.0	97.5	#4/0	40	0.1	4.8	2.0%		
MDP-E-7	CS187	0	0	0	2400	1	3600	2	12000	3	0.80	27.6	22.1	115.0	92.0	#4/0	40	0.1	5.5	2.3%		
	CS75	0	0	0	2400	0	3600	2	12000	2	0.90	24.0	21.6	100.0	90.0	#4/0	35	0.1	6.1	2.6%		
	CS68	0	0	0	2400	8	3600	2	12000	10	0.50	52.8	26.4	220.0	110.0	350kcmil	225	0.0605	3.0	1.2%		
	CS69	0	0	0	2400	8	3600	1	12000	9	0.55	40.8	22.4	170.0	93.5	350kcmil	55	0.0605	3.6	1.5%		
	CS70	0	0	0	2400	8	3600	0	12000	8	0.55	28.8	15.8	120.0	66.0	350kcmil	60	0.0605	4.1	1.7%		
	CS71	0	0	0	2400	7	3600	0	12000	7	0.55	25.2	13.9	105.0	57.8	350kcmil	75	0.0605	4.6	1.9%		
	SITE "R"	0	0	0	2400	6	3600	0	12000	6	0.60	21.6	13.0	90.0	54.0	350kcmil	110	0.0605	5.3	2.2%		
	CS74	0	0	0	2400	5	3600	0	12000	5	0.65	18.0	11.7	75.0	48.8	300kcmil	50	0.0707	5.7	2.4%		
	CS76	0	0	0	2400	4	3600	0	12000	4	0.75	14.4	10.8	60.0	45.0	300kcmil	35	0.0707	5.9	2.5%		
	CS78	0	0	0	2400	3	3600	0	12000	3	0.80	10.8	8.6	45.0	36.0	300kcmil	40	0.0707	6.1	2.5%		
MDP-E-8	CS80	0	0	0	2400	2	3600	0														

EAST CAMPGROUND FEEDER VOLTAGE DROP CALCULATION SCHEDULE - COPPER FEEDERS																						
Feeder Circuit No.	RV Pedestal Number (Starts at Homerun) - SEE NOTE - 1	Mini Cabins		20 Ampere Receptacles		30 Ampere Receptacles		50 Ampere Receptacles		Total QTY Receptacles	Demand Factor NEC Table551.73(A)	kVA		FLA		Feeder Size (SEE NOTE - 3)	Feeder Length (Feet) - SEE NOTE - 3	Resistance (R) (Per N.E.C. Table 8)	Voltage Drop - Volts (DC Resistive Method)	Percent Voltage Drop	REMARKS	
		Qty	Load	Qty	Load	Qty	Load	Qty	Load			CONN.	DEMAND	CONN.	DEMAND							
MDP-E-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	30.1	30.1	125.5	125.5	300kcmil	530	0.0429	5.7	2.4%		
	CS44	0	0	1	2400	8	3600	2	12000	10	0.50	55.2	27.6	230.0	115.0	#1/0	65	0.122	1.8	0.8%		
	CS188	0	0	1	2400	8	3600	1	12000	9	0.55	43.2	23.8	180.0	99.0	#1/0	40	0.122	2.8	1.2%		
	CS41	0	0	1	2400	8	3600	0	12000	8	0.55	31.2	17.2	130.0	71.5	#1/0	40	0.122	3.5	1.5%		
	CS186	0	0	1	2400	7	3600	0	12000	7	0.55	27.6	15.2	115.0	63.3	#1/0	40	0.122	4.1	1.7%		
MDP-E-2	CATCH BASIN	0	0	1	2400	6	3600	0	12000	6	0.60	24.0	14.4	100.0	60.0	#1/0	20	0.122	4.4	1.8%		
	CS39	0	0	0	2400	6	3600	0	12000	6	0.60	21.6	13.0	90.0	54.0	#1/0	20	0.122	4.7	1.9%		
	CS184	0	0	0	2400	5	3600	0	12000	5	0.65	18.0	11.7	75.0	48.8	#1/0	40	0.122	5.1	2.1%		
	CS37	0	0	0	2400	4	3600	0	12000	4	0.75	14.4	10.8	60.0	45.0	#1/0	30	0.122	5.5	2.3%		
	CS182	0	0	0	2400	3	3600	0	12000	3	0.80	10.8	8.6	45.0	36.0	#1/0	45	0.122	5.9	2.4%		
	CS35	0	0	0	2400	2	3600	0	12000	2	0.90	7.2	6.5	30.0	27.0	#1/0	35	0.122	6.1	2.5%		
	CS89	0	0	1	2400	8	3600	2	12000	10	0.50	55.2	27.6	230.0	115.0	350kcmil	560	0.0367	4.7	2.0%		
	CS179	0	0	1	2400	8	3600	1	12000	9	0.55	43.2	23.8	180.0	99.0	350kcmil	45	0.0367	5.1	2.1%		
	CATCH BASIN	0	0	1	2400	8	3600	0	12000	8	0.55	31.2	17.2	130.0	71.5	#4/0	15	0.0608	5.2	2.2%		
	CS91	0	0	0	2400	8	3600	0	12000	8	0.55	28.8	15.8	120.0	66.0	#4/0	20	0.0608	5.3	2.2%		
MDP-E-3	CS177	0	0	0	2400	7	3600	0	12000	7	0.55	25.2	13.9	105.0	57.8	#4/0	40	0.0608	5.6	2.3%		
	CS93	0	0	0	2400	6	3600	0	12000	6	0.60	21.6	13.0	90.0	54.0	#4/0	25	0.0608	5.8	2.4%		
	CS175	0	0	0	2400	5	3600	0	12000	5	0.65	18.0	11.7	75.0	48.8	#4/0	45	0.0608	6.1	2.5%		
	CS96	0	0	0	2400	4	3600	0	12000	4	0.75	14.4	10.8	60.0	45.0	#4/0	25	0.0608	6.2	2.6%		
	CS173	0	0	0	2400	3	3600	0	12000	3	0.80	10.8	8.6	45.0	36.0	#4/0	30	0.0608	6.3	2.6%		
	CS98	0	0	0	2400	2	3600	0	12000	2	0.90	7.2	6.5	30.0	27.0	#4/0	45	0.0608	6.5	2.7%		
	CATCH BASIN	0	0	1	2400	5	3600	2	12000	7	0.55	44.4	24.4	185.0	101.8	#4/0	220	0.0608	2.7	1.1%		
	CS185	0	0	0	2400	5	3600	2	12000	7	0.55	42.0	23.1	175.0	96.3	#3/0	20	0.0766	3.0	1.3%		
	CS79	0	0	0	2400	4	3600	2	12000	6	0.60	38.4	23.0	160.0	96.0	#3/0	45	0.0766	3.7	1.5%		
	CS183	0	0	0	2400	3	3600	2	12000	5	0.65	34.8	22.6	145.0	94.3	#3/0	30	0.0766	4.1	1.7%		
MDP-E-4	CS81	0	0	0	2400	2	3600	2	12000	4	0.75	31.2	23.4	130.0	97.5	#3/0	55	0.0766	4.9	2.1%		
	CS181	0	0	0	2400	1	3600	2	12000	3	0.80	27.6	22.1	115.0	92.0	#3/0	30	0.0766	5.4	2.2%		
	CS84	0	0	0	2400	1	3600	1	12000	2	0.90	15.6	14.0	65.0	58.5	#3/0	45	0.0766	5.8	2.4%		
	CS83	0	0	0	2400	6	3600	3	12000	9	0.55	57.6	31.7	240.0	132.0	350kcmil	390	0.0367	3.8	1.6%		
	CS85	0	0	0	2400	5	3600	3	12000	8	0.55	54.0	29.7	225.0	123.8	350kcmil	40	0.0367	4.1	1.7%		
	CS87	0	0	0	2400	4	3600	3	12000	7	0.55	50.4	27.7	210.0	115.5	350kcmil	40	0.0367	4.5	1.9%		
	CS88	0	0	0	2400	4	3600	2	12000	6	0.60	38.4	23.0	160.0	96.0	350kcmil	30	0.0367	4.7	2.0%		
	CS90	0	0	0	2400	3	3600	2	12000	5	0.65	34.8	22.6	145.0	94.3	350kcmil	190	0.0367	6.0	2.5%		
	CS92	0	0	0	2400	2	3600	2	12000	4	0.75	31.2	23.4	130.0	97.5	350kcmil	40	0.0367	6.3	2.6%		
	CS94	0	0	0	2400	2	3600	1	12000	3	0.80	19.2	15.4	80.0	64.0	350kcmil	50	0.0367	6.5	2.7%		
MDP-E-5	CS95	0	0	0	2400	2	3600	0	12000	2	0.90	7.2	6.5	30.0	27.0	350kcmil	50	0.0367	6.6	2.8%		
	CS66	0	0	0	2400	6	3600	2	12000	8	0.55	45.6	25.1	190.0	104.5	#2/0	85	0.0967	1.7	0.7%		
	CS72	0	0	0	2400	5	3600	2	12000	7	0.55	42.0	23.1	175.0	96.3	#2/0	70	0.0967	3.0	1.3%		
	CS67	0	0	0	2400	4	3600	2	12000	6	0.60	38.4	23.0	160.0	96.0	#2/0	20	0.0967	3.4	1.4%		
	CS189	0	0	0	2400	3	3600	2	12000	5	0.65	34.8	22.6	145.0	94.3	#2/0	25	0.0967	3.8	1.6%		
	CS73	0	0	0	2400	2	3600	2	12000	4	0.75	31.2	23.4	130.0	97.5	#2/0	40	0.0967	4.6	1.9%		
	CS187	0	0	0	2400	1	3600	2	12000	3	0.80	27.6	22.1	115.0	92.0	#2/0	40	0.0967	5.3	2.2%		
	CS75	0	0	0	2400	0	3600	2	12000	2	0.90	24.0	21.6	100.0	90.0	#2/0	35	0.0967	5.9	2.5%		
	CS68	0	0	0	2400	8	3600	2	12000	10	0.50	52.8	26.4	220.0	110.0	#4/0	225	0.0608	3.0	1.3%		
	CS69	0	0	0	2400	8	3600	1	12000	9	0.55	40.8	22.4	170.0	93.5	#4/0	55	0.0608	3.6	1.5%		
MDP-E-6	CS70	0	0	0	2400	8	3600	0	12000	8	0.55	28.8	15.8	120.0	66.0	#4/0	60	0.0608	4.1	1.7%		
	CS71	0	0	0	2400	7	3600	0	12000	7	0.55	25.2	13.9	105.0	57.8	#4/0	75	0.0608	4.6	1.9%		
	SITE "R"	0	0	0	2400	6	3600	0	12000	6	0.60	21.6	13.0	90.0	54.0	#4/0	110	0.0608	5.4	2.2%		
	CS74	0	0	0	2400	5	3600	0	12000	5	0.65	18.0	11.7	75.0	48.8	#4/0	50	0.0608	5.7	2.4%		
	CS76	0	0	0	2400	4	3600	0	12000	4	0.75	14.4	10.8	60.0	45.0	#4/0	35	0.0608	5.9	2.4%		
	CS78	0	0	0	2400	3	3600	0	12000	3	0.80	10.8	8.6	45.0	36.0	#4/0	40	0.0608	6.0	2.5%		
	CS80	0	0	0	2400	2	3600	0	12000	2	0.90	7.2	6.5	30.0	27.0	#4/0	40	0.0608	6.2	2.6%		
	CS64	0	0	0	2400	5	3600	1	12000	6	0.60	30.0	18.0	125.0	75.0	#1/0	160	0.122	2.9	1.2%		
	CS65																					

All Short-circuit and Arc Flash analysis performed using SKM Systems Analysis, Inc. Power Tools Windows software v8.0. Short-circuit fault current values are based upon an arbitrary maximum available primary fault current (750 MVA phase and 250 MVA line to ground, both with an X/R of 15), with an existing pad mounted 167kVIA Utility Company transformer with a transformer impedance of 1.6% for the West Compounds and a 167kVIA transformer with a transformer impedance of 1.6% for the East Compound as the basis for this preliminary short-circuit current study and arc flash hazard analysis. The preliminary study results documented in the above schedule are provided for the minimum information required to allow the Electrical Contractor to make informed decisions regarding the design of the project. The actual short-circuit current contribution from the existing Utility Company service, as well as the actual transformer impedance values and contributions for ALL MOTORS installed on the project. The final study and arc flash hazard analysis result shall also be based upon the actual distribution equipment and over-current protective devices installed in the field on the project, and the actual installed feeder lengths, wiring types (i.e. THHN or THWN) and conduit type (i.e. metallic or non-metallic). The use of generic over-current protective devices or arbitrary feeder lengths in the study shall result in the study being REJECTED and the Electrical Contractor being forced to revise the study to reflect the actual installed conditions prior to final acceptance of the study and the required verification of equipment ratings. THE SHORT-CIRCUIT PORTION OF THE STUDY SHALL BE PREPARED PRIOR TO ORDERING OF ANY EQUIPMENT TO VERIFY THAT THE ARC RATING OF THE EQUIPMENT ORDERED IS SUFFICIENT TO ACCOMMODATE THE RESULTS OF THE STUDY. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY INFORMATION FROM THE UTILITY COMPANY AND THE MANUFACTURER OF THE EQUIPMENT TO BE INSTALLED ON THE PROJECT. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY INFORMATION FROM THE UTILITY COMPANY AND THE MANUFACTURER OF THE EQUIPMENT TO BE INSTALLED ON THE PROJECT. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY INFORMATION FROM THE UTILITY COMPANY AND THE MANUFACTURER OF THE EQUIPMENT TO BE INSTALLED ON THE PROJECT.

The scenario looks at a worst case approach to the Trip / Delay Time and the Breaker Opening Time, and the incident energy in this scenario has been calculated at the maximum 2 seconds discussed in the IEEE1584 Standard. The actual incident energy is expected to be lower once the final analysis is performed by the Electrical Contractor as part of their scope of work; however consideration should be given to the potential for circuit breaker malfunction or delay in operation of the device when determining the labeling requirements, and serious consideration given to using a longer clearing time in the study to ensure that maintenance workers are provided with the necessary protection in the event that the breaker takes longer than anticipated to clear the fault. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY INFORMATION FROM THE UTILITY COMPANY AND THE MANUFACTURER OF THE EQUIPMENT TO BE INSTALLED ON THE PROJECT.

THE STUDY SHALL BE PERFORMED BY THE ELECTRICAL CONTRACTOR AS PART OF THEIR SCOPE OF WORK. THE STUDY TO BE PERFORMED BY THE ELECTRICAL CONTRACTOR SHALL ALSO INCLUDE SHORT-CIRCUIT CURRENT AND ARC FLASH HAZARD ANALYSIS AT ALL DISCONNECT SWITCHES SERVING MECHANICAL EQUIPMENT.

SHORT-CIRCUIT AND ARC FLASH HAZARD EVALUATION SCHEDULE NOTE:

- PER NFPA 70E, THE EMPLOYER / BUILDING OWNER SHALL BE RESPONSIBLE FOR DEVELOPING AN OVERALL SAFETY PROGRAM THAT DIRECTS ACTIVITY APPROPRIATE TO THE RISK ASSOCIATED WITH THE ELECTRICAL HAZARD. THE DETERMINATION OF THE PROPER PERSONAL PROTECTIVE EQUIPMENT (PPE) FOR THE ASSOCIATED RISK AT EACH PIECE OF ELECTRICAL DISTRIBUTION EQUIPMENT SHALL BE DETERMINED BASED ON THE CALCULATED INCIDENT ENERGY INDICATED IN THE SCHEDULE AND THE ASSOCIATED PPE LEVELS INDICATED IN THE NFPA 70E DOCUMENT. THE PPE LEVELS ARE NO LONGER PROVIDED AS PART OF THE ARC FLASH HAZARD EVALUATION AT THIS PRELIMINARY STAGE OF THE PROJECT DUE TO THE NEED FOR PERFORMING A DETAILED RISK ASSESSMENT AS PART OF THE OVERALL SAFETY PROGRAM THAT IS TO BE DEVELOPED BY THE BUILDING OWNER / EMPLOYER.

YELLOW BACKGROUND WITH BLACK TEXT.

 WARNING	
Arc Flash and Shock Hazard Appropriate PPE Required	
31 Inches 2.9 cal/cm² Category 1 480 VAC 00 42 Inches 12 Inches 1 Inches LOCATION:	Flash Hazard Boundary Flash Hazard at 18 Inches Arc-rated FR Shirt & Pants Shock Hazard when cover is removed Glove Class Limited Approach Restricted Approach Prohibited Approach "DP-A"
Warning: Changes in equipment settings or system configuration will invalidate the calculated values and PPE requirements.	

TYPICAL CATEGORY 1 AND 2 ARC FLASH HAZARD LABEL DETAIL

NO SCALE

TYPICAL CATEGORY 3 AND 4 ARC FLASH HAZARD LABEL DETAIL

NO SCALE

RED BACKGROUND WITH WHITE TEXT.

DANGER

NO SAFE PPE EXISTS
ENERGIZED WORK PROHIBITED

183 Inches 54 cal/cm ²	Flash Hazard Boundary Flash Hazard at 18 Inches
Dangerous!	No FR Category Found
480 VAC 00	Shock Hazard when cover is removed Glove Class
42 Inches 12 Inches 1 Inches	Limited Approach Restricted Approach Prohibited Approach
LOCATION:	MAIN DISTRIBUTION PANEL "MDP"

Warnings: Changes in equipment settings or system configuration will invalidate the calculated values and PPE requirements.

TYPICAL CATEGORY "DANGEROUS" ARC FLASH HAZARD LABEL DETAIL

NO SCALE

NOTE: REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING SHORT-CIRCUIT STUDY & ARC-FLASH HAZARD ANALYSIS TO BE PERFORMED BY THE ELECTRICAL CONTRACTOR AS PART OF THE PROJECT SCOPE OF WORK. LABEL SHOWN IS INTENDED TO CONVEY THE GENERAL CONFIGURATION OF THE ARC-FLASH WARNING LABEL. ALL LABELS SHALL COMPLY WITH THE REQUIREMENTS OF N.E.C. 110.16 AND NFPA 70E.

THOMAS
GERARD
CROW
ENGINEER
License No.
6201055658
PROFESSIONAL ENGINEER

SEALED & SIGNED 09/16/2026; SEAL
APPLIES ONLY TO THE ELECTRICAL
DOCUMENTS PREPARED BY TAC
ASSOCIATES, LLC