STATE OF WASHINGTON DEPT OF ENTERPRISE SERVICES

BUILDING 22, PATIENT SUPPORT CENTER
WESTERN STATE HOSPITAL LAKEWOOD, WA

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DSHS PROJECT NAME:
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N
VICINITY MAP - PUGET SOUND
Scale: NTS

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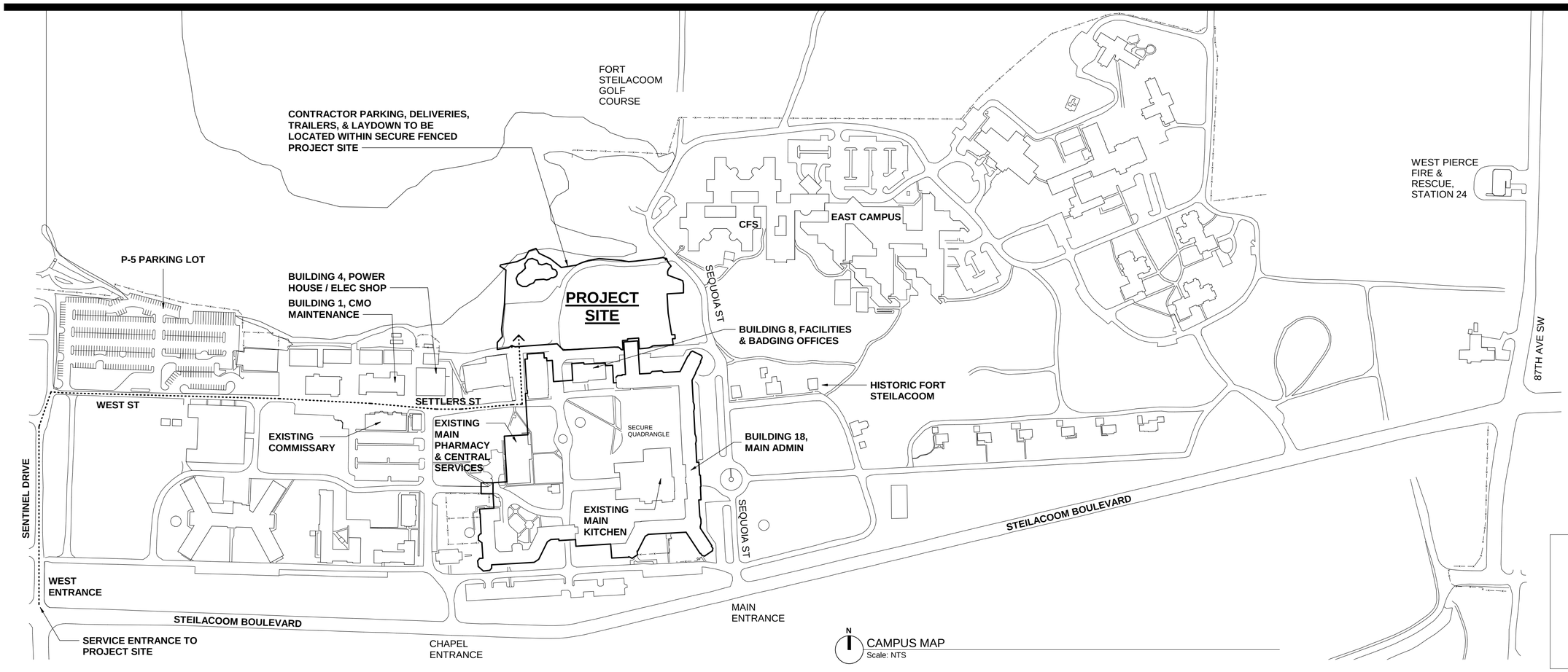

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CAMPUS MAP
Scale: NTS

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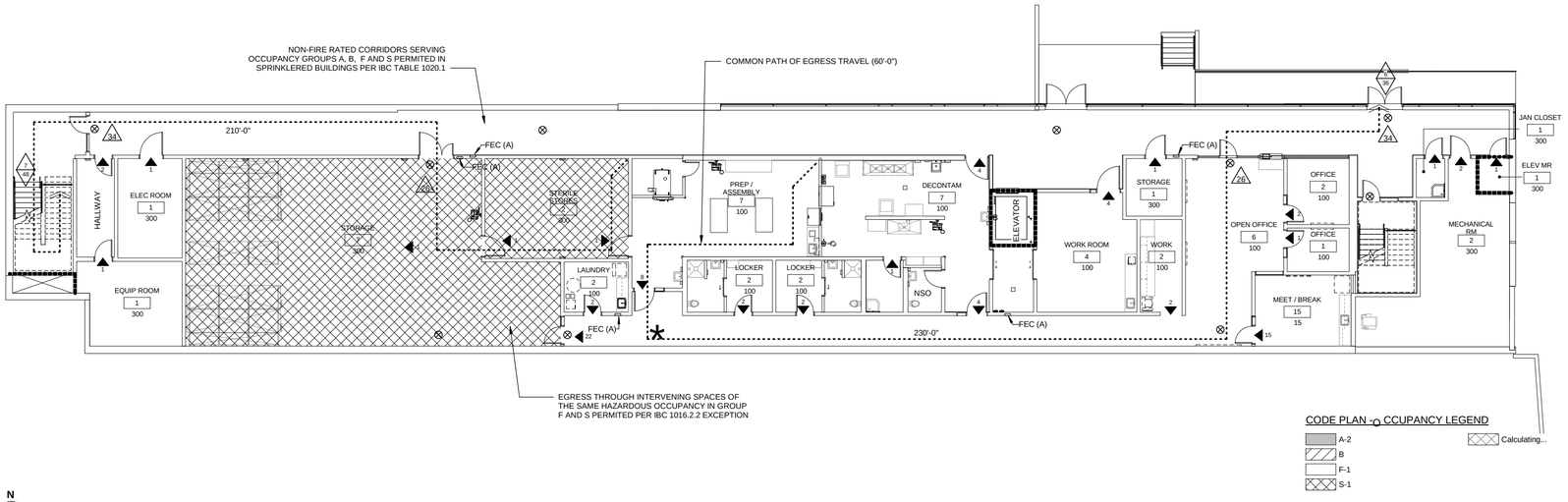

CODE PLAN -O CCUPANCY LEGEND

- A-2
- B
- F-1
- S-1
- Calculating...

BASEMENT EGRESS PLAN

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

CODE PLAN LEGEND

FIRE PARTITION: 1 -HOUR RATED WALL ASSEMBLY WITH 20 MINUTE OPENINGS, CORRIDOR WALLS

FIRE BARRIER: 1-HOUR RATED WALL ASSEMBLY WITH 60 MINUTE OPENINGS, SHAFT ENCLOSURES, OCCUPANCY SEPARATION

Name
X — OCCUPANT LOAD
X — OCCUPANT LOAD FACTOR - TABLE 1004.1.1

— EXIT FROM ROOMS. NUMBER INDICATES THE CALCULATED ACCUMULATED LOAD AT THAT ROOM OR BUILDING EXIT. ARROW INDICATES EXIT DIRECTION.

— ACCUMULATED OCCUPANT LOAD FROM ROOMS DIRECTLY INTO CORRIDOR OR EXIT

— REQUIRED EXIT WIDTH AT DOOR / STAIRWAY PER IBC 1005.3, 0.15"/OCCUPANT EGRESS COMPONENTS, 0.20"/OCCUPANT STAIRS

— ACTUAL EXIT WIDTH AT DOOR / STAIRWAY

* DECISION POINT FOR 2 EXITS WITHIN COMMON PATH OF EGRESS TRAVEL (IBC TABLE 1006.2.1)

X'-X" ACTUAL DISTANCE — EXIT ACCESS TRAVEL DISTANCE FROM MOST REMOTE POINT TO EXIT ENTRANCE (IBC TABLE 1017.2)

MAXIMUM ALLOWED EXIT ACCESS TRAVEL DISTANCE IN A FULLY SPRINKLERED BUILDING:

OCCUPANCY	* MAX COMMON PATH OF TRAVEL	MAX TRAVEL DISTANCE
A-2	75'-0"	250'-0"
B	100'-0"	300'-0"
F-1	100'-0"	250'-0"
S-1	100'-0"	250'-0"

0'-0" ACTUAL > 1/3 DIAGONAL — DISTANCE BETWEEN 2 EXIT DOORS WHERE REQUIRED (NOT LESS THAN 1/3 THE LENGTH OF THE MAX OVERALL DIAGONAL DIMENSION OF THE AREA SERVED IN SPRINKLERED BUILDING IBC 1007.1.1)

● BARRIER FREE DOOR OPERATOR
B = BOLLARD MOUNT
J = JAMB/MULLION MOUNT
W = WALL MOUNT

⊗ EXIT SIGN, REFER TO ELECT FOR DIRECTIONAL INDICATOR

NSO — NOT SIMULTANEOUSLY OCCUPIED: OCCUPANT LOAD COUNT DOES NOT CONTRIBUTE TO REQUIRED EXIT WIDTH

FEC — FIRE EXTINGUISHER -PORT ABLE

MAXIMUM DISTANCE OF TRAVEL TO FIRE EXTINGUISHER (IBC 906.3):

CLASS	DISTANCE
A	75'-0" FOR ORDINARY HAZARD
C	20'-0" TO BATTERY CHARGING STATION
K	30'-0" TO COOKING EQUIPMENT

BUILDING CODE ANALYSIS

WASHINGTON STATE LAW

STATE BUILDING CODE (Chapter 19.27 RCW)
ENERGY RELATED BUILDING STANDARDS (Chapter 19.27A RCW)
BARRIER FREE (Chapter 70.92 RCW)

APPLICABLE CODES

LAKEWOOD BUILDING CODE (City of Lakewood Municipal Code (LMC))
PRIVATE PSYCHIATRIC AND ALCOHOLISM HOSPITAL (Chapter 246-322 WAC)
FDA FOOD CODE (Chapter 246-215 WAC)

ICC, INTERNATIONAL BUILDING CODE
2015 Edition as amended in Chapter 51-50 WAC & LMC 15A.5.020.A
ICC A117.1, ACCESSIBLE AND USABLE BUILDINGS
2015 Edition as amended in Chapter 51-50 WAC
ICC, INTERNATIONAL ENERGY CONSERVATION CODE
2015 Edition as amended in Chapter 51-11C WAC & LCM 15A.5.020F
ICC, INTERNATIONAL MECHANICAL CODE
2015 Edition as amended in Chapter 51-52 WAC & LMC 15A.5.020.C
ICC, INTERNATIONAL FIRE CODE
2015 Edition as amended in Chapter 51-54A WAC & LMC 15A.5.020.D
IAPMO, UNIFORM PLUMBING CODE
2015 Edition as amended in Chapter 51-56 WAC & LMC 15A.5.020.E
NFPA 70, NATIONAL ELECTRICAL CODE
2008 Edition as amended in Chapter 296-46B WAC & LMC 15.25)
NFPA 99, HEALTH CARE FACILITIES CODE
2012 Edition as adopted in Chapter 246-320-500(3)(E) WAC
NFPA 101, LIFE SAFETY CODE
2012 Edition as adopted in Chapter 246-320-500(3)(B) WAC
FGI, GUIDELINES FOR DESIGN AND CONSTRUCTION OF HOSPITALS
2014 Edition as amended in Chapter 246-320-600 WAC

NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, 2010 Edition
NFPA 72, NATIONAL FIRE ALARM CODE HANDBOOK, 2010 Edition
NFPA 99, HEALTH CARE FACILITIES, 1999 Edition
NFPA 110, STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS, 1999 Edition

ASME A17.1 & A17.6, SAFETY CODE FOR ELEVATORS (Chapter 296-96 WAC)

OCCUPANCY GROUP:

ASSEMBLY, CAFE	A-2
OFFICES	B
FOOD PROCESSING	F-1
STORAGE	S-1
MECHANICAL	INCIDENTAL USE

SEPARATION OF OCCUPANCIES:
- NOT REQUIRED

INCIDENTAL USE AREAS:
'ME CHANICAL SPACE, < 10% OF FLOOR AREA

BUILDING HEIGHT:	ALLOWABLE - A-3 OCC	3 STORIES, 75'-0"
	ALLOWABLE -B OCC	4 STORIES, 75'-0"
	ALLOWABLE - F-1 OCC	3 STORIES, 75'-0"
	ALLOWABLE - S-1 OCC	3 STORIES, 75'-0"
	ACTUAL	2 STORIES, 37'-6"
	ALLOWABLE PER ZONING	(PUBLIC / INSTITUTION ZONE)

CONSTRUCTION TYPE: II-B, FULLY SPRINKLERED

GROSS FLOOR AREA:

BASEMENT :
F-1 OCCUPANCY: 8,680 sf (M OST RESTRICTIVE USE)
S-1 OCCUPANCY: 2,260 sf
HORIZ. PROJECTION: 110 sf
BLDG AREA BASEMENT: 1,050 sf

FIRST FLOOR :
F-1 OCCUPANCY: 7,310 sf (MOST RESTRICTIVE USE)
S-1 OCCUPANCY: 7,660 sf
HO RIZ. PROJECTION: 030 sf
BLDG AREA 1ST FLOOR: 6,000 sf

SECOND FLOOR
A-2 OCCUPANCY: 60 sf (MOST RESTRICTIVE USE)
CUPANCY: 580 sf
BLDG AREA 2ND FLOOR: 1,140 sf
TO TAL BUILDING AREA: 48 ,190 sf

ALLOWABLE AREA MIXED-OCCUPANCY, MULTISTORY BUILDING:

FIRST STORY: N ONSEPARATED OCCUPANCY, F-1 IS MOST RESTRICTIVE
FRONTAGE INCREASE PER 506.3: If = [960/960 -0 .25] 30/30 = .75
ALLOWABLE AREA PER 506.2.4 Aa = 46,500 + (15,500 X .75) = 58,125 SF

SECOND STORY: NONSEPARATED OCCUPANCY, A-2 IS MOST RESTRICTIVE
FRONTAGE INCREASE PER 506.3: If = [960/960 -0 .25] 30/30 = .75
ALLOWABLE AREA PER 506.2.4 Aa = 28,500 + (9,500 X .75) = 35,625 SF

FIRE-RATED ASSEMBLIES:
(IBC TABLE 601)

	TYPE:	RATING:	ASSEMBLY:
STRUCTURAL FRAME	STEEL COLUMNS	0 -HR	N/A
BEARING WALLS			
EXTERIOR	NONE	0 -HR	N/A
INTERIOR	NONE	0 -HR	N/A
NON-BEARING WALLS/PARTITIONS EXTERIOR	METAL FRAMED	TABLE 6 02	UL-U419
NON-BEARING WALLS/PARTITIONS INTERIOR	METAL FRAMED	0 -HR	N/A
FLOOR CONSTRUCTION	COMPOSITE DECK	0 -HR	N/A
ROOF CONSTRUCTION	METAL DECK	0 -HR	N/A
SMOKE PARTITIONS	NONE	NR	N/A
SHAFTS	METAL FRAMED	1 -HR	UL-U415

WA STATE ENERGY CODE
OPAQUE THERMAL ENVELOPE INSULATION COMPONENT MINIMUM REQUIREMENTS (TABLE C402.1.3)

ROOFS	
INSULATION ENTIRELY ABOVE DECK	R-38ci
WALLS, ABOVE GRADE:	
MASS	R-9.5ci
STEEL FRAMED	R-13 + R-10ci
WALLS, BELOW GRADE:	
BELOW-GRADE WALL	Same as above grade
FLOORS:	
MASS	R-30ci
JOIST/FRAMING	R-30
SLAB-ON-GRADE FLOORS:	
UNHEATED SLABS	R-10 for 24" below
HEATED SLABS	R-10 for perimeter & under entire slab
OPAQUE DOORS:	
NONSWINGING	R-4.75

BUILDING ENVELOPE FENESTRATION MAXIMUM U-FACTOR & SHGC REQUIREMENTS (TABLE C402.4)

VERTICAL FENESTRATION	
U-FACTOR:	
NONMETAL FRAMING (all)	0.30
METAL FRAMING (fixed)	0.38
METAL FRAMING (operable)	0.40
METAL FRAMING (entrance doors)	0.60
SHGC:	
SEW(PF < 0.2; 0.2 < PF < 0.5; PF > 0.5)	0.40, 0.48, 0.64
N (PF < 0.2; 0.2 < PF < 0.5; PF > 0.5)	0.53, 0.58, 0.64
SKYLIGHTS:	
U-FACTOR:	0.50
SHGC	0.35

FIRE STOPPING NOTES

ALL PENETRATIONS MADE THROUGH FIRE-RATED WALLS, CEILINGS AND FLOOR ASSEMBLIES, BOTH EMPTY HOLES AND HOLES ACCOMMODATING SUCH ITEMS AS DUCTS, PIPES, CONDUIT, AND OTHER PENETRATING ITEMS SHALL BE FIRE- STOPPED. PENETRATIONS SHALL BE FIRE STOPPED TO RETAIN THE INTEGRITY OF THE TIME-RATED CONSTRUCTION BY MAINTAINING AN EFFECTIVE BARRIER AGAINST THE SPREAD OF FLAME, SMOKE, AND GASES, IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 07270 -r IRESTOPPING. MECHANICAL AND ELECTRICAL RELATED PENETRATIONS SHALL BE THE RESPONSIBILITY OF THE SUBCONTRACTOR MAKING THE PENETRATION - SEE MECHANICAL AND ELECTRICAL.

FIRE PROTECTION NOTES

1. A SPRINKLER SYSTEM WITH QUICK-RESPONSE HEADS WILL BE INSTALLED IN ACCORDANCE WITH IBC CHAPTER 9 AND NFPA-13. SEE MECHANICAL DRAWINGS AND DIVISION 15 SPECIFICATIONS. SPRINKLER DRAWINGS TO BE SUBMITTED BY LICENSED NSTALLER AS DEFERRED SUBMITTAL AFTER PROJECT BIDS.
2. BUILDING TO HAVE FIRE ALARM SYSTEM PER NFPA-72 THROUGHOUT WITH ADDRESSABLE PANEL. SEE ELECTRICAL DRAWINGS AND DIVISION 16 SPECIFICATIONS. FIRE ALARM DRAWINGS TO BE SUBMITTED BY LICENSED INSTALLER AS DEFERRED SUBMITTAL AFTER PROJECT BIDS.
3. SMOKE CONTROL SYSTEM IS NOT REQUIRED.
4. FIRE EXTINGUISHERS ARE LOCATED AS SHOWN ON THE ARCHITECTURAL FLOOR PLANS.

PLUMBING FIXTURE CALCULATIONS

BASED ON 2015 IBC SECTION 2902 (TABLE 2902.1) AND WASHINGTON STATE AMENDMENTS

1. **BASEMENT**

OCCUPANCY	FUNCTION (OCCUPANT LOAD FACTOR)	OCCUPANT LOAD
GROUP F-1	CS PROCESSING (200 GROSS SF/OCC)	4 (2 EA SEX)
GROUP S-1	CS STORAGE, STOCK (300 GROSS SF/OCC)	4 8 (4 EA SEX)
	TOTAL	**5 2** (26 EA SEX)

FIRST FLOOR

OCCUPANCY	FUNCTION (OCCUPANT LOAD FACTOR)	OCCUPANT LOAD
GROUP F-1	PRODUCTION KITCHEN (200 GROSS SF/OCC)	88 (44 EA SEX)
GROUP S-1	COMMISSARY (500 GROSS SF/OCC)	16 (8 EA SEX)
	TOTAL	**10 4** (52 EA SEX)

SECOND FLOOR

OCCUPANCY	FUNCTION (OCCUPANT LOAD FACTOR)	OCCUPANT LOAD
GROUP A-2	CAFE UNCONCENTRATED (15 NET SF/OCC)	6 (1 8 EA SEX)
GROUP B	KITCHEN ADMIN (100 GROSS SF/OCC)	3 8 (4 EA SEX)
GROUP B	PHARMACY (100 GROSS SF/OCC)	8 (2 4 EA SEX)
	TOTAL	**9 2** (46 EA SEX)

2. FIXTURES REQUIRED:

BASEMENT

OCCUPANCY	MALE WC	MALE LAVS	FEMALE WC	FEMALE LAVS	D RINKING FO UNTAIN	SERVICE SINK	EMERGENCY SHOWER / EYEWASH STATIONS
CENTRAL SERVICES (F-1/S-1)	1	1	1	1	1	1	Y ES

FIRST FLOOR

OCCUPANCY	MALE WC	MALE LAVS	FEMALE WC	FEMALE LAVS	D RINKING FO UNTAIN	SERVICE SINK	EMERGENCY SHOWER / EYEWASH STATIONS
PRODUCTION KITCHEN (F-1)	1	1	1	1	1	1	Y ES
COMMISSARY (S-1)	1	1	1	1	1** *	1	Y ES
TOTAL	2	2	2	2		2	

SECOND FLOOR

OCCUPANCY	MALE WC	MALE LAVS	FEMALE WC	FEMALE LAVS	DRINKING FOUNTAIN	SER VICE SINK	EMERGENCY SHOWER / EYEWASH STATIONS
CAFE (A-2) & KIT ADMIN (B)	1	1	1	1	1	1	Y ES
PHARMACY (B)	1	1	1	1	0***	1	
TOTAL	2	2	2	2	1	2	

3. FIXTURES PROVIDED:

	MALE WC	MALE LAVS	FEMALE WC	FEMALE LAVS	DRINKING FOUNTAIN	SE RVICE SI NK	EMERGENCY SHOWER / EYEWASH STATIONS
BASEMENT	1 .5	1 1.5	1 .5	1 .5	0***	2	Y ES
FIRST FLOOR	2 .5	2 2.5	2 .5	2 2.5	1	2	EM ERGENCY SHOWER / EY EWASH STATIONS YES
SECOND FLOOR	2	2	2	2	1	SER VICE SI NK 1	EM ERGENCY SHOWER / EY EWASH STATIONS YES

NOTES:

**. URINALS ARE OPTIONALLY PROVIDED IN LIEU OF WC-MALE PER WAC 51-50-2902.1.1.2.
*** DRINKING FOUNTAIN LOCATION PROVIDED IN PUBLIC LOCATION OR ON SEPARATE FLOOR PER IBC 2902.5.

CODE PLAN GENERAL NOTES

1. SEE FLOOR PLANS FOR DIMENSIONS AND WALL TYPE REFERENCES.
2. SEE DOOR AND RELITE SCHEDULES, SHEET A3.32 AND DIVISION 8 SPECIFICATION FOR DOOR HARDWARE AND OTHER FIRE RATING REQUIREMENTS FOR DOORS AND RELITES.
3. SEE ELECTRICAL FOR EXIT SIGNS AND EMERGENCY EGRESS LIGHT FIXTURES.
4. STORAGE AND USE OF CLASS I, II AND IIIA LIQUIDS ARE PROHIBITED EXCEPT IN APPROVED QUANTITIES AS NECESSARY FOR OPERATION AND MAINTENANCE. THE QUANTITIES OF OTHER HAZARDOUS SHALL BE AS APPROVED BY THE FIRE MARSHALL.
5. BUILDING IS NON-COMBUSTIBLE FULLY SPRINKLERED CONSTRUCTION. A REAS OF EVACUATION ASSISTANCE ARE NOT REQUIRED. Q UICK RESPONSE HEADS ARE ALLOWED WHERE ALLOWED BY IBC CHAPTER 9 AND A WRITTEN EVACUATION PLAN WILL BE SUBMITTED FOR APPROVAL PRIOR TO OCCUPANCY.
6. ALL ASSEMBLY ROOMS SHALL BE POSTED WITH ROOM CAPACITY SIGNS PER IBC 103.2.2.5 AND DIVISION 10 SPECIFICATIONS.
7. LESS THAN 25% OF THE LINEAR FEET OF EACH WALL IN ALL 2-HOUR HORIZONTAL EXIT WALLS AND FIRE WALLS WILL BE PENETRATED.
8. SEE MECHANICAL AND ROOF PLAN, SHEET A3.14 FOR ROOF PENETRATIONS. NO PENETRATIONS ARE PERMITTED WITHIN 4'-0" OF FIRE WALL.
9. ARCHITECT SHALL REVIEW ALL DEFERRED SUBMITTALS AND VERIFY COMPLIANCE WITH THE DESIGN CONCEPT AND CODE REQUIREMENTS RELATING TO:
   A. AUTOMATIC SPRINKLER SYSTEM DESIGN DRAWINGS.
   B. MANUAL AND AUTOMATIC FIRE ALARM DESIGN DRAWINGS.
   C. ELEVATOR SYSTEM DESIGN DRAWINGS.
   D. INSTALLATION DETAILS OF ACOUSTICAL CEILING SUSPENSION SYSTEM.
   E. INSTALLATION DETAILS OF MEMBRANE AND THROUGH-PENETRATION FIRE STOPS, AND FIRE-RESISTIVE JOINT SYSTEMS.
   F. DESIGN DETAILS AND STRUCTURAL CALCULATIONS FOR THE SEISMIC ANCHORAGE AND BRACING OF EACH PIECE OF FLOOR MOUNTED AND ROOF MOUNTED MECHANICAL AND OTHER EQUIPMENT WEIGHING 400 POUNDS OR MORE.
   G. WRITTEN FIRE AND LIFE SAFETY EMERGENCY PLAN, WHICH SPECIFICALLY ADDRESSES THE EVACUATION OF PERSONS WITH DISABILITIES.
17. APPROVED AUDIBLE SPRINKLER FLOW ALARMS SHALL BE INSTALLED WITHIN THE BUILDING AND ON THE EXTERIOR IN APPROVED LOCATIONS; ACTUATION SHALL CONFORM TO IBC CHAPTER 9. ELECTRICAL VALVE MONITORING FOR SPRINKLER SYSTEM AND WATER FLOW SWITCHES SHALL BE INSTALLED AND CONNECTED TO AN APPROVED CENTRAL, REMOTE, OR PROPRIETARY MONITORING STATION.
18. AN APPROVED MANUAL AND AUTOMATIC FIRE ALARM SYSTEM SHALL BE INSTALLED AS SPECIFIED IN THE FIRE CODE. VISIBLE ALARMS COMPLYING WITH WSBC SECTION 1106.15.2 SHALL BE INSTALLED IN ALL COMMON-USE AREAS, ASSEMBLY AREAS, TOILET ROOMS, HALLWAYS, LOBBIES AND CORRIDORS.
19. A PROGRAM OF PROTECTION FOR ALL THROUGH PENETRATIONS AND MEMBRANE PENETRATIONS OF FIRE AND SMOKE RATED ASSEMBLIES SHALL BE REQUIRED. THIS PROGRAM SHALL APPLY AN 'F' RATING EQUAL TO THE FIRE RESISTIVE RATING OF THE COMPONENT BEING PENETRATED AS DEMONSTRATED BY THE MANUFACTURER OF THE PENETRATION PROTECTION SYSTEM THROUGH RECOGNIZED TESTING. ALL PENETRATIONS THROUGH ALL FIRE RATED ASSEMBLIES SHALL BE PROTECTED IN THIS MANNER.
20. AT JOINTS BETWEEN FIRE RESISTIVE ASSEMBLIES A FIRE RESISTIVE JOINT SYSTEM SHALL BE PROVIDED- S UBMIT MANUFACTURER'S LITERATURE DESCRIBING FIRE RATING TESTING AND SPECIFIC DETAIL REQUIREMENTS FOR THE INSTALLATION OF THE SYSTEM. IF REQUIRED TO COMPLY WITH MANUFACTURER'S REQUIREMENTS, SURROUNDING CONSTRUCTION SHALL BE MODIFIED, ONLY WITH PRIOR APPROVAL OF THE ARCHITECT, TO ALLOW FOR THE INSTALLATION OF THE PROPOSED SYSTEM.
21. INTERIOR WALL AND CEILING FINISHES SHALL CONFORM TO IBC SECTION 803.5 AND TABLE 803.5 FOR FLAME SPREAD REQUIREMENTS.

REVISIONS

CONFORMED SET

WESTERN STATE HOSPITAL
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PATIENT SUPPORT CENTER
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DSHS NO	16-410G (2-1)
NAC NO	121-16004
DRAWN	SW
CHECKED	CJ
DATE	03/16/2018

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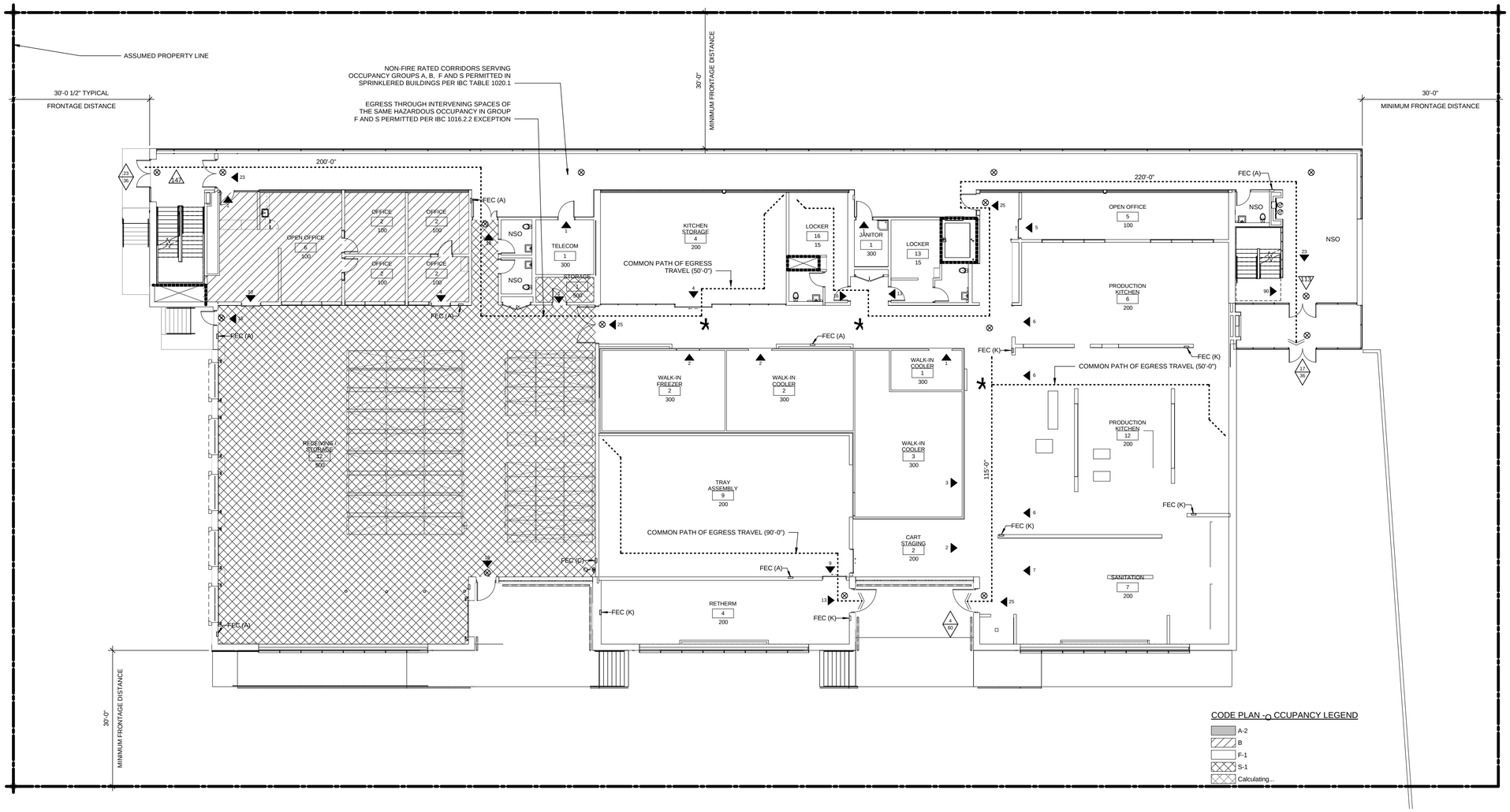
CODE PLAN & NOTES - BASEMENT

G2.01

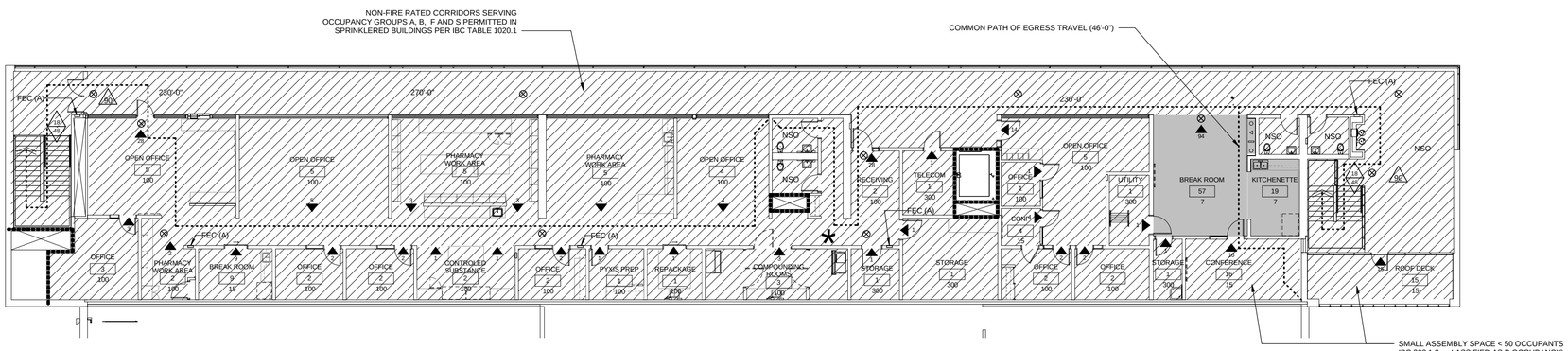


CODE PLAN - OCCUPANCY LEGEND

- A-2
- B
- F-1
- S-1
- Calculating...

FIRST FLOOR EGRESS PLAN

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



CODE PLAN - OCCUPANCY LEGEND

- A-2
- B
- F-1
- S-1
- Calculating...

SECOND FLOOR EGRESS PLAN

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

CODE PLAN LEGEND

FIRE PARTITION: 1-HOUR RATED WALL ASSEMBLY WITH 20 MINUTE OPENINGS, CORRIDOR WALLS

FIRE BARRIER: 1-HOUR RATED WALL ASSEMBLY WITH 60 MINUTE OPENINGS, SHAFT ENCLOSURES, OCCUPANCY SEPARATION

Name X — OCCUPANT LOAD; X — OCCUPANT LOAD FACTOR - TABLE 1004.1.1

— EXIT FROM ROOMS. NUMBER INDICATES THE CALCULATED ACCUMULATED LOAD AT THAT ROOM OR BUILDING EXIT. ARROW INDICATES EXIT DIRECTION.

— ACCUMULATED OCCUPANT LOAD FROM ROOMS DIRECTLY INTO CORRIDOR OR EXIT

— REQUIRED EXIT WIDTH AT DOOR / STAIRWAY PER IBC 1005.3, 0.15"/OCCUPANT EGRESS COMPONENTS, 0.20"/OCCUPANT STAIRS; ACTUAL EXIT WIDTH AT DOOR / STAIRWAY

* — DECISION POINT FOR 2 EXITS WITHIN COMMON PATH OF EGRESS TRAVEL (IBC TABLE 1006.2.1)

X'-X" ACTUAL DISTANCE — EXIT ACCESS TRAVEL DISTANCE FROM MOST REMOTE POINT TO EXIT ENTRANCE (IBC TABLE 1017.2)

MAXIMUM ALLOWED EXIT ACCESS TRAVEL DISTANCE IN A FULLY SPRINKLERED BUILDING:

OCCUPANCY	* MAX COMMON PATH OF TRAVEL	MAX TRAVEL DISTANCE
A-2	75'-0"	250'-0"
B	100'-0"	300'-0"
F-1	100'-0"	250'-0"
S-1	100'-0"	250'-0"

0'-0" ACTUAL > 1/3 DIAGONAL — DISTANCE BETWEEN 2 EXIT DOORS WHERE REQUIRED (NOT LESS THAN 1/3 THE LENGTH OF THE MAX OVERALL DIAGONAL DIMENSION OF THE AREA SERVED IN SPRINKLERED BUILDING IBC 1007.1.1)

● — BARRIER FREE DOOR OPERATOR
B = BOLLARD MOUNT
J = JAMB/MULLION MOUNT
W = WALL MOUNT

⊗ — EXIT SIGN, REFER TO ELECT FOR DIRECTIONAL INDICATOR

NSO — NOT SIMULTANEOUSLY OCCUPIED: OCCUPANT LOAD COUNT DOES NOT CONTRIBUTE TO REQUIRED EXIT WIDTH

FEC — FIRE EXTINGUISHER - PORTABLE

MAXIMUM DISTANCE OF TRAVEL TO FIRE EXTINGUISHER (IBC 906.3):

CLASS	DISTANCE
A	75'-0" FOR ORDINARY HAZARD
C	20'-0" TO BATTERY CHARGING STATION
K	30'-0" TO COOKING EQUIPMENT

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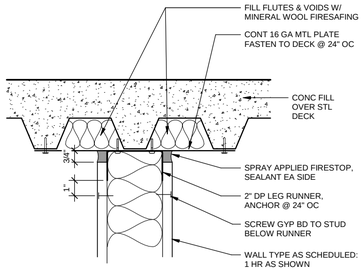
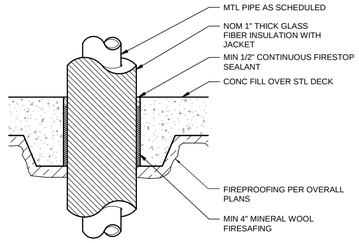
CODE PLAN - FIRST & SECOND FLOOR

G2.02



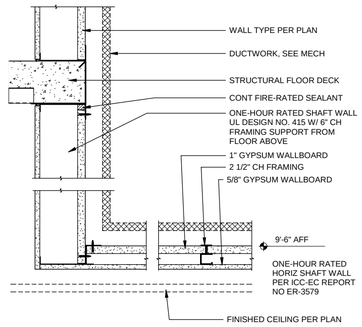
NOTE: COMPLY WITH UL SYSTEM HW-D-0054

5 ONE HOUR WALL TO FLOOR ABOVE
Scale: 3" = 1'-0"

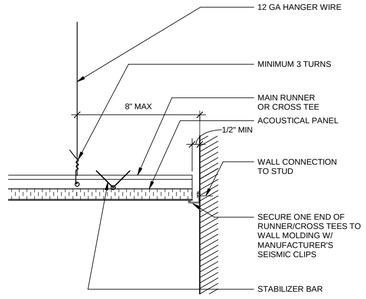


NOTE: COMPLY WITH UL SYSTEM F-A-5010

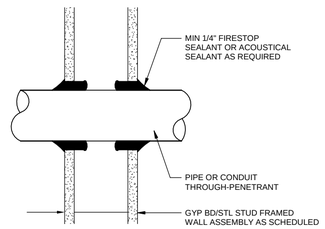
1 TYP INSULATED PIPE PENETRATION A T FLOOR
Scale: 3" = 1'-0"



9 HORIZ SHAFT ENCLOSURE
Scale: 1 1/2" = 1'-0"



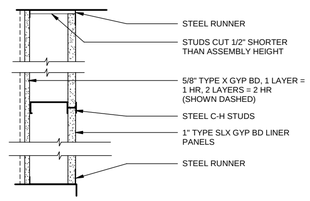
6 TYP SEISMIC CEILING GRID
Scale: 3" = 1'-0"



2 TYP PIPE OR CONDUIT THROUGH WALL
Scale: 3" = 1'-0"

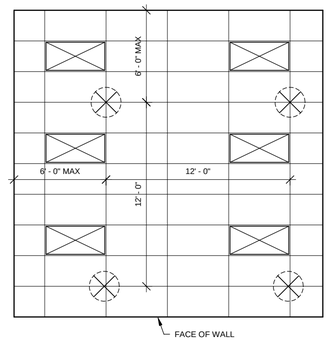
WHEN USED HORIZONTALLY AS A ONE-HOUR CEILING, PROVIDE C-H STUDS AS FOLLOWS:

SIZE	SPAN
2 1/2" x 25 GAGE	< 7'-2"
4" x 25 GAGE	7'-2" TO 10'-0"
6" x 20 GAGE	10'-1" TO 13'-10"

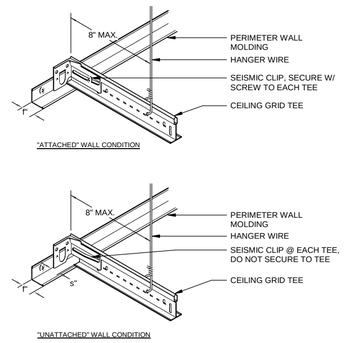


UL DESIGN # U415, SYSTEM A OR B

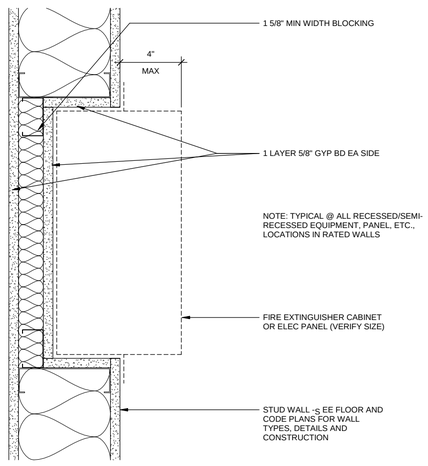
10 INTERIOR SHAFT WALL
Scale: 1 1/2" = 1'-0"



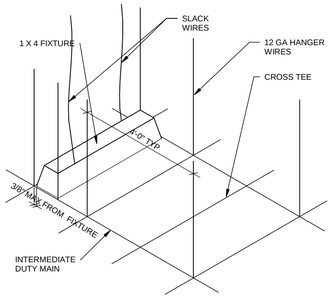
7 TYP CEILING BRACING PLAN
Scale: 1/4" = 1'-0"



3 ACOUST PANEL CEILING PERIMETER
Scale: 3" = 1'-0"

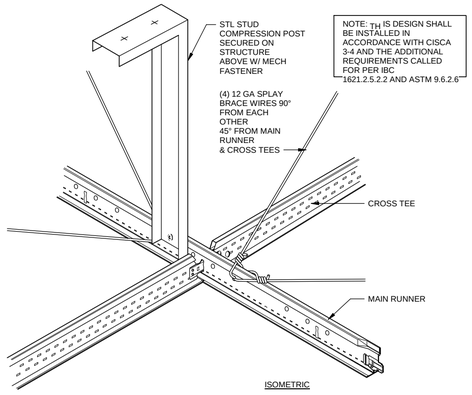


11 TYP SEMI-RECESSED EQUIPMENT
Scale: 3" = 1'-0"



NOTE:
PENDANT HUNG LIGHTING FIXTURES SHALL BE SUPPORTED DIRECTLY FROM THE STRUCTURE ABOVE USING NO 9 GA WIRE OR AN APPROVED ALTERNATE SUPPORT WITHOUT USING THE CEILING SUSPENSIONS SYSTEM FOR DIRECT SUPPORT.

8 LIGHT FIXTURE SUPPORT
Scale: 1/2" = 1'-0"



NOTE: THIS DESIGN SHALL BE INSTALLED IN ACCORDANCE WITH CISCA 3-4 AND THE ADDITIONAL REQUIREMENTS CALLED FOR PER IBC 1621.2.5.2.2 AND ASTM 9.6.2.6

ISOMETRIC

4 TYP SEISMIC CEILING SUPPORT
Scale: 3" = 1'-0"

REVISIONS

CONFORMED SET

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DATE	03/16/2018

CODE DETAILS

G2.03

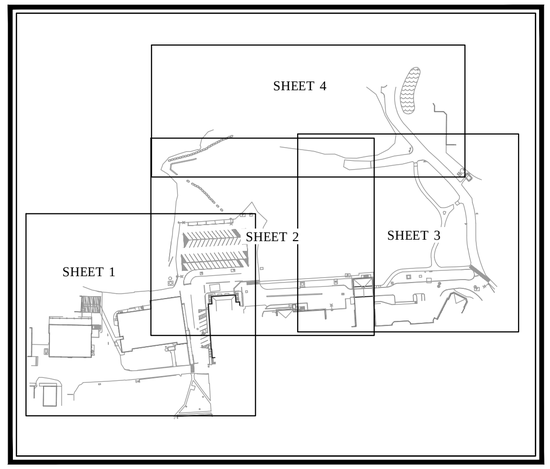
TOPOGRAPHIC SURVEY

Axis

GRAPHIC SCALE

20 10 0 20 40

1" = 20'



SHEET INDEX
N.T.S.

DATUM/BASIS OF BEARINGS

N89°01'46"E BETWEEN FOUND STONE MONUMENT #30 AND FOUND BRASS DISK #16 ALONG STEILACOOM BLVD PER RECORD OF SURVEY BY CTS ENGINEERING DATED 4/30/97 AND REVISED 8/17/05.

ORIGINATING BENCHMARK:
WSDOT MONUMENT "SENTINEL" MONUMENT ID # 1764, FOUND 3" BRASS DISC STAMPED SENTINEL DOWN 0.1' IN ASPHALT ± 1.5' WEST OF STOP BAR & 2.0' SOUTH OF DOUBLE YELLOW CENTERLINE @ WEST SIDE OF INTERSECTION AT STEILACOOM BLVD SW & SENTINEL DR AS PUBLISHED IN WSDOT SURVEY MARK REPORT.

ELEVATION: 235.905'
VERTICAL DATUM: NAVD '88

TEMPORARY BENCHMARKS:
TBM "A" SOUTH CORNER OF CONCRETE LIGHT BASE EAST OF SOUTHWEST ENTRANCE TO CAMPUS. (NOT SHOWN ON THIS MAP)

ELEVATION: 237.98'

TBM "B" SET CHISELED "X" AT SOUTHEAST CORNER OF METAL GRATE FOR ABANDONED POWER VAULT.

ELEVATION: 237.34'

TBM "C" SET CHISELED "X" ON TOP SOUTHWEST BONNET BOLT FOR FIRE HYDRANT #35.

ELEVATION: 238.93'

NOTES

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UNDERGROUND UTILITIES WERE LOCATED BASED ON THE SURFACE EVIDENCE OF UTILITIES (PAINT MARKS, SAW CUTS IN PAVEMENT, COVERS, LIDS, ETC.) AND AS-BUILT INFORMATION PROVIDED BY THE UTILITY PURVEYORS. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

THIS MAP IS A LIMITED TOPOGRAPHIC SURVEY OF TAX PARCEL NUMBER 0220321000. NO BOUNDARY SURVEY WAS CONDUCTED FOR THIS PARCEL.

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INSTRUMENTATION FOR THIS SURVEY WAS A LEICA 1103 TOTAL STATION. PROCEDURES USED IN THIS SURVEY WERE FIELD TRAVERSE, MEETING OR EXCEEDING STANDARDS SET BY WAC 332-130-090.

LINE LEGEND

SS	SANITARY SEWER LINE
SS	SANITARY SEWER LINE (PER UTILITY ASBUILTS AND/OR SURVEY BY OTHERS)
FM	FORCE MAIN SEWER LINE
SD	STORM DRAIN LINE
SD	STORM DRAIN LINE (PER UTILITY ASBUILTS AND/OR SURVEY BY OTHERS)
P	POWER LINE (PER UTILITY LOCATES & OBSERVATION)
P	POWER LINE (PER UTILITY ASBUILTS AND/OR SURVEY BY OTHERS)
T	TELECOMMUNICATIONS LINE
T	TELECOMMUNICATIONS LINE (PER UTILITY ASBUILTS AND/OR SURVEY BY OTHERS)
FO	FIBER OPTICS LINE
W	WATER LINE
W	WATER LINE (PER UTILITY ASBUILTS AND/OR SURVEY BY OTHERS)
ST	STEAM LINE
ST	STEAM LINE (PER UTILITY ASBUILTS AND/OR SURVEY BY OTHERS)
CLFNC	CHAIN LINK FENCE LINE

SYMBOL LEGEND

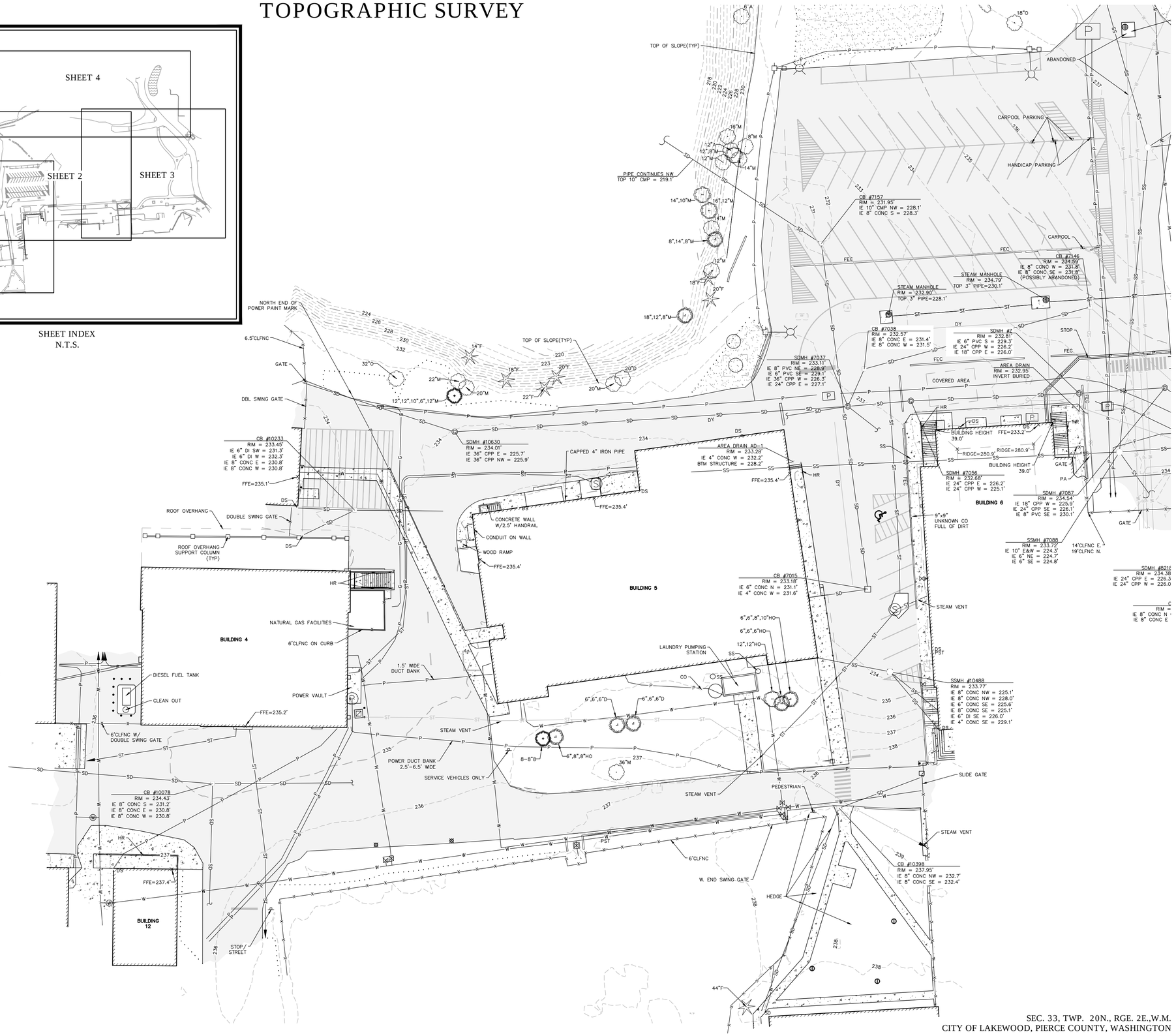
	AREA LIGHT
P	POWER VAULT
DS	DOWN SPOUT
	HOSE BIB
	YARD DRAIN
	CATCH BASIN
	STORM DRAIN MANHOLE
	SANITARY SEWER MANHOLE
SS	SANITARY SEWER CLEANOUT
	ACCESS MANHOLE
	SOIL LOG/TEST PIT
	FIRE DEPARTMENT CONNECTOR
	FIRE HYDRANT
	WATER VALVE
W	WATER MANHOLE
	BOLLARD
	SIGN
	PAINT MARK
DY	DASHED YELLOW LINE
FEC	FACE OF EXTRUDED CURB
FVC	FACE OF VERTICAL CURB
HR	HANDRAIL
PA	PLANTER AREA
	WHEEL CHAIR RAMP
	SET BENCHMARK

TREE LEGEND

12"C	CEDAR
12"F	FIR
12"A	ALDER
12"HO	HOLLY
12"M	MAPLE
12"MA	MADRONA
12"O	OAK
12"M, 12"M, 12"M, 12"M	CLUSTER
	HEDGE

HATCH LEGEND

	CONCRETE PAVING
	ASPHALT PAVING
	BUILDINGS
	GRAVEL SURFACE
	POND



SEC. 33, TWP. 20N., RGE. 2E.,W.M.
CITY OF LAKEWOOD, PIERCE COUNTY, WASHINGTON

REV#	DESCRIPTION OF REVISION	DATE	BY
#1	ADDED BUILDING HEIGHTS FOR 6, 8 AND 9 NORTH SIDE	09/01/16	JM
	ADDED TREE HEIGHTS FOR TREES OVER 23" DIAMETER		
#2	ADDED MISC. STRIPING, TOP OF SLOPE & SHEET INDEX	09/06/16	JM
#3			
#4			
#5			
#6			

SURVEY
FOR
WESTERN STATE HOSPITAL

NAC ARCHITECTURE

2025 1ST AVE, SUITE 300
SEATTLE, WA 98121

Axis Survey & Mapping
15241 NE 90TH ST
REDMOND, WA 98052
TEL 425.823-5700
FAX 425.823-6700

JOB NO. 16-142	DATE 08/22/16
DRAWN BY JM	CHECKED BY TB
SCALE 1" = 20'	SHEET 1 OF 4

TOPOGRAPHIC SURVEY

MATCH LINE SHEET 4 OF 4

Axis

GRAPHIC SCALE

20 10 0 20 40

1" = 20'

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LINE LEGEND

SS	SANITARY SEWER LINE
SS	SANITARY SEWER LINE (PER UTILITY ASBUILTS AND/OR SURVEY BY OTHERS)
FM	FORCE MAIN SEWER LINE
SD	STORM DRAIN LINE
SD	STORM DRAIN LINE (PER UTILITY ASBUILTS AND/OR SURVEY BY OTHERS)
P	POWER LINE (PER UTILITY LOCATES & OBSERVATION)
P	POWER LINE (PER UTILITY ASBUILTS AND/OR SURVEY BY OTHERS)
T	TELECOMMUNICATIONS LINE
T	TELECOMMUNICATIONS LINE (PER UTILITY ASBUILTS AND/OR SURVEY BY OTHERS)
FO	FIBER OPTICS LINE
W	WATER LINE
W	WATER LINE (PER UTILITY ASBUILTS AND/OR SURVEY BY OTHERS)
ST	STEAM LINE
ST	STEAM LINE (PER UTILITY ASBUILTS AND/OR SURVEY BY OTHERS)
CLFNC	CHAIN LINK FENCE LINE

SYMBOL LEGEND

	AREA LIGHT
P	POWER VAULT
DS	DOWN SPOUT
	HOSE BIB
	YARD DRAIN
	CATCH BASIN
	STORM DRAIN MANHOLE
	SANITARY SEWER MANHOLE
SS	SANITARY SEWER CLEANOUT
	ACCESS MANHOLE
	SOIL LOG/TEST PIT
	FIRE DEPARTMENT CONNECTOR
	FIRE HYDRANT
	WATER VALVE
	WATER MANHOLE
	BOLLARD
	SIGN
	PAINT MARK
DY	DASHED YELLOW LINE
FEC	FACE OF EXTRUDED CURB
FVC	FACE OF VERTICAL CURB
HR	HANDRAIL
PA	PLANTER AREA
	WHEEL CHAIR RAMP
	SET BENCHMARK

TREE LEGEND

12"C	CEDAR
12"F	FIR
12"A	ALDER
12"HO	HOLLY
12"M	MAPLE
12"MA	MADRONA
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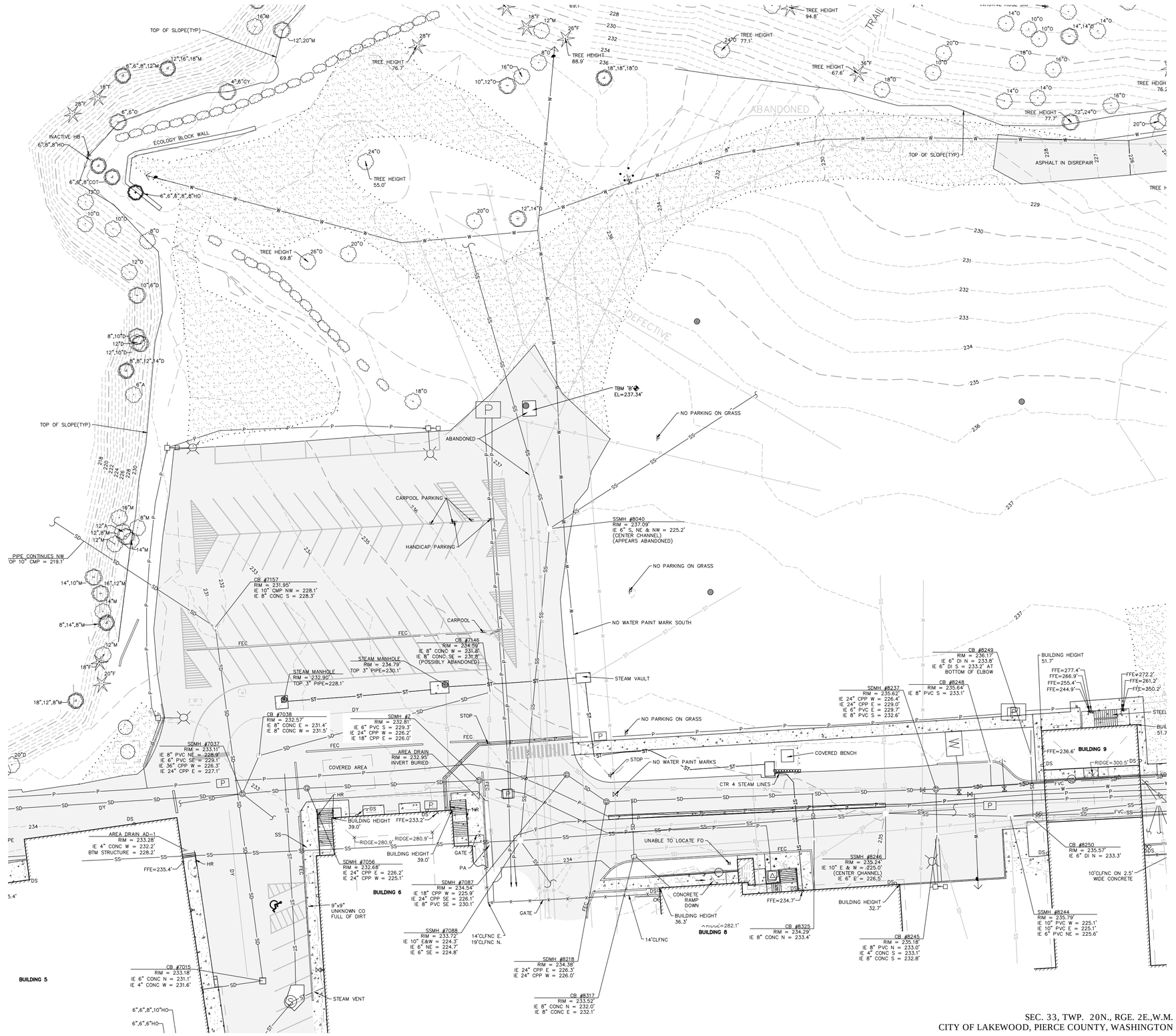
12"M 12"M 12"M 12"M	CLUSTER
	HEDGE

HATCH LEGEND

	CONCRETE PAVING
	ASPHALT PAVING
	BUILDINGS
	GRAVEL SURFACE
	POND



SEC. 33, TWP. 20N., RGE. 2E.,W.M.
CITY OF LAKEWOOD, PIERCE COUNTY, WASHINGTON

REV#	DESCRIPTION OF REVISION	DATE	BY
#1	ADDED BUILDING HEIGHTS FOR 6, 8 AND 9 NORTH SIDE	09/01/16	JM
	ADDED TREE HEIGHTS FOR TREES OVER 23" DIAMETER		
#2	ADDED MISC. STRIPING, TOP OF SLOPE & SHEET INDEX	09/06/16	JM
#3			
#4			
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SURVEY
FOR
WESTERN STATE HOSPITAL

NAC ARCHITECTURE
2025 1ST AVE, SUITE 300
SEATTLE, WA 98121

Axis Survey & Mapping
15241 NE 90TH ST
REDMOND, WA 98052
TEL 425.823-5700
FAX 425.823-6700

JOB NO. 16-142	DATE 08/22/16
DRAWN BY JM	CHECKED BY TB
SCALE 1" = 20'	SHEET 2 OF 4

TOPOGRAPHIC SURVEY

MATCH LINE SHEET 4 OF 4

GRAPHIC SCALE

20 10 0 20 40

1" = 20'

DATUM/BASIS OF BEARINGS

N89°01'46"E BETWEEN FOUND STONE MONUMENT #30 AND FOUND BRASS DISK #16 ALONG STEILACOOM BLVD PER RECORD OF SURVEY BY CTS ENGINEERING DATED 4/30/97 AND REVISED 8/17/05.

ORIGINATING BENCHMARK:
WSDOT MONUMENT "SENTINEL" MONUMENT ID # 1764, FOUND 3" BRASS DISC STAMPED SENTINEL DOWN 0.1' IN ASPHALT ± 1.5' WEST OF STOP BAR & 2.0' SOUTH OF DOUBLE YELLOW CENTERLINE @ WEST SIDE OF INTERSECTION AT STEILACOOM BLVD SW & SENTINEL DR AS PUBLISHED IN WSDOT SURVEY MARK REPORT.

ELEVATION: 235.905'
VERTICAL DATUM: NAVD '88

TEMPORARY BENCHMARKS:
TBM "A" SOUTH CORNER OF CONCRETE LIGHT BASE EAST OF SOUTHWEST ENTRANCE TO CAMPUS. (NOT SHOWN ON THIS MAP)

ELEVATION: 237.98'

TBM "B" SET CHISELED "X" AT SOUTHEAST CORNER OF METAL GRATE FOR ABANDONED POWER VAULT.

ELEVATION: 237.34'

TBM "C" SET CHISELED "X" ON TOP SOUTHWEST BONNET BOLT FOR FIRE HYDRANT #35.

ELEVATION: 238.93'

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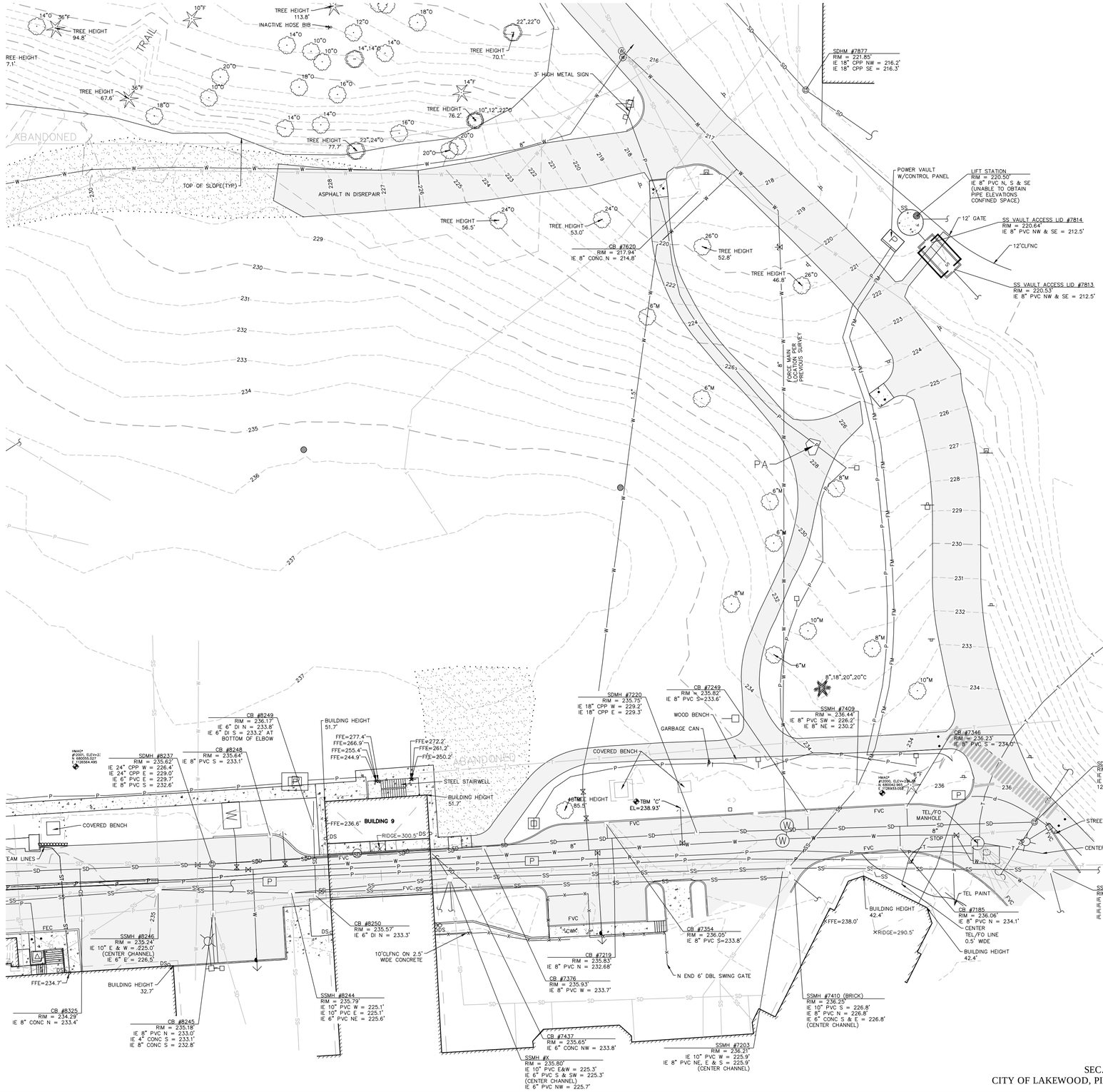

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TOPOGRAPHIC SURVEY

Axis

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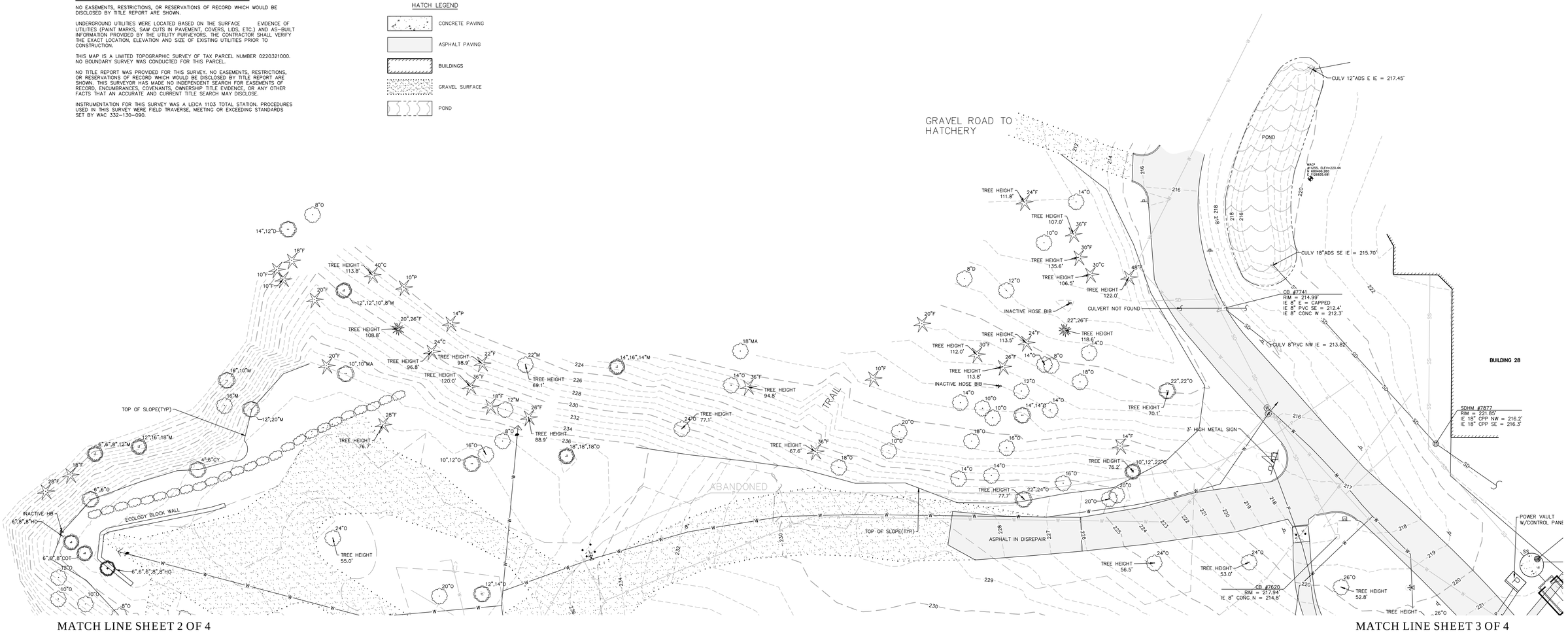

MATCH LINE SHEET 2 OF 4

MATCH LINE SHEET 3 OF 4

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SEC 33, TWN 20N, RNG 2E W.M.

WESTERN STATE HOSPITAL
BUILDING 22
PATIENT SUPPORT CENTER

CONFORMED SET
MARCH 16, 2018

General Notes

1. ALL WORK IN CITY RIGHT-OF-WAY REQUIRES RIGHT-OF-WAY PERMIT FROM THE CITY OF LAKEWOOD.
2. AFTER COMPLETION OF ALL ITEMS SHOWN ON THESE PLANS AND BEFORE ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL OBTAIN A "PUNCH LIST" PREPARED BY THE CITY'S INSPECTOR DETAILING REMAINING ITEMS OF WORK TO BE COMPLETED. ALL ITEMS OF WORK SHOWN ON THESE PLANS SHALL BE COMPLETED TO THE SATISFACTION OF THE CITY PRIOR TO ACCEPTANCE OF THE PROJECT.
3. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CITY OF LAKEWOOD PUBLIC WORKS CODE, ENGINEERING STANDARDS MANUAL, AND OTHER REFERENCED MANUALS OR DOCUMENTS.
4. A COPY OF THESE APPROVED PLANS, SPECIFICATIONS, AND DETAILS SHALL BE ON SITE DURING CONSTRUCTION.
5. ANY REVISIONS MADE TO THESE PLANS MUST BE REVIEWED AND APPROVED BY THE DEVELOPER'S ENGINEER AND THE CITY ENGINEER PRIOR TO ANY IMPLEMENTATION IN THE FIELD. THE CITY SHALL NOT BE RESPONSIBLE FOR ANY ERRORS AND/OR OMISSIONS IN THESE PLANS.
6. THE CONTRACTOR SHALL HAVE ALL UTILITIES VERIFIED ON THE GROUND PRIOR TO ANY CONSTRUCTION. CALL 811 OR 1-800-424-5555 (CALL BEFORE YOU DIG HOTLINE) AT LEASE 48 HOURS IN ADVANCE. CALL PIERCE COUNTY TRAFFIC (253) 531-6990 FOR LOCATIONS OF CITY-OWNED TRAFFIC SIGNALS. CALL WSDOT SIGNAL SHOP (360) 357-2616 FOR LOCATIONS OF STATE-OWNED TRAFFIC SIGNALS. THE APPLICANT AND APPLICANT'S ENGINEER SHALL BE CONTACTED IMMEDIATELY IF A CONFLICT EXISTS.
7. ANY STRUCTURE AND/OR OBSTRUCTION WHICH REQUIRE REMOVAL OR RELOCATION RELATING TO THIS PROJECT SHALL BE DONE SO AT THE DEVELOPER'S EXPENSE.
8. LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE TRUE ELEVATIONS AND LOCATIONS OF HIDDEN UTILITIES. ALL VISIBLE ITEMS SHALL BE THE ENGINEER'S RESPONSIBILITY.
9. THE CONTRACTOR SHALL INSTALL, REPLACE, OR RELOCATE ALL SIGNS, AS SHOWN IN THE PLANS OR AS AFFECTED BY CONSTRUCTION.
10. ALL CONSTRUCTION SURVEYING FOR EXTENSIONS OF PUBLIC FACILITIES SHALL BE DONE UNDER THE DIRECTION OF A WASHINGTON STATE LICENSED PROFESSIONAL LAND SURVEYOR OR PROFESSIONAL CIVIL ENGINEER
11. DURING CONSTRUCTION, ALL PUBLIC STREETS ADJACENT TO THIS PROJECT SHALL BE KEPT CLEAN OF ALL MATERIAL DEPOSITS RESULTING FROM ON-SITE CONSTRUCTION, AND EXISTING STRUCTURES SHALL BE PROTECTED AS DIRECTED BY THE CITY.
12. CERTIFIED RECORDS (AS-BUILT) DRAWINGS ARE REQUIRED PRIOR TO PROJECT ACCEPTANCE PER LMC SECTION 12A.06.010
13. A NPDES CONSTRUCTION STORMWATER GENERAL PERMIT & COVERAGE MAY BE REQUIRED BY THE WASHINGTON STATE DEPARTMENT OF ECOLOGY FOR THIS PROJECT. CONTACT THE DEPARTMENT OF ECOLOGY FOR MORE INFORMATION.
14. ANY DISTURBANCE OR DAMAGE TO CRITICAL AREAS AND ASSOCIATED BUFFERS, OR SIGNIFICANT TREES DESIGNATED FOR PRESERVATION AND PROTECTION SHALL BE MITIGATED IN ACCORDANCE WITH A MITIGATION PLAN REVIEWED AND APPROVED BY THE CITY OF LAKEWOOD COMMUNITY DEVELOPMENT DEPARTMENT. PREPARATION AND IMPLEMENTATION OF THE MITIGATION PLAN SHALL BE AT THE DEVELOPER'S EXPENSE.

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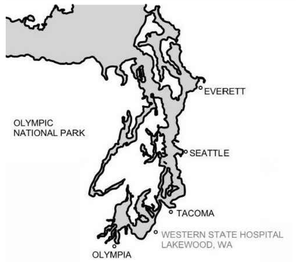
Vicinity Map - Puget Sound

N.T.S.



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Elevation

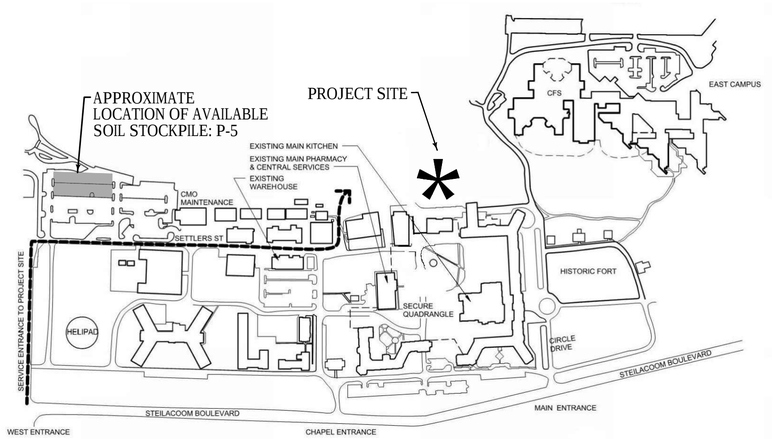
235.905'

Vertical Datum

NAVD '88

Vicinity Map - Western State Hospital Campus Map

N.T.S.



Owner

STATE OF WASHINGTON – DSHS
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(360) 902-8156
PENNY KOAL

Architect

NAC|ARCHITECTURE
2025 FIRST AVE, SUITE 300
SEATTLE WA 98121
(206) 441-4522
STEVEN SHIVER / CHERYL JACOBS

Civil Engineer

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801 SECOND AVENUE, SUITE 900
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(206) 343-0460
KEITH KRUGER

Surveyor

AXIS SURVEYING & MAPPING
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Geotechnical Engineer

ASSOCIATED EARTH SCIENCES, INC.
911 5TH VENUE, SUITE 100
KIRKLAND, WA 98033
(425) 827-7701
KURT MERRIMAN

Sheet Index

C0.00	COVER SHEET
C1.00	DEMOLITION PLAN
C1.01	TESC AND EXCAVATION PLAN
C1.10	TESC DETAILS
C2.00	GRADING PLAN
C2.10	GRADING SECTIONS
C3.00	STORM DRAINAGE PLAN
C3.10	STORM DRAINAGE DETAILS
C3.11	STORM DRAINAGE DETAILS
C3.20	STORM PROFILES
C4.00	WATER AND SEWER PLAN
C4.10	UTILITY DETAILS
C4.20	SEWER PROFILES
C5.00	PAVING, STRIPING AND H.C. PLAN
C5.10	PAVING DETAILS
C5.11	STRIPING DETAILS
C6.00	CIVIL SITE PLAN ALTERNATE NO. 3

REVISIONS

CONFORMED SET

COUGHLIN PORTER LUNDEEN
801 SECOND AVENUE, SUITE 900
SEATTLE, WA 98104
(206) 343-0460 www.cplinc.com

Western State Hospital
BUILDING 22, PATIENT SUPPORT CENTER
PATIENT SUPPORT CENTER
9601 STEILACOOM BLVD SW, LAKEWOOD, WASHINGTON 98498-7213

NAC ARCHITECTURE
nacarchitecture.com
2025 FIRST AVE | SUITE 300
SEATTLE WA 98121
P.206.441.4522

DSHS NO	16-410G (2-1)
CPL NO	C100030-01
DRAWN	PRW, REK
CHECKED	KNK
DATE	03/16/2018

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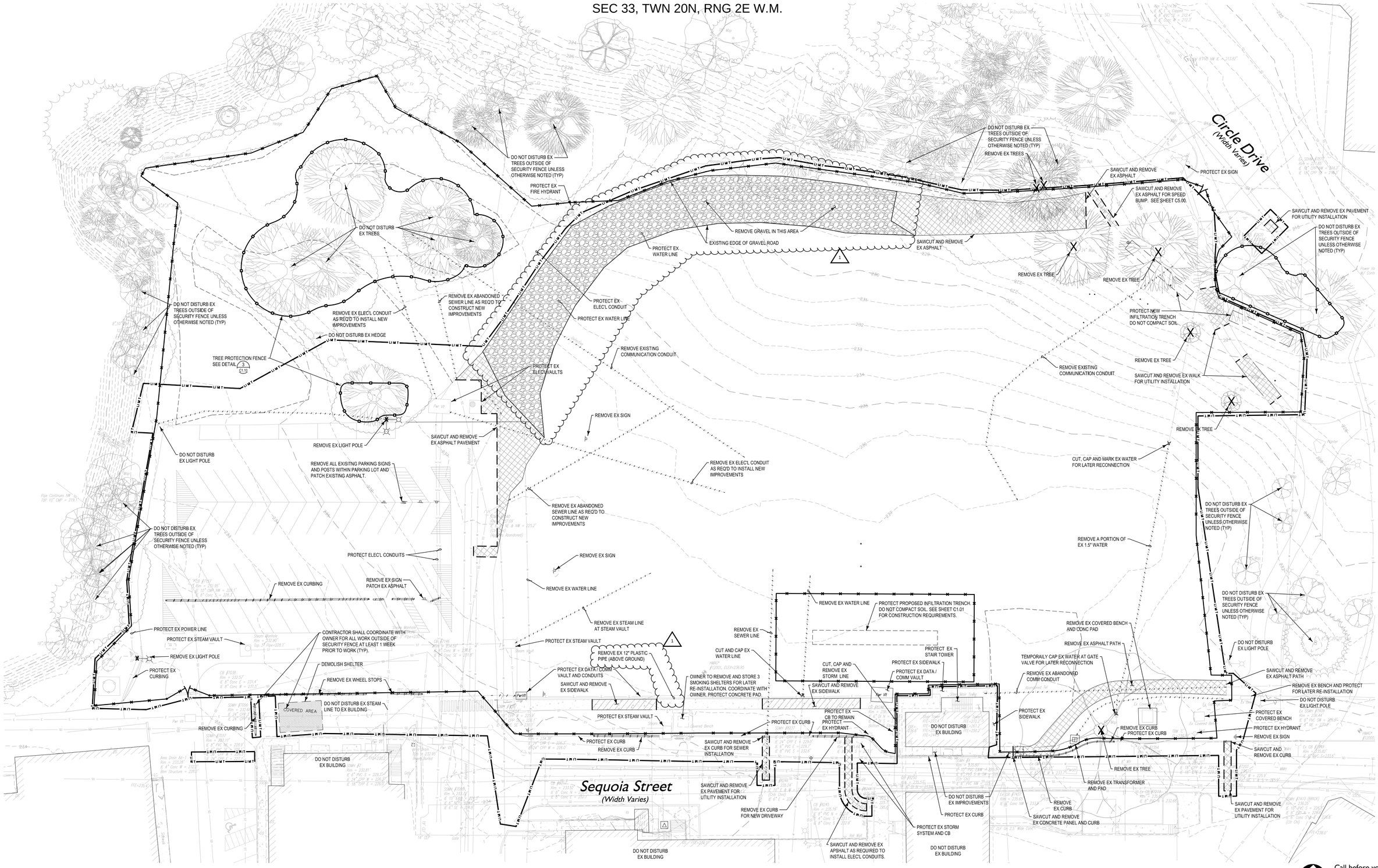
COVER SHEET

C0.00

SEC 33, TWN 20N, RNG 2E W.M.



NOTES:

1. COORDINATE SHUT OFF OF UTILITIES TO EXISTING BUILDINGS WITH HOSPITAL FACILITIES STAFF. DO NOT CUT UTILITIES TO EXISTING BUILDINGS WITHOUT WRITTEN APPROVAL.
2. RELOCATE STEAM VAULTS AND PROVIDE NEW VAULTS AND PIPING PER MECHANICAL PLANS.
3. ADJUST EXISTING UTILITY STRUCTURE LIDS AND VALVE COVERS TO FINISHED GRADE AT ALL LOCATIONS WHERE PROTECTED STRUCTURES ARE WITHIN NEW WORK.
4. REFER TO TREE PROTECTION PLAN FOR PROTECTION OF EXISTING TREES TO REMAIN.
5. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL WORK OUTSIDE OF SECURITY FENCE AT LEAST 1 WEEK PRIOR TO WORK.

Legend

- N 79°33'06" E – 46.81' — PROPERTY LINE
- SAWCUT LINE
- REMOVE CURBING
- REMOVE ASPHALT PAVEMENT
- REMOVE CONCRETE PAVEMENT
- DEMOLISH BUILDING
- Existing / Demo — REMOVE TREE(S)
- TEMPORARY SECURITY FENCING
- L I M I T — LIMIT OF WORK

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SCALE 1"=20'

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REVISIONS
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801 SECOND AVENUE, SUITE 900
SEATTLE, WA 98104
(206) 343-0460 www.cplinc.com

KEITH N. KNOX STATE OF WASHINGTON 20871 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

Western State Hospital
BUILDING 22, PATIENT SUPPORT CENTER
PATIENT SUPPORT CENTER
9601 STEILACOOM BLVD SW, LAKEWOOD, WASHINGTON 98498-7213

NAC ARCHITECTURE
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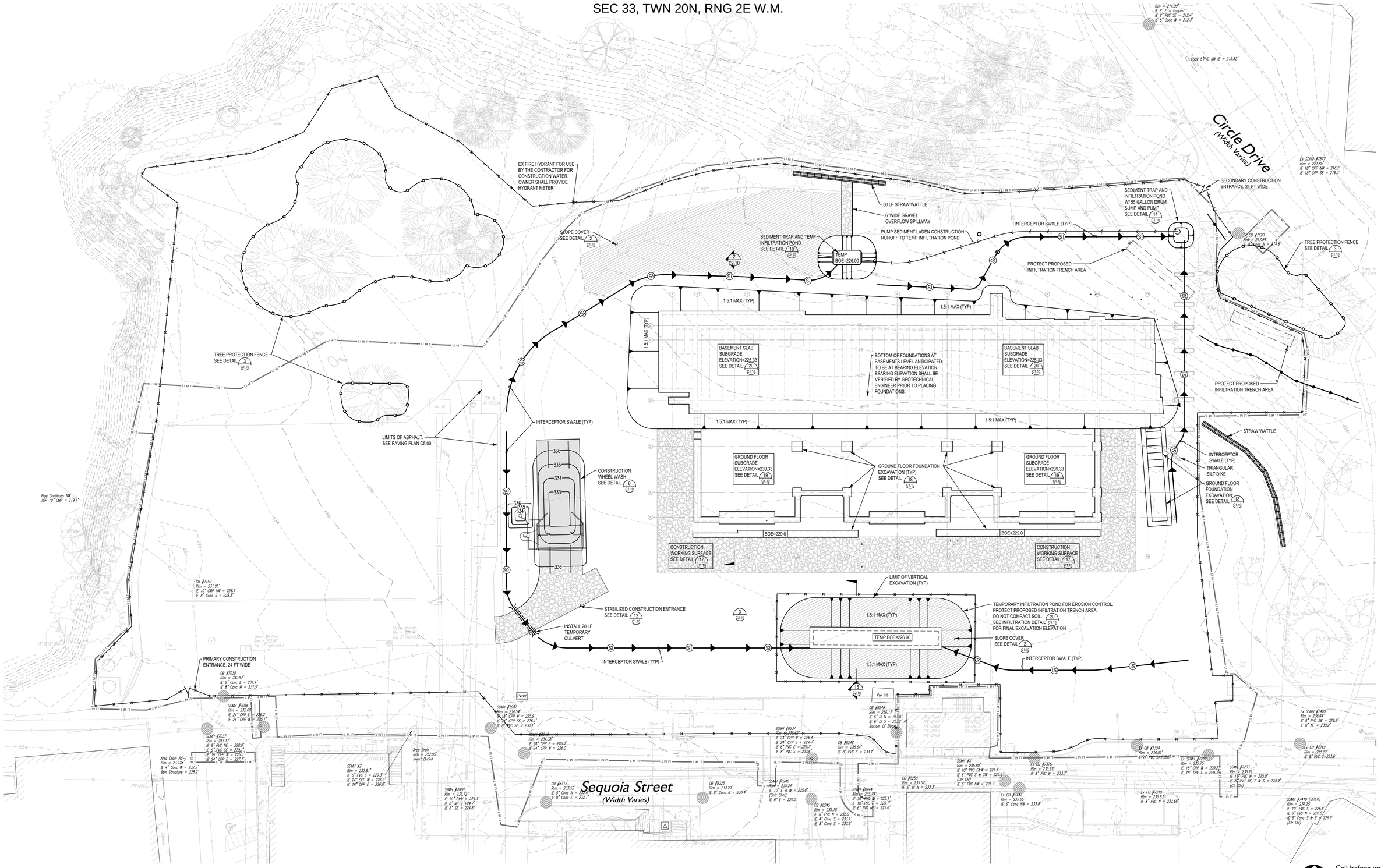
2025 FIRST AVE | SUITE 300
SEATTLE WA 98121
P:206.441.4522

DSHS NO	16-410G (2-1)
CPL NO	C100030-01
DRAWN	PRW, REK
CHECKED	KNK
DATE	03/16/2018

DEMOLITION PLAN

C1.00

SEC 33, TWN 20N, RNG 2E W.M.

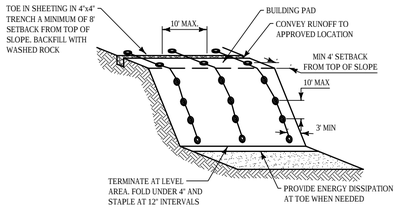

Circle Drive
(Width Varies)
Sequoia Street
(Width Varies)
EX FIRE HYDRANT FOR USE BY THE CONTRACTOR FOR CONSTRUCTION WATER. OWNER SHALL PROVIDE HYDRANT METER.
SLOPE COVER SEE DETAIL 2 C1.10
50 LF STRAW WATTLE
6' WIDE GRAVEL OVERFLOW SPILLWAY
SEDIMENT TRAP AND TEMP INFILTRATION POND SEE DETAIL 10 C1.10
PUMP SEDIMENT LADEN CONSTRUCTION RUNOFF TO TEMP INFILTRATION POND
TEMP BOE=226.00
INTERCEPTOR SWALE (TYP)
SEDIMENT TRAP AND INFILTRATION POND W/ 55 GALLON DRUM SUMP AND PUMP SEE DETAIL 14 C1.10
SECONDARY CONSTRUCTION ENTRANCE, 24 FT WIDE
PROTECT PROPOSED INFILTRATION TRENCH AREA
TREE PROTECTION FENCE SEE DETAIL 3 C1.10
1.5:1 MAX (TYP)
BASEMENT SLAB SUBGRADE ELEVATION=225.33 SEE DETAIL 20 C1.10
BOTTOM OF FOUNDATIONS AT BASEMENTS LEVEL ANTICIPATED TO BE AT BEARING ELEVATION. BEARING ELEVATION SHALL BE VERIFIED BY GEOTECHNICAL ENGINEER PRIOR TO PLACING FOUNDATIONS.
GROUND FLOOR SUBGRADE ELEVATION=239.33 SEE DETAIL 19 C1.10
GROUND FLOOR FOUNDATION EXCAVATION (TYP) SEE DETAIL 18 C1.10
BOE=229.0
CONSTRUCTION WORKING SURFACE SEE DETAIL 17 C1.10
STRAW WATTLE
INTERCEPTOR SWALE (TYP)
TRIANGULAR SILT DIKE
GROUND FLOOR FOUNDATION EXCAVATION SEE DETAIL 18 C1.10
TREE PROTECTION FENCE SEE DETAIL 3 C1.10
LIMITS OF ASPHALT. SEE PAVING PLAN C5.00
CONSTRUCTION WHEEL WASH SEE DETAIL 6 C1.10
STABILIZED CONSTRUCTION ENTRANCE SEE DETAIL 12 C1.10
INSTALL 20 LF TEMPORARY CULVERT
LIMIT OF VERTICAL EXCAVATION (TYP)
TEMPORARY INFILTRATION POND FOR EROSION CONTROL. PROTECT PROPOSED INFILTRATION TRENCH AREA. DO NOT COMPACT SOIL. SEE INFILTRATION DETAIL 20 C1.10 FOR FINAL EXCAVATION ELEVATION
SLOPE COVER SEE DETAIL 2 C1.10
PRIMARY CONSTRUCTION ENTRANCE, 24 FT WIDE
Pipe Continues NW TOP 10" CMP = 219.1'
CB #7157 Rim = 231.95' IE 10" CMP NW = 228.1' IE 8" Conc S = 228.3'
CB #1038 Rim = 232.57' IE 8" Conc E = 231.4' IE 8" Conc W = 231.5'
SDMH #7056 Rim = 232.68' IE 24" CPP E = 226.2' IE 24" CPP W = 225.1'
SDMH #7037 Rim = 233.11' IE 8" PVC NE = 228.9' IE 6" PVC SE = 229.1' IE 24" CPP W = 226.1' IE 24" CPP E = 227.1'
Area Drain A6-1 Rim = 233.28' IE 4" Conc W = 232.2' Btm Structure = 228.2'
SDMH #E Rim = 232.81' IE 6" PVC S = 229.3' IE 24" CPP W = 226.2' IE 18" CPP E = 226.0'
SDMH #7088 Rim = 233.72' IE 10" PVC W = 224.3' IE 6" NE = 224.7' IE 6" SE = 224.8'
Area Drain Rim = 232.95' Invert: Buried
SDMH #7085 Rim = 234.54' IE 18" CPP W = 225.9' IE 24" CPP SE = 226.1' IE 8" PVC SE = 230.1'
SDMH #8018 Rim = 234.38' IE 24" CPP E = 226.3' IE 24" CPP W = 226.0'
CB #8317 Rim = 233.53' IE 8" Conc N = 230.5' IE 8" Conc E = 232.1'
CB #8325 Rim = 234.29' IE 8" Conc N = 233.4'
SDMH #8237 Rim = 235.62' IE 24" CPP W = 226.4' IE 24" CPP E = 229.0' IE 6" PVC E = 229.5' IE 8" PVC S = 232.6'
SDMH #8246 Rim = 235.24' IE 10" E & W = 225.0' (Cntr Chnl) IE 6" E = 226.5'
CB #8245 Rim = 235.18' IE 8" PVC N = 233.0' IE 4" Conc S = 233.1' IE 8" Conc S = 232.8'
CB #8248 Rim = 235.64' IE 8" PVC S = 233.1'
SDMH #8244 Rim = 235.79' IE 10" PVC W = 225.1' IE 10" PVC E = 225.1' IE 6" PVC NE = 225.6'
CB #8249 Rim = 236.17' IE 6" DI N = 233.8' IE 4" DI S = 233.8' Bottom Of Elbow
CB #8250 Rim = 235.57' IE 6" DI N = 233.3'
SDMH #X Rim = 235.80' IE 10" PVC E&W = 225.3' IE 6" PVC S & SW = 225.5' (Cir Chl) IE 6" PVC NW = 225.7'
Ex CB #7465 Rim = 235.65' IE 8" Conc NW = 233.8'
Ex CB #1576 Rim = 235.97' IE 8" PVC W = 233.7'
Ex CB #7219 Rim = 235.85' IE 8" PVC N = 232.68'
Ex CB #7354 Rim = 236.05' IE 8" PVC S= 233.6'
Ex SDMH #7280 Rim = 235.25' IE 18" CPP W = 229.2' IE 18" CPP E = 229.3'
SDMH #7203 Rim = 236.21' IE 18" PVC W = 225.9' IE 8" PVC NE, E & S = 225.9' (Cir Chl)
SDMH #7410 (BRICK) Rim = 236.25' IE 10" PVC S = 226.8' IE 8" PVC N = 226.8' IE 6" Conc S & E = 226.8' (Cir Chl)
Ex SDMH #7409 Rim = 236.44' IE 8" PVC SW = 226.2' IE 8" NE = 230.2'
Ex CB #7249 Rim = 235.82' IE 8" PVC S=233.6'
Ex SDMH #7877 Rim = 221.85' IE 18" CPP NW = 216.2' IE 18" CPP SE = 216.3'
CB #7620 Rim = 217.94' IE 8" Conc N = 214.8'
Rim = 214.99' IE 8" E = Capped IE 8" PVC SE = 212.4' IE 8" Conc W = 212.3'
CULV 8"PVC NW IE = 213.82'
Steam Manhole Rim = 231.90' Top 3" Pipe=228.1'
Steam Manhole Rim = 229.40' Top 3" Pipe=226.3'
Covered Bench
Steel Rack Trellis
Edge Tower FFE=272.4' FFE=266.9' FFE=255.4' FFE=244.9'
Edge Tower FFE=272.2' FFE=261.2' FFE=250.2'
Retaining Wall
Gate
Hedge
Fence
Per VII
Power Vault
Water Vault
Telephone Vault
Gas Vault
Cleanout
Hydrant
Sign
Light Pole
Power Pole
Tree
Bollard
Mailbox
Curb Inlet
Catch Basin
Manhole
Valve
Meter
Water Line
Sewer Line
Storm Line
Gas Line
Electric Line
Telephone Line
Fiber Optic Line
Overhead Wire
Property Line
Easement
Setback
Building Footprint
Parking Stall
Handicap Stall
Crosswalk
Curb
Gutter
Sidewalk
Asphalt
Concrete
Landscape Area
Retaining Wall
Fence
Gate

Not Used 1

NTS

Weighted Plastic Sheeting 2

NTS

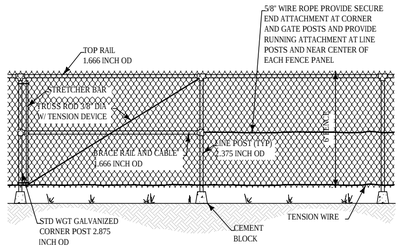


NOTES:

1. TIRES, SANDBAGS, OR EQUIVALENT MAY BE USED TO WEIGHT PLASTIC SHEETING.
2. SEAMS BETWEEN SHEETS MUST OVERLAP A MINIMUM OF 12" AND BE WEIGHTED OR TAPED.
3. PLASTIC SHEETING SHALL HAVE A MINIMUM THICKNESS OF 6 MIL.
4. DUE TO RAPID RUNOFF CAUSED BY PLASTIC SHEETING, THIS METHOD SHALL NOT BE USED UPSLOPE OF AREAS THAT MIGHT BE ADVERSELY IMPACTED BY CONCENTRATED RUNOFF.
5. IF EROSION AT THE TOE OF SLOPE IS LIKELY, A GRAVEL BERM, RIP-RAP, OR OTHER SUITABLE PROTECTION SHALL BE INSTALLED AT THE TOE OF SLOPE IN ORDER TO REDUCE THE VELOCITY OF RUNOFF.

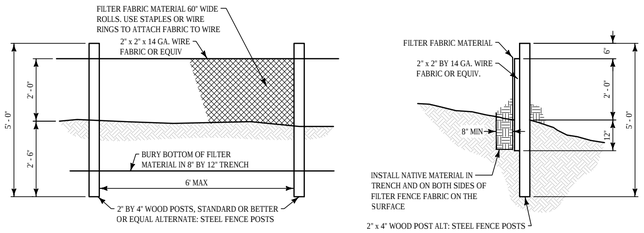
Tree Protection Fence 3

NTS



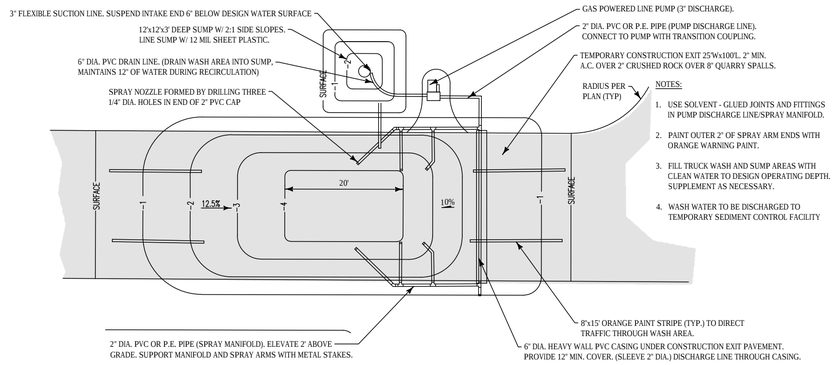
Filter Fabric Fence 5

NTS



Construction Wheel Wash 6

NTS

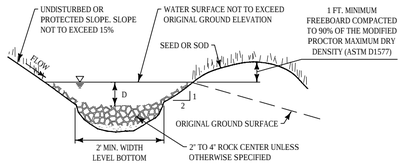


NOTES:

1. USE SOLVENT - GLUED JOINTS AND FITTINGS IN PUMP DISCHARGE LINE/SPRAY MANIFOLD.
2. PAINT OUTER 2' OF SPRAY ARM ENDS WITH ORANGE WARNING PAINT.
3. FILL TRUCK WASH AND SUMP AREAS WITH CLEAN WATER TO DESIGN OPERATING DEPTH. SUPPLEMENT AS NECESSARY.
4. WASH WATER TO BE DISCHARGED TO TEMPORARY SEDIMENT CONTROL FACILITY

Interceptor Swale 7

NTS

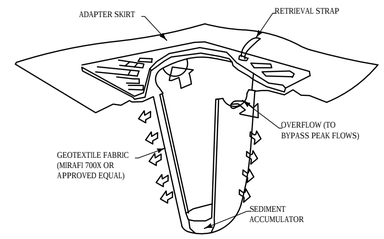


NOTES:

1. PROVIDE ROCK CHECK DAMS EVERY 50 FT. OR EVERY 5 FT. OF VERTICAL FALL.
2. DIMENSIONS: 1 FT MINIMUM DEPTH (D) BY 2 FT MINIMUM BOTTOM WIDTH.
3. SWALE GRADES SHOULD NOT EXCEED 5%. SIDE SLOPES SHOULD BE 2:1 OR LESS.
4. OUTLET SHALL CONSIST OF RIP RAP DISCHARGING TO STABILIZED OUTLET, SEDIMENT POND OR LEVEL SPREADER.
5. IF DESIGNED AS A PERMANENT DRAINAGE FEATURE, MAY BE USED IN COMBINATION WITH INTERCEPTOR DRAIN. SEE DETAIL CG-10.

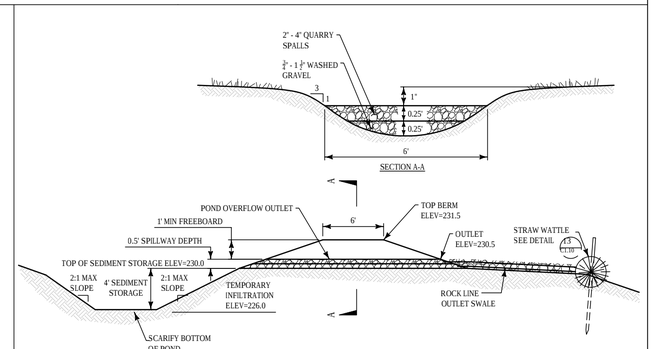
Inlet Protection 8

NTS



Sediment Trap 10

NTS



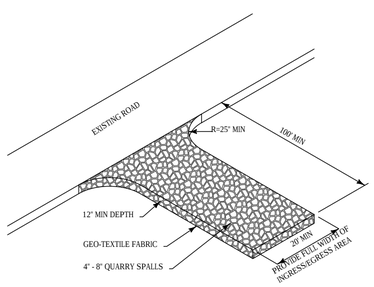
NOTE: TEMPORARY INFILTRATION POND SHALL BE REMOVED WHEN SITE IS STABILIZED. EXCAVATE SATURATED SOIL AND REPLACE WITH COMMON FILL PER PROJECT SPECIFICATIONS. REMOVE SPILLWAY AND RESTORE VEGETATION.

Not Used 11

NTS

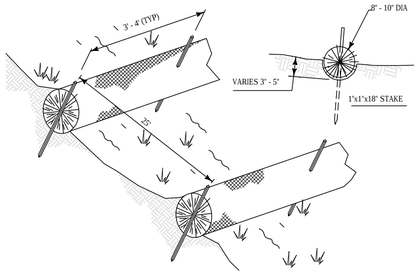
Stabilized Construction Entrance 12

NTS



Straw Wattle 13

NTS

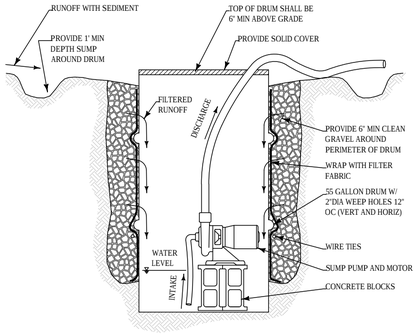


NOTES:

1. STRAW WATTLE/ROLL SHALL BE MANUFACTURED FROM RICE STRAW AND WRAPPED IN TUBULAR PLASTIC NETTING. NETTING SHALL HAVE A STRAND THICKNESS OF 0.03" AND A KNOT THICKNESS OF 0.055 AND A WEIGHT OF 0.35 OZ PER FOOT AND SHALL BE MADE FROM 85% HDPE, 14% ETHYL VINYL ACETATE AND 1% COLOR FOR UV INHIBITION.
2. STRAW WATTLE/ROLL INSTALLATION REQUIRED THE PLACEMENT AND SECURE STAKING OF THE WATTLE/ROLL IN A TRENCH, 3"-5" (VARIES) DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND WATTLE/ROLL.
3. STRAW WATTLE/ROLLS MUST BE PLACED ALONG SLOPE CONTOURS.

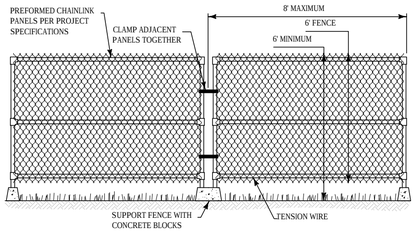
Temporary Sump Pump 14

NTS



Temporary Security Fence 15

NTS

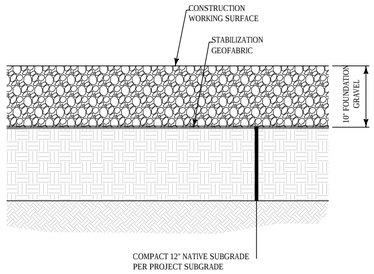


Not Used 16

NTS

Construction Working Surface 17

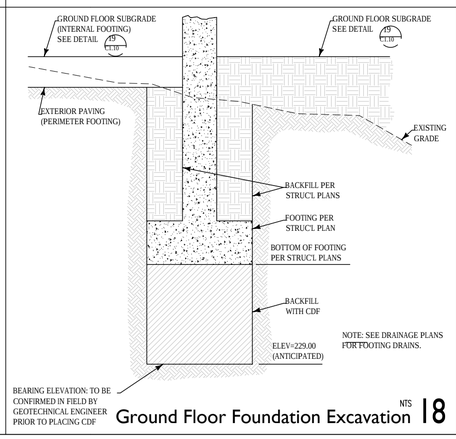
NTS



NOTE: TOP OF CONSTRUCTION WORKING SURFACE MAY BE USED AS BOTTOM OF SUB-GRADE (CRUSHED SURFACING BASE COURSE) FOR PAVEMENT SURFACES.

Ground Floor Foundation Excavation 18

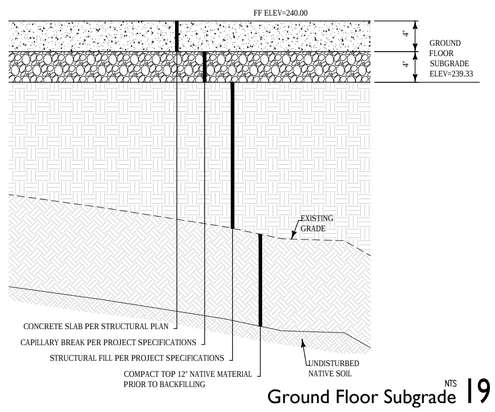
NTS



NOTE: SEE DRAINAGE PLANS FOR FOOTING DRAINS.

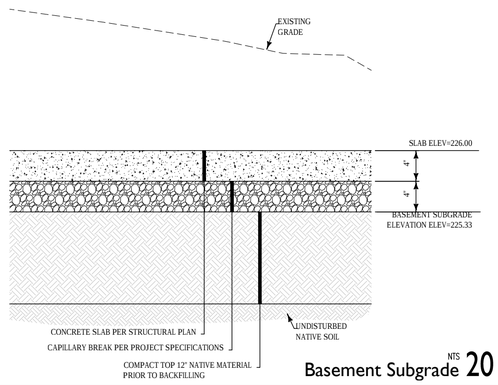
Ground Floor Subgrade 19

NTS



Basement Subgrade 20

NTS



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TESC DETAILS

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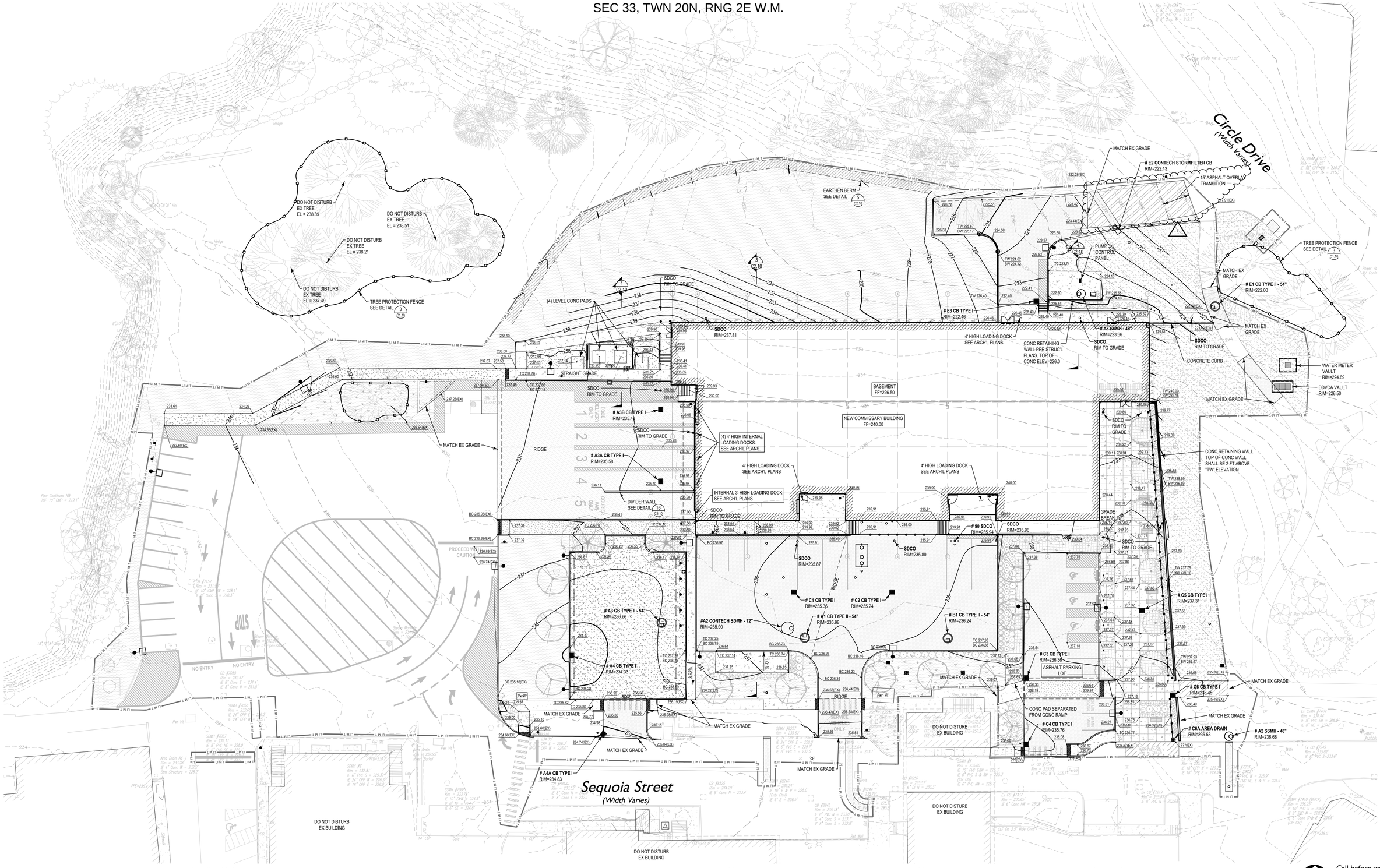

Grading Notes

1. ON SITE INSPECTIONS ARE REQUIRED AT THE FOLLOWING CONSTRUCTION STAGES:
   INSPECTION NO. 1: INSTALLATION OF EROSION CONTROL FACILITIES PRIOR TO CLEARING
   INSPECTION NO. 2: COMPLETION OF CLEARING
   INSPECTION NO. 3: UPON COMPLETION OF EXCAVATION, FILLING, AND EARTHWORK
   INSPECTION NO. 4: COMPLETION OF PROJECT
   INSPECTION NO. 5: AS NEEDED TO DETERMINE COMPLIANCE
2. ALL LIMITS OF CLEARING AND AREAS OF VEGETATION PRESERVATION AS PRESCRIBED ON THE PLANS SHALL BE CLEARLY FLAGGED IN THE FILED AND OBSERVED DURING CONSTRUCTION.
3. ALL TEMPORARY SEDIMENTATION AND EROSION CONTROL MEASURES, AND PROTECTIVE MEASURES FOR CRITICAL AREAS AND SIGNIFICANT TREES SHALL BE INSTALLED PRIOR TO INITIATING ANY CONSTRUCTION ACTIVITIES.
4. ALL REQUIRED SEDIMENTATION AND EROSION CONTROL FACILITIES MUST BE CONSTRUCTED AND IN OPERATION PRIOR TO ANY LAND CLEARING AND/OR OTHER CONSTRUCTION TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER ANY EXISTING DRAINAGE SYSTEM. THE CONTRACTOR SHALL SCHEDULE AN INSPECTION OF THE EROSION CONTROL FACILITIES PRIOR TO ANY LAND CLEARING AND/OR OTHER CONSTRUCTION. ALL EROSION AND SEDIMENT FACILITIES SHALL BE MAINTAINED IN A SATISFACTORY CONDITION AS DETERMINED BY THE CITY. UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED AND THE POTENTIAL FOR ONSITE EROSION HAS PASSED. THE IMPLEMENTATION, MAINTENANCE, REPLACEMENT, AND ADDITIONS TO THE EROSION AND SEDIMENTATION CONTROL SYSTEMS SHALL BE THE RESPONSIBILITY OF THE PERMITTEE.
5. THE EROSION AND SEDIMENTATION CONTROL SYSTEM FACILITIES DEPICTED ON THESE PLANS ARE INTENDED TO BE MINIMUM REQUIREMENTS TO MEET ANTICIPATED SITE CONDITIONS. AS CONSTRUCTION PROGRESSES AND UNEXPECTED OR SEASONAL CONDITIONS DICTATE, FACILITIES WILL BE NECESSARY TO ENSURE COMPLETE SILTATION CONTROL ON THE SITE. DURING THE COURSE OF CONSTRUCTION, IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE PERMITTEE TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY THEIR ACTIVITIES AND TO PROVIDE ADDITION FACILITIES, OVER AND ABOVE THE MINIMUM REQUIREMENTS, AS MAY BE NEEDED TO PROTECT ADJACENT PROPERTIES, SENSITIVE AREAS, NATURAL WATER COURSES, AND OR STORM DRAINAGE SYSTEMS.
6. ANY DISTURBED AREA WHICH HAS BEEN STRIPPED OF VEGETATION AND WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF 7 DAYS OR MORE DURING THE DRY SEASON (MAY 1 - SEPT 20) OR 2 DAYS OR MORE IN THE WET SEASON (OCT 1 - APR 30), SHALL BE IMMEDIATELY STABILIZED WITH MULCHING, GRASS PLANTING, OR OTHER APPROVED EROSION CONTROL TREATMENT APPLICABLE TO THE TIME OF YEAR IN QUESTION. GRASS SEEDING ALONE WILL BE ACCEPTABLE ONLY DURING THE MONTHS OF MAY THROUGH SEPTEMBER INCLUSIVE. SEEDING MAY PROCEED OUTSIDE THE SPECIFIED TIME PERIOD WHENEVER IT IS IN THE INTEREST OF THE PERMITTEE BUT SHALL BE AUGMENTED WITH MULCHING, NETTING, OR OTHER TREATMENT APPROVED BY THE CITY.
7. IN CASE EROSION OR SEDIMENTATION OCCURS TO ADJACENT PROPERTIES, ALL CONSTRUCTION WORK WITHIN THE DEVELOPMENT THAT WILL FURTHER AGGRAVATE THE SITUATION MUST CEASE, AND THE OWNER/CONTRACTOR SHALL IMMEDIATELY COMMENCE RESTORATION METHODS. RESTORATION ACTIVITY WILL CONTINUE UNTIL SUCH TIME AS THE AFFECTED PROPERTY OWNER IS SATISFIED.
8. NO TEMPORARY OR PERMANENT STOCKPILING OF MATERIALS OR EQUIPMENT SHALL OCCUR WITHIN CRITICAL AREAS OR ASSOCIATED BUFFERS, OR THE CRITICAL ROOT ZONE FOR VEGETATION PROPOSED FOR RETENTION.

Notes

1. LOADING DOCK WALLS, RETAINING WALLS, AND SITE WALLS PER ARCH'L AND STRUC'L PLANS.
2. STAIRS, RAMPS AND HAND RAILS PER ARCH'L AND L'SCAPE ARCHITECTURAL PLANS.
3. ADDITIONAL PAVEMENT PATCHING IS REQUIRED FOR UNDERGROUND POWER, COMMUNICATIONS AND STORM UTILITIES. SEE MECH'L AND ELEC'L PLANS.
4. SIDEWALK JOINTING AND SCORING PER DETAILS.
5. ALL PAVEMENT MARKINGS EXCEPT DIRECTIONAL ARROWS AND PARKING STALLS TO BE YELLOW PAINT. DIRECTIONAL ARROWS AND PARKING STALLS TO BE WHITE PAINT.

Notes

1. FOR RETAINING WALL FINISHES, SEE ARCHITECTURAL PLAN.
2. FOR RETAINING WALL STRUCTURE, SEE STRUCTURAL PLAN.
3. ADJUST EXISTING UTILITY STRUCTURE LIDS AND VALVE COVERS TO FINISH GRADES.
4. SPOT ELEVATIONS ARE BOTTOM OF CURB UNLESS OTHERWISE NOTED.

Note

ALL ADA CURB RAMPS SHALL HAVE A MAXIMUM SLOPE OF 1:12 (V:h), AND A MAXIMUM CROSS SLOPE OF 2.0%. CONFIRM SLOPES AND CORRECT ENGINEER FOR RAMP ADJUSTMENT PRIOR TO FINAL PAVEMENT INSTALLATION. SEE SHEET 5.00

Legend

N 79°13'06" E – 46.81'	PROPERTY LINE
54	PROPOSED CONTOUR
55	EXISTING CONTOUR

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SCALE 1"=20'

REVISIONS
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SEATTLE WA 98121
P.206.441.4522

DSHS NO	16-410G (2-1)
CPL NO	C100030-01
DRAWN	PRW, REK
CHECKED	KNK
DATE	03/16/2018

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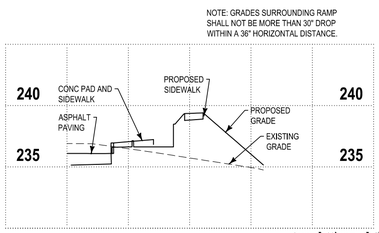
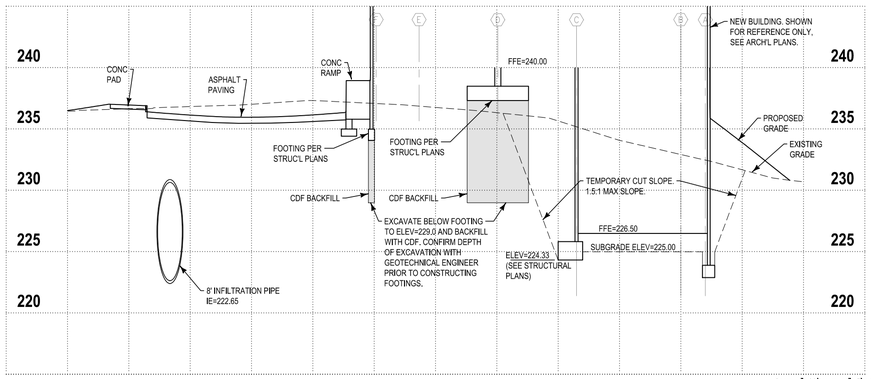
GRADING PLAN

C2.00

SEC 33, TWN 20N, RNG 2E W.M.



Scale 1"=20' Horz, 1"=5' Vert
Section 1



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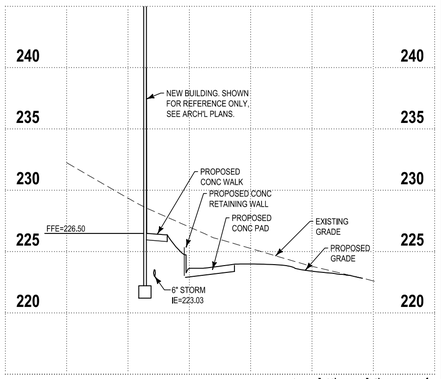
Section 3



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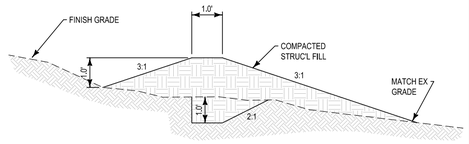
Section 4



NTS
Earthen Berm 5

Not Used 6

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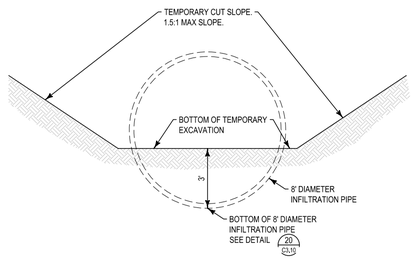

NTS
Temporary Infiltration Excavation 15

Not Used 16

Not Used 17

Not Used 18

Not Used 19

Not Used 20

REVISIONS

CONFORMED SET

COUGHLIN PORTER LUNDEEN
801 SECOND AVENUE, SUITE 900
SEATTLE, WA 98104
(206) 343-0460 www.cplinc.com

Western State Hospital
BUILDING 22, PATIENT SUPPORT CENTER
PATIENT SUPPORT CENTER
9601 STEILACOOM BLVD SW, LAKEWOOD, WASHINGTON 98498-7213

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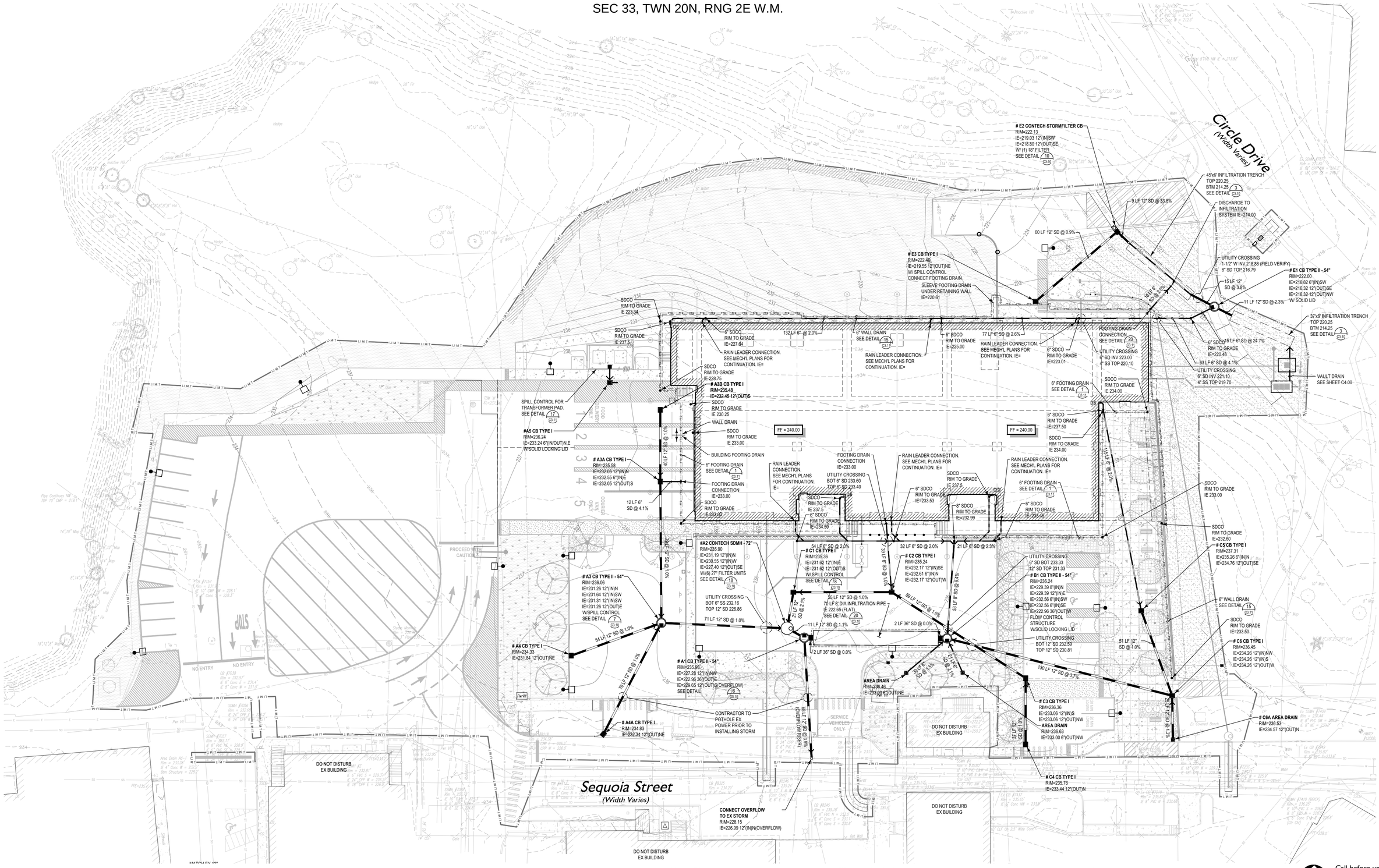
GRADING SECTIONS

C2.10

SEC 33, TWN 20N, RNG 2E W.M.



Storm Structures

AREA DRAIN	SEE DETAIL 2 C3.15
CB TYPE I	SEE DETAIL 10 C3.15
CB TYPE II	SEE DETAIL 4 C3.15
SDCO	SEE DETAIL 8 C3.11
TRENCH DRAIN	SEE DETAIL 2 C3.15
FOOTING DRAIN CONNECTION	SEE DETAIL 20 C3.15

Stormwater Notes

1. DURING CONSTRUCTION AND UNTIL FINAL SITE STABILIZATION, ALL EXISTING AND NEWLY INSTALLED DRAINAGE STRUCTURES SHALL BE PROTECTED FROM SEDIMENTS.
2. ALL DRAIN PIPES SHALL BE LAID ON A PROPERLY PREPARED SURFACE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATIONS, SECTION 7-08. THIS SHALL INCLUDE NECESSARY LEVELING OF THE TRENCH BOTTOM OR THE TOP OF FOUNDATION MATERIAL AS WELL AS PLACEMENT AND COMPACTION OF REQUIRED BEDDING MATERIAL TO UNIFORM GRADE SO THAT THE ENTIRE LENGTH OF PIPE WILL BE SUPPORTED ON A DENSE UNYIELDING BASE. IF NATIVE MATERIAL IN THE TRENCH BOTTOM MEETS REQUIREMENTS FOR WSDOT "GRAVEL BACKFILL FOR PIPE BEDDING", THEN THE FIRST LIFT OF PIPE BEDDING MAY BE OMITTED PROVIDED THE TRENCH BOTTOM MATERIAL IS LOOSENED, REGRADED AND COMPACTED TO FORM A DENSE UNYIELDING BASE.
3. ALL PAVED AREAS SHALL DRAIN TO CATCH BASINS. RUN GRADE IN STRAIGHT LINE/PLANE BETWEEN SPOT ELEVATIONS SHOWN ON THE PLANS. MAKE ADJUSTMENTS IN GRADE TO AVOID STANDING WATER. TAKE SPECIAL CARE AT CATCH BASINS TO AVOID "BIRD BATHS" IN SURROUNDING PAVEMENT.
4. ALL CATCH BASIN GRATES SHALL BE ADJUSTED TO FINAL GRADES UPON COMPLETION OF PAVING.
5. ALL STORM DRAIN MAINS SHALL BE TELEVISION INSPECTED PRIOR TO FINAL ACCEPTANCE BY THE CITY. A COPY OF THE INSPECTION DATA SHALL BE PROVIDED TO THE CITY.

Legend

N 79°33'06" E – 46.81'	PROPERTY LINE
12" DI W — W	WATER MAIN
FH/FDC/PIV/VALVE	
WATER VAULT/METER	
12"SS — SS	SANITARY SEWER
SSMH SSCO	SANITARY MH/CO
8"SD — SD	STORM DRAINAGE PIPE
	YD/CO/CB/CB 2/MH

Call before you Dig. 8-1-1
or 1-800-424-5555
UNDERGROUND SERVICE (USA)

0 10 20 40
SCALE 1"=20'

REVISIONS

CONFORMED SET

COUGHLIN PORTER LUNDEEN
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KEITH N. KNOX STATE OF WASHINGTON 40871 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

Western State Hospital
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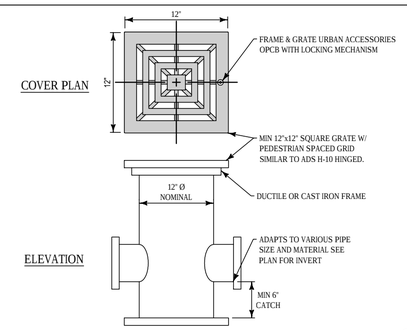
STORM
DRAINAGE PLAN

C3.00

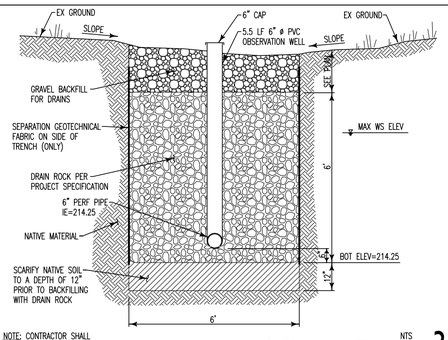
SEC 33, TWN 20N, RNG 2E W.M.

NTS
Not Used 1



NOTE:
12" PVC DRAIN BY CARSON, ADS OR EQUIVALENT

NTS
Area Drain 2



NOTE: CONTRACTOR SHALL AVOID COMPACTING OR CONTAMINATING BOTTOM OF EXCAVATION.

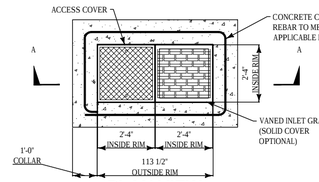
NTS
Infiltration Trench 3

STORMFILTER CATCHBASIN DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 1 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF ONE CARTRIDGE. SYSTEM IS SHOWN WITH A 27" CARTRIDGE, AND IS ALSO AVAILABLE WITH AN 18" CARTRIDGE. STORMFILTER CATCHBASIN CONFIGURATIONS ARE AVAILABLE WITH A DRY INLET BAY FOR VECTOR CONTROL.
PEAK HYDRAULIC CAPACITY PER TABLE BELOW. IF THE SITE CONDITIONS EXCEED PEAK HYDRAULIC CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION

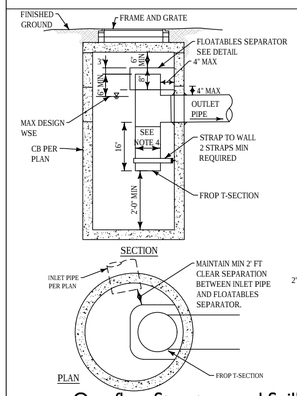
CARTRIDGE HEIGHT	27"		18"		18" DEEP	
MINIMUM HYDRAULIC DROP (H)	3.05'		2.3'		3.3'	
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/ft²	1 gpm/ft²	2 gpm/ft²	1 gpm/ft²	2 gpm/ft²	1 gpm/ft²
CARTRIDGE FLOW RATE (gpm)	22.5	11.25	15	7.5	15	7.5
PEAK HYDRAULIC CAPACITY	1.0		1.0		1.8	
INLET PERMANENT POOL LEVEL (A)	1'-0"		1'-0"		2'-0"	
OVERALL STRUCTURE HEIGHT (B)	4'-9"		3'-9"		4'-9"	



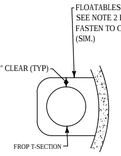
PLAN VIEW

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
4. INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
5. STORMFILTER CATCHBASIN EQUIPPED WITH 4 INCH (APPROXIMATE) LONG STUBS FOR INLET (IF APPLICABLE) AND OUTLET PIPING. STANDARD OUTLET STUB IS 8 INCHES IN DIAMETER. MAXIMUM OUTLET STUB IS 15 INCHES IN DIAMETER. CONNECTION TO COLLECTION PIPING CAN BE MADE USING FLEXIBLE COUPLING BY CONTRACTOR.
6. STEEL STRUCTURE TO BE MANUFACTURED OF 1/4 INCH STEEL PLATE. CASTINGS SHALL MEET AASHTO M306 LOAD RATING. TO MEET HS20 LOAD RATING ON STRUCTURE, A CONCRETE COLLAR IS REQUIRED. WHEN REQUIRED, CONCRETE COLLAR WITH QUANTITY (2) #4 REINFORCING BARS TO BE PROVIDED BY CONTRACTOR.
7. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 37 SECONDS.
8. SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CATCHBASIN (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

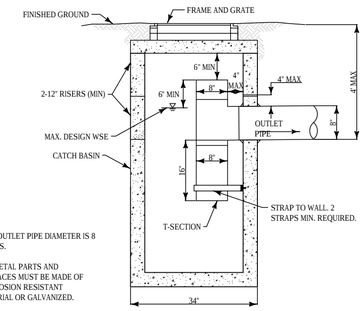


NOTES:
1. PIPE SUPPORTS AND RESTRICTOR/SEPARATOR SHALL BE OF SAME MATERIAL, AND BE ANCHORED AT 2' MAX SPACING BY 5/8" DIAM STAINLESS STEEL EXPANSION BOLTS OR EMBEDDED 2" IN WALL.
2. THE RESTRICTOR/SEPARATOR SHALL BE FABRICTED FROM .060" ALUMINUM, OR .064" ALUMINIZED STEEL, IN ACCORDANCE WITH AASHTO M 36, M 196, M 197 AND M 274.
3. OUTLET SHALL BE CONNECTED TO CULVERT OR SEWER PIPE WITH A STANDARD COUPLING BAND FOR CORRUGATED METAL PIPE, OR GROUTED INTO THE BELL OF CONCRETE PIPE.
4. THE VERTICAL RISER STEM OF THE RESTICTOR/SEPARATOR SHALL BE THE SAME DIAM AS THE HORIZONTAL OUTLET PIPE.



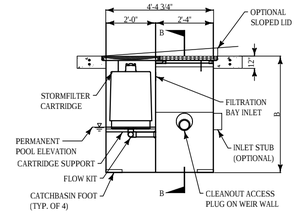
NTS
Overflow Structure and Spill Control Type 2 6

NTS
Not Used 7

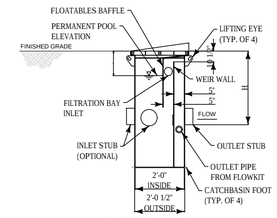


NOTES:
1. MAX. OUTLET PIPE DIAMETER IS 8 INCHES.
2. ALL METAL PARTS AND SURFACES MUST BE MADE OF CORROSION RESISTANT MATERIAL OR GALVANIZED.

NTS
Spill Control Separator Type I 8



SECTION A-A



SECTION B-B

1-CARTRIDGE CATCHBASIN STORMFILTER DATA

STRUCTURE ID		E2
WATER QUALITY FLOW RATE (cfs)		0.015
PEAK FLOW RATE (c1 cfs)		0.102
RETURN PERIOD OF PEAK FLOW (yrs)		100
CARTRIDGE FLOW RATE (gpm)		7.5
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)		ZPG
RIM ELEVATION		222.12
PIPE DATA:	I.E.	DIAMETER
INLET STUB	219.03 NE, W	12"
OUTLET STUB	218.80 E	12"
CONFIGURATION	OUTLET INLET INLET	
SLOPED LID		NO
SOLID COVER		NO
NOTES/SPECIAL REQUIREMENTS:		

NTS
Cartridge Catch Basin Stormfilter 10

STORMFILTER DESIGN NOTES

STORMFILTER TREATMENTCAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (7). VOLUME SYSTEM IS ALSO AVAILABLE WITH MAXIMUM 7 CARTRIDGES.
Ø72" MANHOLE STORMFILTER PEAK HYDRAULIC CAPACITY IS 1.5 CFS. IF THE SITE CONDITIONS EXCEED 1.5 CFS AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION

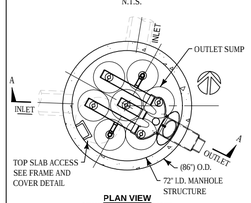
CARTRIDGE HEIGHT	27"		18"		LOW DROP	
RECOMMENDED HYDRAULIC DROP (H)	3.05'		2.3'		1.8'	
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/ft²	1 gpm/ft²	2 gpm/ft²	1 gpm/ft²	2 gpm/ft²	1 gpm/ft²
CARTRIDGE FLOW RATE (gpm)	22.5	11.25	15	7.5	10	5

FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

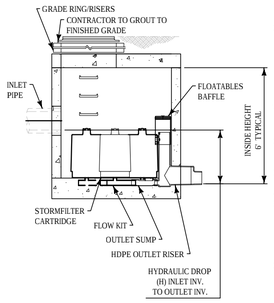
SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			A2
WATER QUALITY FLOW RATE (cfs)			0.149
PEAK FLOW RATE (cfs)			1.306
RETURN PERIOD OF PEAK FLOW (yrs)			100
# OF CARTRIDGES REQUIRED			6
CARTRIDGE FLOW RATE			11.25
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)			ZPG
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	230.55 W	SD	12"
INLET PIPE #2	231.19 N	SD	12"
OUTLET PIPE	227.40 SE	SD	12"
RIM ELEVATION			235.90
ANTI-FLOTATION BALLAST	WIDTH	HEIGHT	
	*	*	
NOTES/SPECIAL REQUIREMENTS:			

* PER ENGINEER OF RECORD



PLAN VIEW
STANDARD OUTLET RISER
FLOWKIT: 42A

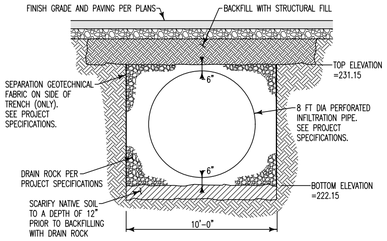


SECTION A-A

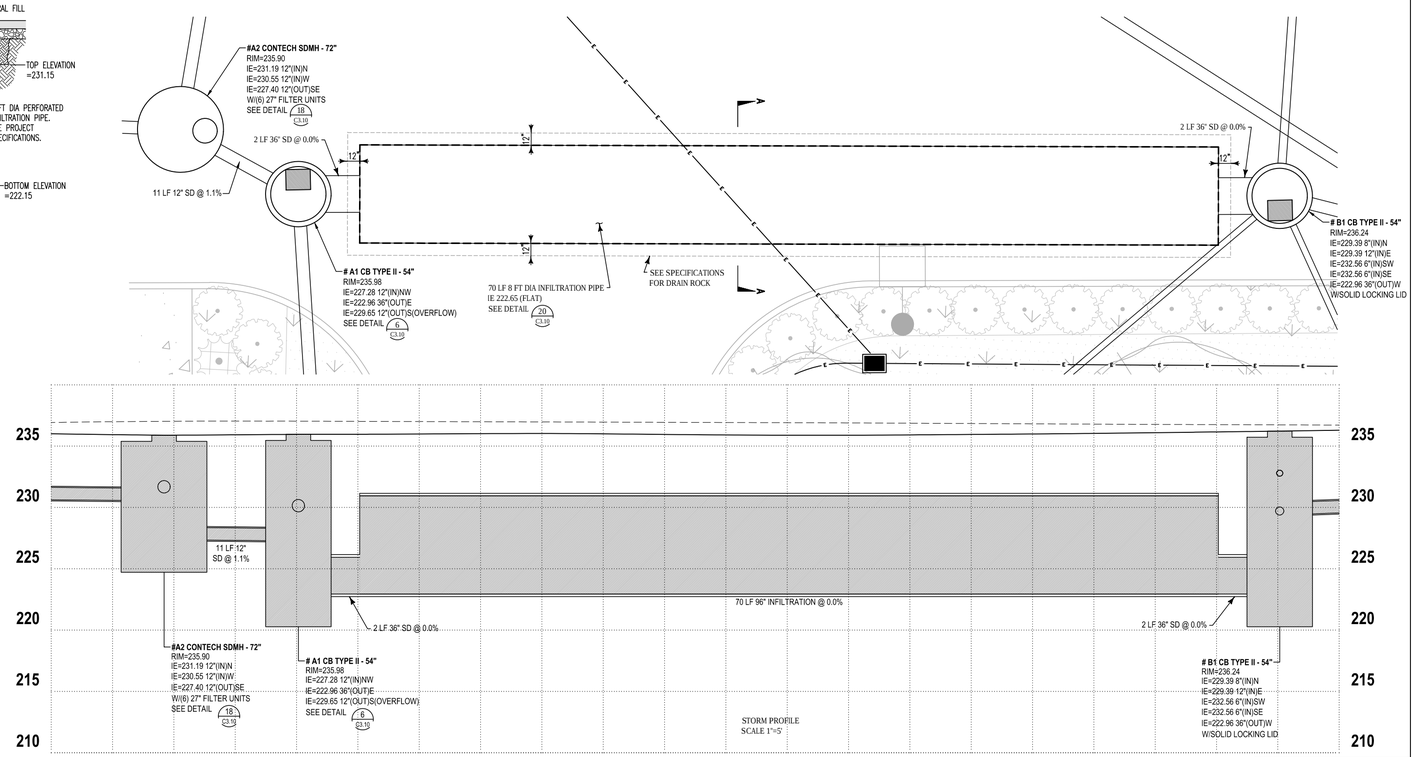
GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
4. STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 5' AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
6. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 39 SECONDS.
7. SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).

INSTALLATION NOTES
1. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
2. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE (LIFTING CLUTCHES PROVIDED).
3. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
4. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET PIPE(S).
5. CONTRACTOR TO PROVIDE AND INSTALL CONNECTOR TO THE OUTLET RISER STUB. STORMFILTER EQUIPPED WITH A DUAL DIAMETER HDPE OUTLET STUB AND SAND COLLAR. IF OUTLET PIPE IS LARGER THAN 8 INCHES, CONTRACTOR TO REMOVE THE 8 INCH OUTLET STUB AT MOLDED IN CUT LINE. COUPLING BY FERNCO OR EQUAL AND PROVIDED BY CONTRACTOR.
6. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

NTS
72" Stormfilter Manhole 18



SECTION A-A
NTS



NTS
Infiltration Pipe 20

REVISIONS

CONFORMED SET

COUGHLIN PORTER LUNDEEN
801 SECOND AVENUE, SUITE 900
SEATTLE, WA 98104
(206) 343-0460 www.cpline.com

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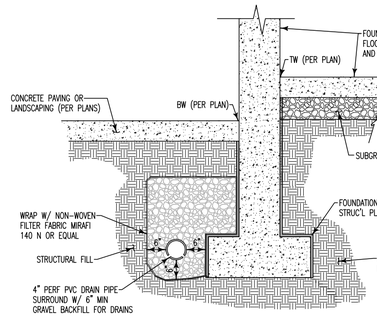
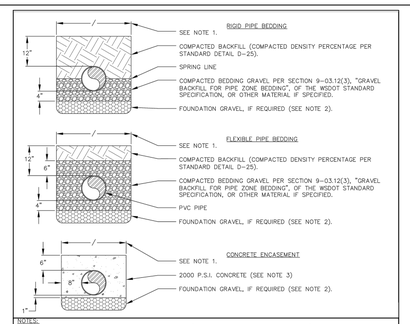
STORM DRAINAGE DETAILS

C3.10

SEC 33, TWN 20N, RNG 2E W.M.



NTS
External Footing Drain 1

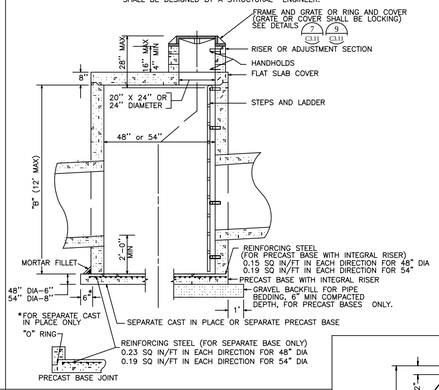


NOTES:
1. MAXIMUM WIDTH OF TRENCH AT TOP OF PIPE: ~36" FOR PIPE UP TO AND INCLUDING 18" NOMINAL DIAMETER. ~I.D. PLUS 18" FOR PIPE LARGER THAN 18" NOMINAL DIAMETER.
2. EXCAVATE UNSTABLE MATERIAL DOWN TO FIRM SOIL AND REPLACE WITH FOUNDATION GRAVEL PER SECTION 9-03.9(3), "BALLAST", OF THE WSDOT STANDARD SPECIFICATIONS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANCHORING PIPE TO PREVENT FLOTATION DURING CONCRETE PLACEMENT.
4. COMPACTED CRUSHED SURFACING PER SECTION 9-03.9(3), "CRUSHED SURFACING", OF THE WSDOT STANDARD SPECIFICATIONS CAN ALSO BE USED AS BEDDING GRAVEL.
5. PROVIDE CLEANOUTS ON UNDERDRAIN PIPE, EVERY 100 FEET, AND AT BENDS OR JUNCTIONS.

NTS
Pipe Bedding 2

DESIGN ASSUMPTIONS

SOIL BEARING VALUE EQUALS 3300 PSF (MIN). WHERE SOIL BEARING VALUE IS LESS THAN 3300 PSF, THE BASE SHALL BE DESIGNED BY A STRUCTURAL ENGINEER.



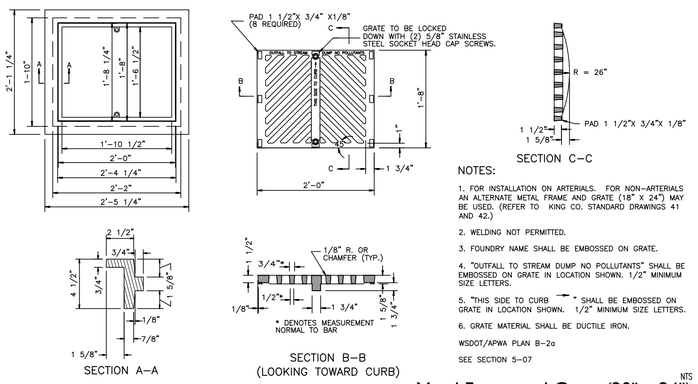
NOTES

1. CATCHBASINS TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 478 (AASHTO M 199) & ASTM C 890 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE WSDOT/APWA SPECIFICATIONS.
2. HANDHOLDS IN RISER OR ADJUSTMENT SECTION SHALL HAVE A 3" MINIMUM CLEARANCE. STEPS IN CATCHBASIN SHALL HAVE 6" MINIMUM CLEARANCE. NO STEPS ARE REQUIRED WHEN "B" IS 4" OR LESS.
3. ALL REINFORCED CAST IN PLACE CONCRETE SHALL BE CLASS 4000. ALL PRECAST CONCRETE SHALL OBTAIN 4000 PSI @ 28 DAYS.
4. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM.
5. KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAMETER PLUS CATCHBASIN WALL THICKNESS. MAXIMUM HOLE SIZE IS 36" FOR 48" CATCHBASIN, 42" FOR 54" CATCHBASIN. MINIMUM DISTANCE BETWEEN HOLES IS 8".
6. FRAME AND GRATE OR RING AND COVER SHALL BE IN ACCORDANCE WITH WSDOT/APWA SPECIFICATIONS AND MEET THE FIT, STRENGTH FIT, REQUIREMENTS OF FEDERAL SPECIFICATION 44-F-621D. MATING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT.
7. ALL BASE REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI AND BE PLACED IN THE UPPER HALF OF THE BASE WITH 1" MINIMUM CLEARANCE.
8. THE BOTTOM OF THE PRECAST CATCHBASIN MAY BE ROUNDED.
9. FOR DETAILS SHOWING FRAME AND GRATE, RING AND COVER SEE STANDARD DRAWING 5-180, "METAL FRAME AND GRATE (20X24)" OR STANDARD DRAWING 5-230, "MANHOLE RING AND COVER".
10. FOR DETAILS SHOWING LADDER, STEPS, HANDRAIL AND TOP SLAB SEE STANDARD DRAWING 5-120, "CATCHBASIN DETAILS".
11. FRAME AND GRATE MAY BE INSTALLED WITH FLANGE DOWN OR CAST INTO RISER.

WSDOT/APWA PLAN B-1e.

SEE TEXT SECTION 5-07

NTS
Catch Basin Type 2 - 48" and 54" 4



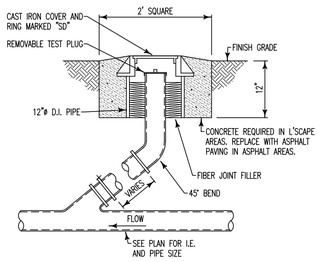
NOTES:

1. FOR INSTALLATION ON ARTERIALS. FOR NON-ARTERIALS AN ALTERNATE METAL FRAME AND GRATE (18" X 24") MAY BE USED. (REFER TO KING CO. STANDARD DRAWINGS 41 AND 42.)
2. WELDING NOT PERMITTED.
3. FOUNDRY NAME SHALL BE EMBOSSED ON GRATE.
4. "OUTFALL TO STREAM DUMP NO POLLUTANTS" SHALL BE EMBOSSED ON GRATE IN LOCATION SHOWN. 1/2" MINIMUM SIZE LETTERS.
5. "THIS SIDE TO CURB → " SHALL BE EMBOSSED ON GRATE IN LOCATION SHOWN. 1/2" MINIMUM SIZE LETTERS.
6. GRATE MATERIAL SHALL BE DUCTILE IRON.

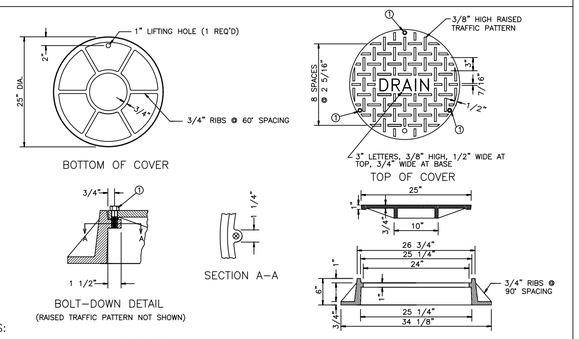
WSDOT/APWA PLAN B-2a

SEE SECTION 5-07

NTS
Metal Frame and Grate (20" x 24") 7



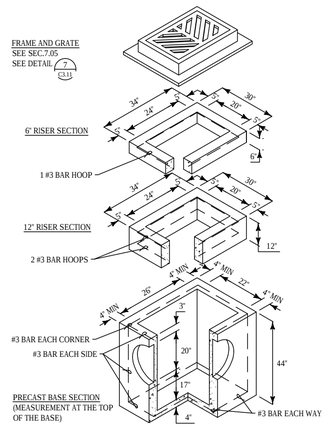
NTS
Storm Drain Clean Out 8



NOTES:

1. COVER SHALL BE LOCKED DOWN WITH (3) 5/8" STAINLESS STEEL SOCKET HEAD CAP SCREWS. DRILL (3) 11/16" HOLES IN COVER SPACED AT 120 DEGREES AND 3/4" IN FROM EDGE OF COVER.
2. MATERIAL IS DUCTILE IRON ASTM A 536 GRADE 80-55-06.

EDDS Dtl 5-230
Manhole Ring and Cover 9

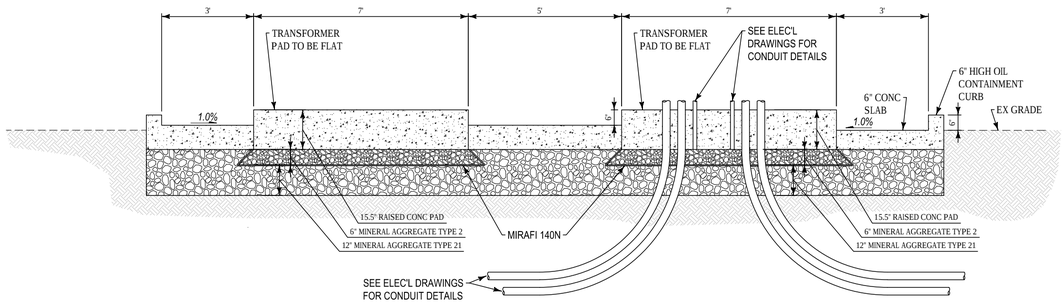


NOTES:

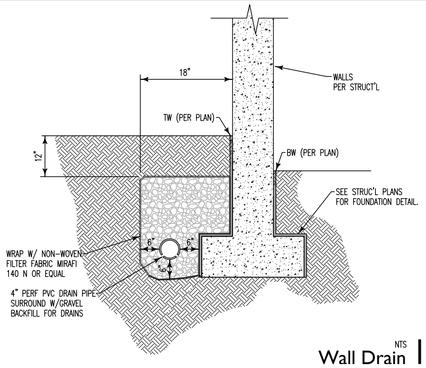
1. CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478 (AASHTO M 199) & C890 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE WSDOT/APWA STANDARD SPECIFICATIONS.
2. AS AN ACCEPTABLE ALTERNATIVE TO REBAR, WELDED WIRE FABRIC HAVING A MIN. AREA OF 0.12 SQUARE INCHES PER FOOT MAY BE USED. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A497 (M 221). WIRE FABRIC SHALL NOT BE PLACED IN KNOCKOUTS.
3. ALL REINFORCED CAST-IN-PLACE CONCRETE SHALL BE CLASS 4000.
4. PRECAST BASES SHALL BE FURNISHED WITH THICKNESS CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. ALL PIPE SHALL BE INSTALLED IN FACTORY PROVIDED KNOCKOUTS. UNUSED KNOCKOUTS NEED NOT BE GROUTED IF WALL IS LEFT INTACT.
5. KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAMETER PLUS CATCH BASIN WALL THICKNESS.
6. ROUND KNOCKOUTS MAY BE ON ALL 4 SIDES, WITH MAX. DIAMETER OF 20" KNOCKOUTS MAY BE EITHER ROUND OR "D" SHAPE.
7. THE MAX DEPTH FROM THE FINISHED GRADE TO THE PIPE INVERT IS 5'-0".
8. THE TAPER ON THE SIDES OF THE PRECAST BASE SECTION AND RISER SECTION SHALL NOT EXCEED 1/2"/FT.
9. CATCH BASIN FRAME AND GRATE SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS AND MEET THE STRENGTH REQUIREMENTS OF FEDERAL SPECIFICATION RR-F-621D. MATING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.
10. FRAME AND GRATE MAY BE INSTALLED WITH FLANGE DOWN OR CAST INTO RISER.
11. FOR CATCH BASINS IN PARKING LOTS REFER TO WSDOT/APWA STANDARD DWG. B1-b.
12. EDGE OF RISER OR BRICK SHALL NOT BE MORE THAN 2' FROM VERTICAL EDGE OF CATCH BASIN.

NTS
Catch Basin Type I 10

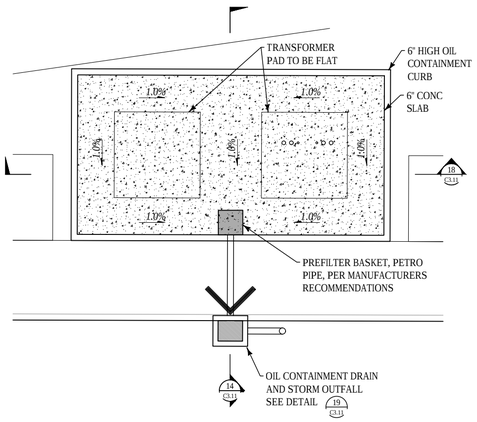
NTS
Not Used 13



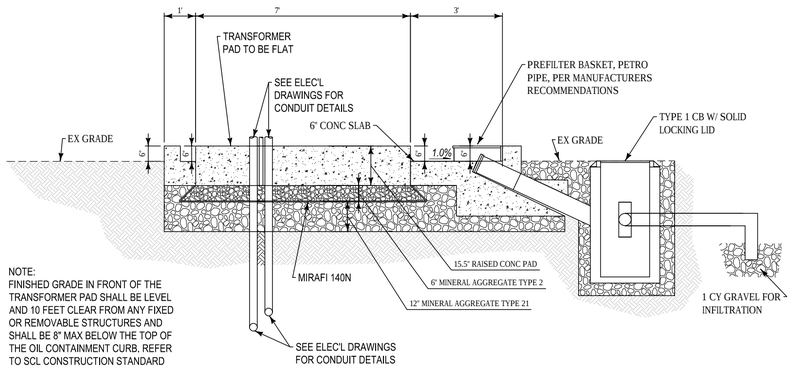
Scale 1"=2'
Oil Containment Section 14



NTS
Wall Drain 15

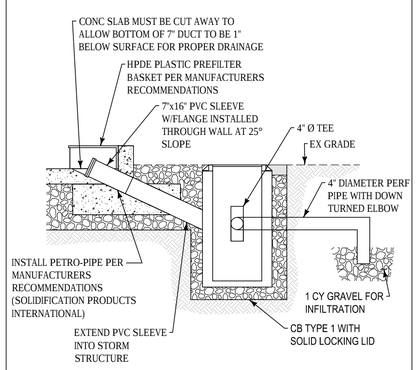


Scale 1"=5'
Spill Control for Transformer Pad 17

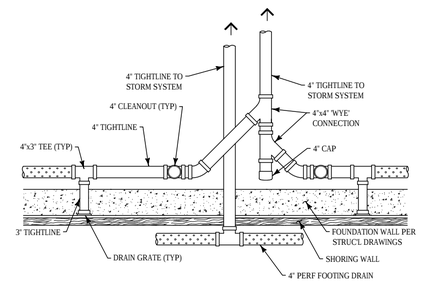


NOTE:
FINISHED GRADE IN FRONT OF THE TRANSFORMER PAD SHALL BE LEVEL AND 10 FEET CLEAR FROM ANY FIXED OR REMOVABLE STRUCTURES AND SHALL BE 8" MAX BELOW THE TOP OF THE OIL CONTAINMENT CURB. REFER TO SCL CONSTRUCTION STANDARD U10-7 FOR OTHER REQUIRED CLEARANCES AROUND THE TRANSFORMER PAD.

Scale 1"=2'
Oil Containment Section 18



NTS
Oil Containment Drain and Storm Outfall 19



NTS
Footing Drain Connection 20

REVISIONS

CONFORMED SET

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NOTICE OF CONSTRUCTION
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20871
REGISTERED PROFESSIONAL ENGINEER

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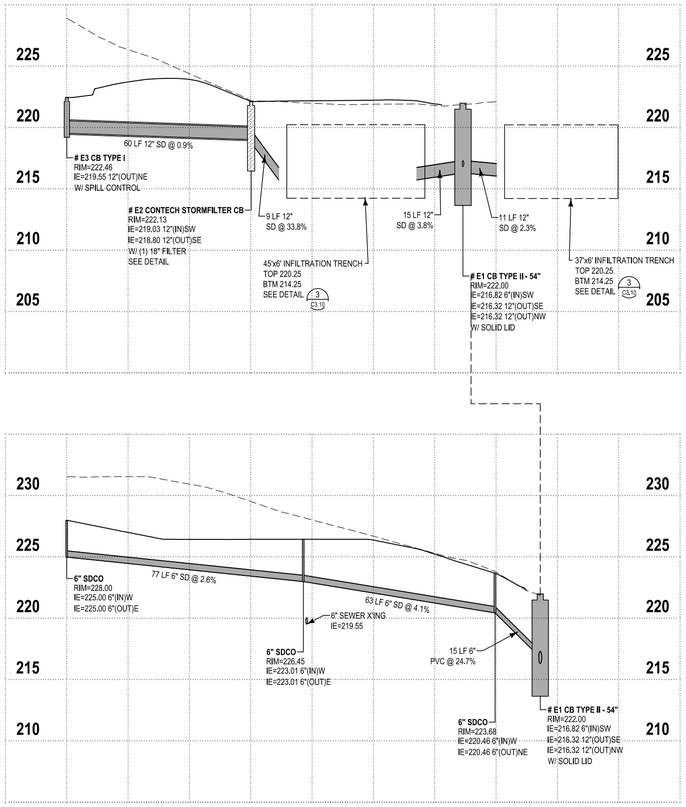
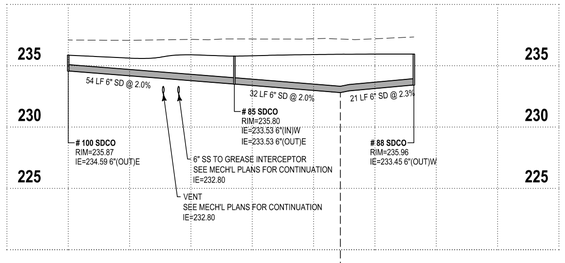
JOB/SHS NO	16-410G (2-1)
CPL NO	C100030-01
DRAWN	PRW, REK
CHECKED	KNK
DATE	03/16/2018

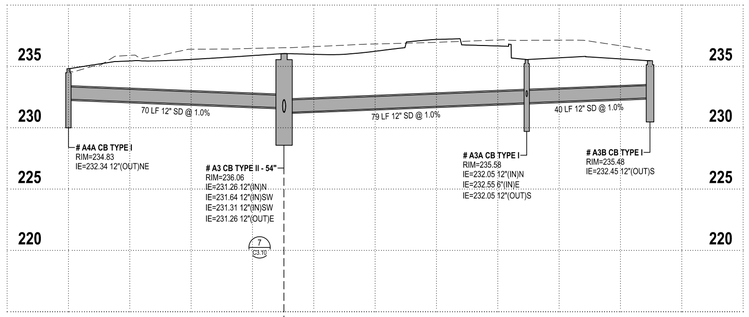
STORM DRAINAGE DETAILS

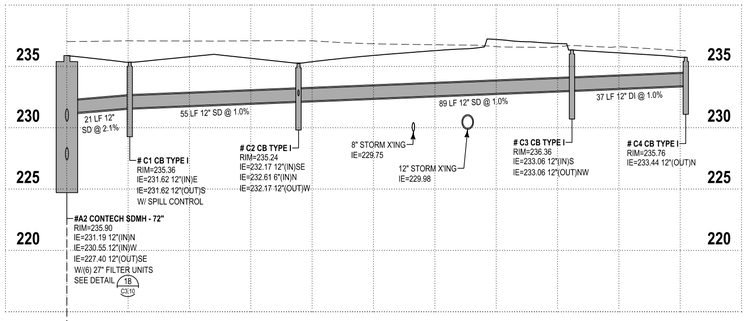
C3.11

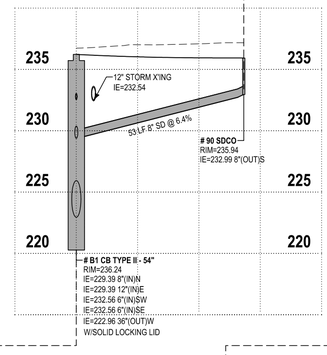
SEC 33, TWN 20N, RNG 2E W.M.

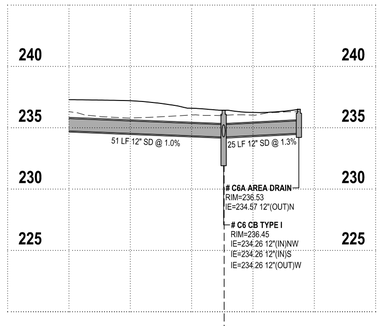


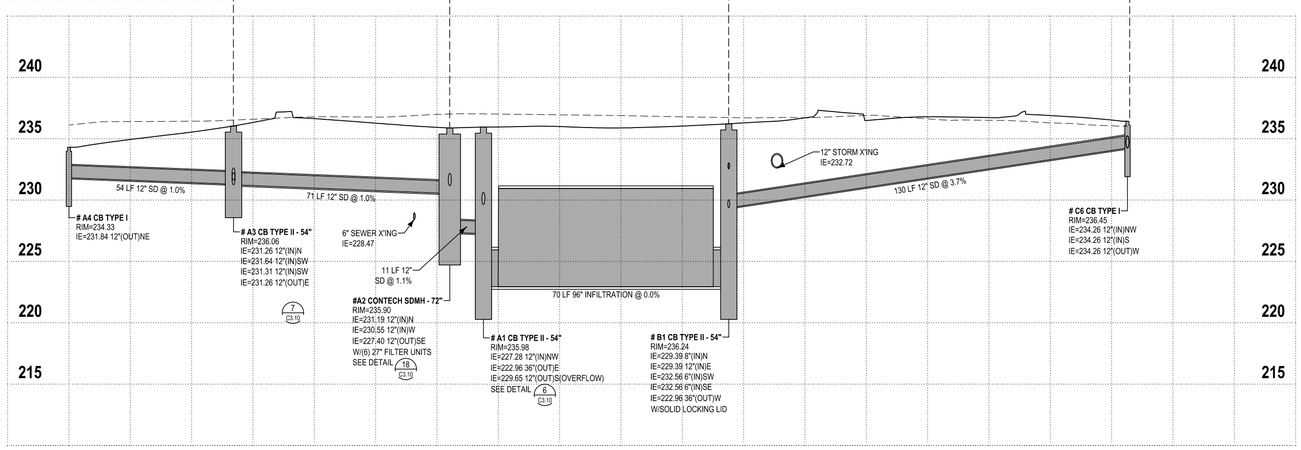












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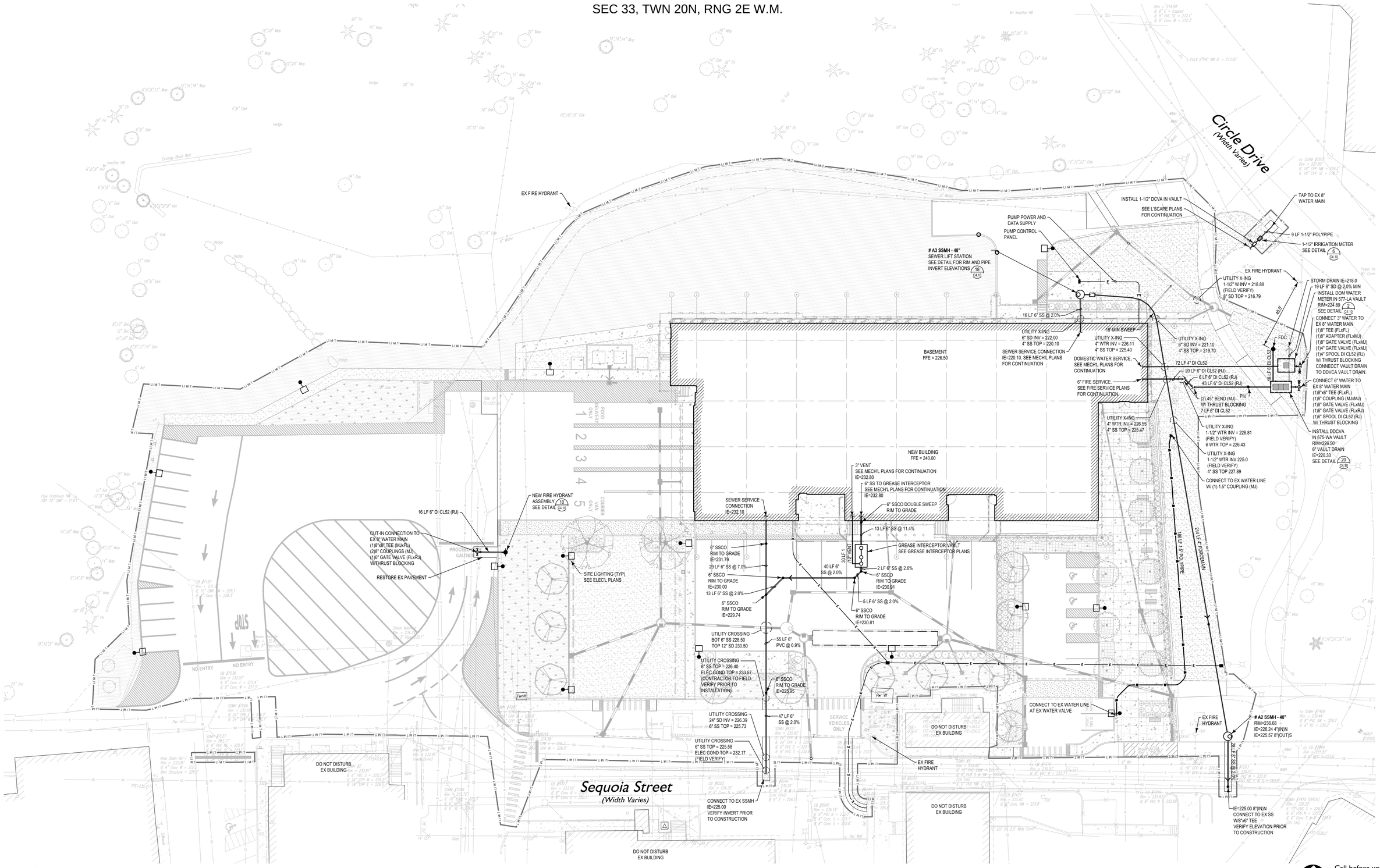
DSHS NO	16-410G (2-1)
CPL NO	C100030-01
DRAWN	PRW, REK
CHECKED	KNK
DATE	03/16/2018

STORM DRAINAGE PROFILES

C3.20

SEC 33, TWN 20N, RNG 2E W.M.



LWWD General Water Notes

1. ALL WORK SHALL CONFORM TO THE 2016 LWWD UTILITY ENGINEERING STANDARDS.
2. ALL PIPE SHALL BE DUCTILE IRON CLASS 52 UNLESS OTHERWISE SHOWN.
3. ALL PIPE AND FITTINGS NOT DISINFECTED IN PLACE SHALL BE SWABBED WITH 1% AVAILABLE CHLORINE SOLUTION PRIOR TO INSTALLATION.
4. THE WATER MAIN SHALL BE CONNECTED TO THE EXISTING SYSTEM ONLY AFTER MAIN IS PRESSURE TESTED, FLUSHED, DISINFECTED AND SATISFACTORY BACTERIOLOGICAL SAMPLE RESULTS ARE OBTAINED AND RECEIVED BY DSHS. SEE STANDARD DETAIL W-9.
5. AFTER DISINFECTING THE WATER MAIN, DISPOSE OF CHLORINATED WATER BY DISCHARGING TO THE NEAREST OPERATING SANITARY SEWER.
6. WATER MAIN SHUT-OFF SHALL BE COORDINATED WITH THE OWNER FOR PREFERRED TIMING DURING FLOW CONTROL CONDITIONS.
7. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN ESTABLISHED BY FIELD SURVEY OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD THEREFORE BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INDEPENDENTLY VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS SHOWN, AND TO FURTHER DISCOVER AND AVOID ANY OTHER UTILITIES NOT SHOWN HEREON WHICH MAY BE AFFECTED BY THE IMPLEMENTATION OF THIS PLAN.
8. DEFLECT THE WATER MAIN ABOVE OR BELOW EXISTING UTILITIES AS REQUIRED TO MAINTAIN 3 FT. MINIMUM COVER AND 12 INCH MINIMUM VERTICAL CLEARANCE BETWEEN UTILITIES UNLESS OTHERWISE SPECIFIED.
9. WRAP ALL DUCTILE IRON PIPE AND ADJACENT VALVES AND FITTINGS WITH 8-MIL. POLYETHYLENE CONFORMING TO AWWA C105.
10. THE WATER MAIN SHALL BE INSTALLED ONLY AFTER THE ROADWAY SUBGRADE IS BACKFILLED, GRADED AND COMPACTED IN CUT AND FILL AREAS.
11. ALL FITTINGS SHALL BE BLOCKED PER STANDARD DETAILS UNLESS OTHERWISE SPECIFIED.
12. WHEN WORKING WITH ASBESTOS CEMENT PIPE, THE CONTRACTOR IS REQUIRED TO MAINTAIN WORKERS' EXPOSURE TO ASBESTOS MATERIAL AT OR BELOW THE LIMIT PRESCRIBED IN WAC 296-62-07705.
13. CALL 800-424-5555, OR 811, 72 HOURS BEFORE CONSTRUCTION FOR UTILITY LOCATIONS.
14. BEFORE COMMENCEMENT OF TRENCHING, THE CONTRACTOR SHALL PROVIDE CATCH BASIN INSERTS FOR ALL CATCH BASINS THAT WILL RECEIVE RUNOFF FROM THE PROJECT SITE. THE CONTRACTOR SHALL PERIODICALLY INSPECT THE CONDITION OF ALL INSERTS AND REPLACE AS NECESSARY.
15. AT POINTS WHERE EXISTING THRUST BLOCKING IS FOUND, MINIMUM CLEARANCE BETWEEN THE CONCRETE BLOCKING AND OTHER BURIED UTILITIES OR STRUCTURES SHALL BE 5 FEET.
16. WORKERS MUST FOLLOW CONFINED SPACE REGULATIONS AND PROCEDURES WHEN ENTERING OR DOING WORK IN CONFINED SPACES.
17. MANHOLES, CATCH BASINS AND VAULTS ARE CONSIDERED TO BE PERMIT-REQUIRED CONFINED SPACES. ENTRY INTO THESE SPACES SHALL BE IN ACCORDANCE WITH CHAPTER 296-809 WAC.

Legend

N 79°33'06" E ~ 46.81'	PROPERTY LINE
12" DI W	WATER MAIN
FDC PIV WV	FH/FDC/PIV/VALVE
W	WATER VAULT/METER
8" SS @ xx%	SANITARY SEWER
SSMH SSCO	SANITARY MH/CO
8"SD SD	STORM DRAINAGE PIPE
	YD/CO/CB/CB 2/MH

Call before you Dig. 8-1-1
or 1-800-424-5555
UNDERGROUND SERVICE (USA)

0 10 20 40
SCALE 1"=20'

REVISIONS

CONFORMED SET

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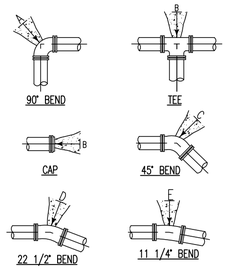
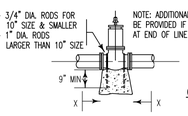
WATER AND SEWER PLAN

C4.00





NOTE: ADDITIONAL BLOCKING MUST BE PROVIDED IF GATE VALVE IS AT END OF LINE DURING TESTING.

THRUST BLOCK – TABLE

PIPE SIZE	PRESSURE PSI	MINIUM BEARING AREA AGAINST UNDISTURBED SOIL SQUARE FEET A	B	C	D	E	X (100 PSI)
4"	200 300	2(/1) 3(/2)	1/(NONE) 2(/2)	1/(NONE) 2(/1)	NONE 1(/1)	NONE NONE	NONE
6"	200 300	4(/3) 6(/4)	3(/2) 4(/3)	3(/1) 3(/2)	1(/1) 2(/1)	1/(NONE) 1/(NONE)	NONE
8"	200 300	7(/5) 11(/8)	5(/3) 8(/5)	4(/3) 6(/4)	2(/2) 3(/2)	1/(1) 2(/1)	3/(2)
10"	200 275	11(/8) 16(/11)	8(/6) 11(/7)	6(/4) 9(/6)	3(/2) 5(/3)	2(/1) 3(/2)	4/(3)
12"	200 250	16(/11) 24(/16)	11(/8) 17(/11)	9(/6) 13(/9)	5(/3) 7(/5)	3(/2) 4(/3)	5/(4)
14"	200 250	22(/13) 33(/22)	16(/11) 23(/16)	12(/8) 18(/12)	6(/4) 9(/6)	3(/2) 5(/3)	7/(6)
16"	200 225	29/(19) 32/(21)	21/(14) 23/(16)	16/(11) 17(/12)	8/(6) 9/(6)	5/(3) 5/(3)	10/(7)
18"	200	36/(24)	26/(17)	20/(13)	10/(7)	5/(4)	13/(9)
20"	200	45/(29)	32/(21)	24/(16)	13/(8)	7/(4)	16/(11)
24"	200	64/(43)	46/(30)	35/(23)	18/(12)	9/(6)	23/(16)

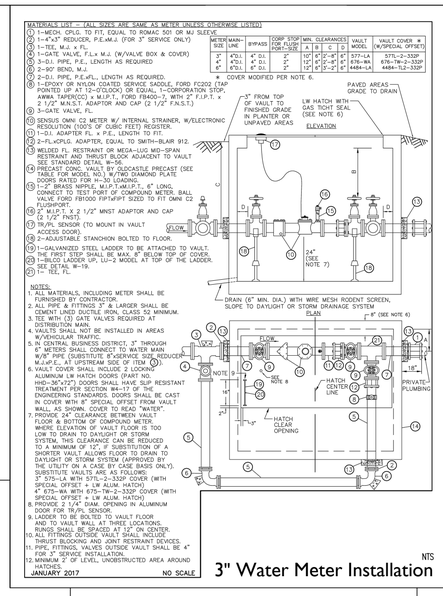
SAFE BEARING LOADS IN LB./SQ. FT.
THE SAFE BEARING LOADS GIVEN IN THE FOLLOWING TABLE ARE FOR HORIZONTAL THRUSTS WHEN THE DEPTH OF COVER OVER THE PIPE EXCEEDS 2 FEET.

SOIL	SAFE BEARING LOAD LB. PER SQ. FT.
MUCK, PEAT, ETC.	0
SOFT CLAY	1,000
SAND *	2,000
SAND & GRAVEL	3,000
SAND & GRAVEL CEMENTED WITH CLAY	4,000
HARD SHALE	10,000

* IN MUCK OR PEAT, ALL THRUSTS SHALL BE RESTRAINED BY PILES OR TIE RODS TO SOLID FOUNDATIONS OR BY REMOVAL OF MUCK OR PEAT AND REPLACEMENT WITH BALLAST OF SUFFICIENT STABILITY TO RESIST THRUST.

NOTES:
1. SQUARE FEET OF CONCRETE THRUSTS – BLOCK AREA BASED ON SAFE BEARING LOAD OF 2000/(3000) POUNDS PER SQUARE FOOT.
2. AREAS MUST BE ADJUSTED FOR OTHER SIZE PIPE, PRESSURES & SOIL CONDITIONS.
3. CONCRETE BLOCKING SHALL BE CAST IN PLACE & HAVE MINIMUM OF 1/4 SQUARE FOOT BEARING AGAINST THE FITTING.
4. BLOCK SHALL BEAR AGAINST FITTINGS ONLY & SHALL BE CLEAR OF JOINTS TO PERMIT TAKING UP OR DISMANTLING JOINT.
5. CONTRACTOR SHALL INSTALL BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY WITHSTAND OPERATING PRESSURE UNDER ALL CONDITIONS OF SERVICE.

NTS
Concrete Thrust Blocking 1



MATERIALS LIST – (ALL SIZES ARE SAME AS METER UNLESS OTHERWISE LISTED)
1. 1–MECH. CPLG. TO FIT, EQUAL TO ROMAC 501 OR MJ SLEEVE
2. 1–4"x3" REDUCER, P.E.xM.J. (FOR 3" SERVICE ONLY)
3. 1–TEE, M.J. x FL.
4. 1–GATE VALVE, F.L.x M.J. (W/VALVE BOX & COVER)
5. 3–D.I. PIPE, P.E., LENGTH AS REQUIRED
6. 2–90° BEND, M.J.
7. 2–D.I. PIPE, P.E.xFL., LENGTH AS REQUIRED.
8. 1–EPOXY OR NYLON COATED SERVICE SADDLE, FORD FC202 (TAP POINTED UP AT 12–O'CLOCK) OR EQUAL, 1–CORPORATION STOP, AWWA TAPER(CC) x M.I.P.T., FORD FB400–7, WITH 2" F.I.P.T. x 2 1/2" M.N.S.T. ADAPTOR AND CAP (2 1/2" F.N.S.T.)
9. 3–GATE VALVE, FL.
10. SENSUS OMNI C2 METER W/ INTERNAL STRAINER, W/ELECTRONIC RESOLUTION (100'S OF CUBIC FEET) REGISTER.
11. 1–D.I. ADAPTER FL. x P.E., LENGTH TO FIT.
12. 2–FL.xCPLG. ADAPTER, EQUAL TO SMITH–BLAIR 912.
13. WELDED FL. RESTRAINT OR MEGA–LUG MID–SPAN RESTRAINT AND THRUST BLOCK ADJACENT TO VAULT SEE STANDARD DETAIL W–56.
14. PRECAST CONC. VAULT BY OLDCASTLE PRECAST (SEE TABLE FOR MODEL NO.) W/TWO DIAMOND PLATE DOORS RATED FOR H–30 LOADING.
15. 1–2" BRASS NIPPLE, M.I.P.T.xM.I.P.T., 6" LONG, CONNECT TO TEST PORT OF COMPOUND METER. BALL VALVE, FORD FB1000 FIP'xFIPT SIZED TO FIT OMNI C2 FLUSHPORT.
16. 2" M.I.P.T. X 2 1/2" MNST ADAPTOR AND CAP (2 1/2" FNST).
17. TR/PL SENSOR (TO MOUNT IN VAULT ACCESS DOOR).
18. 2–ADJUSTABLE STANCHION BOLTED TO FLOOR.
19. 1–GALVANIZED STEEL LADDER TO BE ATTACHED TO VAULT. 1–FIRST STEP SHALL BE MAX. 18" BELOW TOP OF COVER.
20. 1–BILCO LADDER UP, LJ–2 MODEL AT TOP OF THE LADDER. SEE DETAIL W–19.
21. 1– TEE, FL.

METER SIZE	MAIN–LINE	BYPASS	CORP STOP FOR–TYPE–SIZE	MIN. CLEARANCES A	B	C	D	VAULT MODEL	VAULT COVER * (W/SPECIAL OFFSET)
3"	4"D.I.	4" D.I.	2"	10"	6"	2'–8"	6"	577–LA	577L–2–332P
4"	6"D.I.	6" D.I.	2"	12"	6"	2'–8"	6"	676–WA	676–TW–2–332P
6"	8"D.I.	8" D.I.	2"	12"	6"	2'–2"	6"	4484–LA	4484–TL2–332P

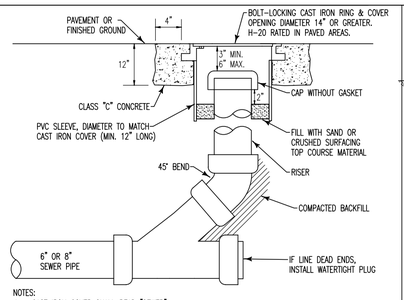
* COVER MODIFIED PER NOTE 6.

NOTES:
1. ALL MATERIALS, INCLUDING METER SHALL BE FURNISHED BY CONTRACTOR.
2. ALL PIPE & FITTINGS 3" & LARGER SHALL BE CEMENT LINED DUCTILE IRON, CLASS 52 MINIMUM.
3. TEE WITH (3) GATE VALVES REQUIRED AT INTERSECTIONS.
4. VAULTS SHALL NOT BE INSTALLED IN AREAS W/VEHICULAR TRAFFIC.
5. IN CENTRAL BUSINESS DISTRICT, 3" THROUGH 6" METERS SHALL CONNECT TO WATER MAIN W/8" PIPE (SUBSTITUTE 8"xSERVICE SIZE REDUCER M.J.xP.E., AT UPSTREAM SIDE OF ITEM 3).
6. VAULT COVER SHALL INCLUDE 2 LOCKING ALUMINUM LW HATCH DOORS (PART NO. HHD–36"x72") DOORS SHALL HAVE SLIP RESISTANT TREATMENT PER SECTION W4–17 OF THE ENGINEERING STANDARDS. COVER TO READ "WATER". SPECIAL OFFSET FROM VAULT IN COVER WITH 4" SPECIAL OFFSET FROM VAULT IN DOWN DIRECTION TO READ "WATER".
7. PROVIDE 24" CLEARANCE BETWEEN VAULT FLOOR & BOTTOM OF COMPOUND METER. WHERE ELEVATION OF VAULT FLOOR IS TOO LOW TO DRAIN TO DAYLIGHT OR STORM SYSTEM, THIS CLEARANCE CAN BE REDUCED TO A MINIMUM OF 12", IF SUBSTITUTION OF A SHORTER VAULT ALLOWS FLOOR TO DRAIN TO DAYLIGHT OR STORM SYSTEM (APPROVED BY THE UTILITY ON A CASE BY CASE BASIS ONLY). SUBSTITUTE VAULTS ARE AS FOLLOWS: 4" 577–WA WITH 577–TW–2–332P COVER (WITH SPECIAL OFFSET + LW ALUM. HATCH) 4" 675–WA WITH 675–TW–2–332P COVER (WITH SPECIAL OFFSET + LW ALUM. HATCH)
8. PROVIDE 2 1/4" DIAM. OPENING IN ALUMINUM DOOR FOR TR/PL SENSOR.
9. LADDER TO BE BOLTED TO VAULT FLOOR AND TO VAULT WALL AT THREE LOCATIONS. RUNGS SHALL BE SPACED AT 12" ON CENTER.
10. SEE STANDARD DETAIL W–56 FOR WELDED THRUST BLOCKING AND JOINT RESTRAINT DEVICES.
11. PIPE, FITTINGS, VALVES OUTSIDE VAULT SHALL BE 4" FOR 3" SERVICE INSTALLATION.
12. MINIMUM 2' OF LEVEL, UNOBSTRUCTED AREA AROUND HATCHES.

JANUARY 2017 NO SCALE

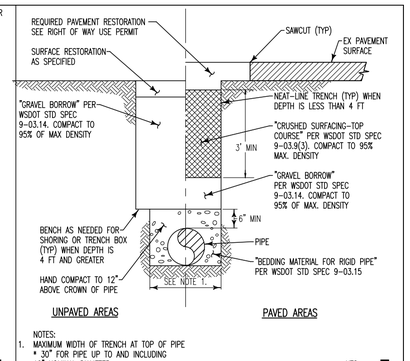
NTS
3" Water Meter Installation 2

NTS
Not Used 3



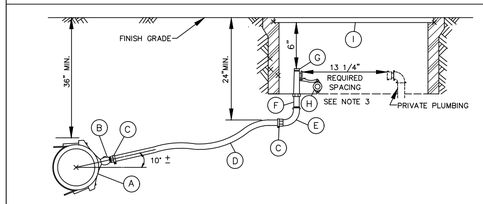
NOTES:
1. CAST IRON COVER SHALL READ "SEWER"
2. LOCKING BOLTS FOR COVER SHALL BE 5/8" –11 NC STAINLESS STEEL TYPE 304 SOCKET (ALLEN) HEAD BOLTS, 2 INCHES LONG
3. 14" BOLT–LOCKING CAST IRON COVER SHALL BE EQUAL TO INLAND FOUNDRY NO. 209

NTS
Sanitary Sewer Clean Out 4



NOTES:
1. MAXIMUM WIDTH OF TRENCH AT TOP OF PIPE
* 30" FOR PIPE UP TO AND INCLUDING 12" NOMINAL DIAMETER
* O.D. PLUS 16" FOR PIPE LARGER THAN 12" NOMINAL DIAMETER.

NTS
Water Trench 5



(A) PAINTED HIGH TENSILE D.I. SERVICE SADDLE W/ DOUBLE STAINLESS STEEL STRAP AND EPOXY COATED BOSS, 1 1/2" AWWA TAPER (CC) TAP, ROMAC 202S, OR EQUAL, SIZE AS REQUIRED.

(B) BALL CORPORATION STOP, 1–1/2" AWWA TAPER (CC) INLET BY 1–1/2" MALE IRON PIPE THREAD OUTLET WITH BALL VALVE (OR EQUAL LOW–FRICTION VALVE), FORD BALLCORP FB400, MUELLER ORISEAL NO. H–9968, OR EQUAL.

(C) COUPLING, 1–1/2" MALE IRON PIPE THREAD BY 1–1/2" PACK JOINT (COMPRESSION FITTING) FOR COPPER, FORD C14–66, MUELLER NO. H–15451, OR EQUAL.

(D) 1–1/2" COPPER TUBING, TYPE K.

(E) 1–1/2" STREET ELL, BRASS, FEMALE IRON PIPE THREAD BY FEMALE IRON PIPE THREAD.

(F) 1–1/2" NIPPLE, BRASS, M.I.P.T. x M.I.P.T., LENGTH AS REQUIRED TO MEET PROPER GRADE.

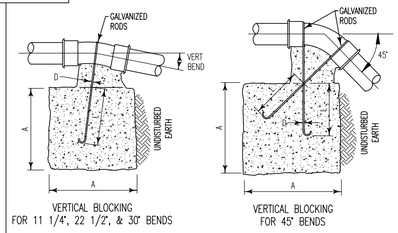
(G) 1–1/2" ANGLE METER VALVE WITH PADLOCK WINGS, FEMALE IRON PIPE BY FLANGED END FOR METER, FORD FV13–666W, MUELLER NO. H–14286, OR EQUAL.

(H) 1–1/2" COMPANION FLANGE, FORD NO. 6F FLANGE, OR EQUAL. TO BE WIRED OR SECURED TO ANGLE VALVE.

(I) METER BOX, EQUAL TO: MID–STATES PLASTICS MSBCF 1730–18 IN NONTRAVELED AREAS. OLYMPIC FOUNDRY SM30 IN SIDEWALK AND AREAS WITH VEHICULAR TRAFFIC.

NTS
1-1/2" Water Meter 6

NTS
Not Used 7

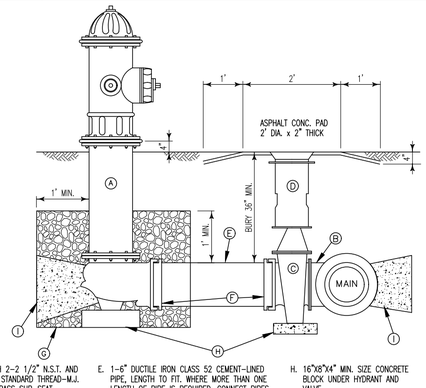


VERTICAL BLOCKING FOR 45° BENDS				
4"	45°	30	3.1'	3/4"	2.0'
6"		68	4.1'		
8"		123	5.0'		
12"		232	6.1'	3/4"	2.5'
16"		478	7.8'	1 1/8"	4.0'
20"		560	8.2'	1 1/4"	
24"		820	9.4'	1 3/8"	4.5'

NOTES:
1. CONCRETE BLOCKING BASED ON 200 PSI PRESSURE AND 2500 PSI CONCRETE.

VERTICAL BLOCKING FOR 11 1/4°–22 1/2°–30° BENDS					
PIPE SIZE	V B	CU FT	A	D	L
4"	11 1/4"	8	2.0'	3/4"	1.5'
	22 1/2"	11	2.2'		2.0'
	30°	17	2.6'		
6"	11 1/4"	11	2.2'	3/4"	2.0'
	22 1/2"	25	2.9'		
	30°	41	3.5'		
8"	11 1/4"	16	2.5'	3/4"	2.0'
	22 1/2"	47	3.6'		
	30°	70	4.1'	3/4"	2.5'
12"	11 1/4"	32	3.2'	3/4"	2.0'
	22 1/2"	88	4.5'	7/8"	3.0'
	30°	132	5.1'		
16"	11 1/4"	70	4.1'	7/8"	3.0'
	22 1/2"	184	5.7'	1 1/8"	4.0'
	30°	275	6.5'	1 1/4"	
20"	11 1/4"	91	4.5'	7/8"	3.0'
	22 1/2"	225	6.1'	1 1/4"	4.0'
	30°	330	6.9'	1 3/8"	4.5'
24"	11 1/4"	128	5.0'	1"	3.5'
	22 1/2"	320	6.8'	1 3/8"	4.5'
	30°	480	7.9'	1 5/8"	5.5'

NTS
Vertical Blocking For Connecting To Existing Main 8



A. 1–5 1/4" M.V.O. HYDRANT WITH 2–2 1/2" N.S.T. AND 1–4" PUMPER PORTS, SEATTLE STANDARD THREAD–M.J. INLET, WITH LUGS, BRASS TO BRASS SUB–SEAT. FIRE HYDRANT TO BE PAINTED WITH TWO COATS OF RUSTOLEUM HIGH GLOSS WHITE PAINT. PUMPER PORT TO FACE STREET, OR AS DIRECTED BY THE FIRE DEPARTMENT.

B. 6" FLANGE OUTLET ON CAST OR DUCTILE IRON TEE.

C. 1–AUXILIARY GATE VALVE: 6" AWWA C509, RESILIENT SEAT, M.J.xFL WITH LUGS.

D. 1–TWO–PIECE CAST IRON VALVE BOX EQUAL TO RICH SEATTLE TYPE #045 WITH RECESSED HANDLE LID.

E. 1–6" DUCTILE IRON CLASS 52 CEMENT–LINED PIPE, LENGTH TO FIT. WHERE MORE THAN ONE LENGTH OF PIPE IS REQUIRED, CONNECT PIPES WITH MECHANICAL JOINT SLEEVE, RESTRAIN PIPE AND SLEEVE WITH MEGALUG RESTRAINERS, OR RESTRAIN PIPES WITH UNI–FLANGE SERIES 1300 & 1390 JOINT RESTRAINERS.

F. RESTRAIN MECHANICAL JOINTS WITH MEGALUG RESTRAINERS.

G. 1/2 YARD WASHED DRAIN ROCK (3" TO 3/8"), MIN. 1' ABOVE BOOT FLANGE PLACE 8 MIL POLYETHYLENE FILM AROUND TOP AND SIDES OF GRAVEL DO NOT BLOCK DRAIN HOLES.

H. 16"x8"x4" MIN. SIZE CONCRETE BLOCK UNDER HYDRANT AND VALVE.

I. CONC BLOCKING PER DETAIL 1/C4.10

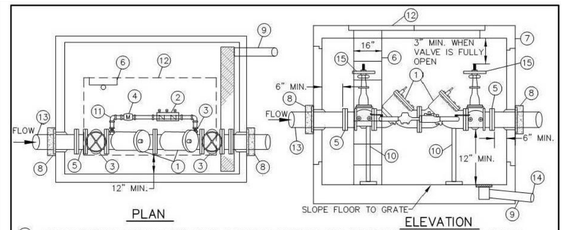
NTS
Fire Hydrant Installation 10

NTS
Not Used 11

NTS
Not Used 12

NTS
Not Used 13

NTS
Not Used 14



(1) STATE APPROVED DOUBLE CHECK VALVE ASSEMBLY, COMPLETE WITH (2) RESILIENT SEATED O.S.&Y. VALVES AND (4) RESILIENT SEATED TEST COCKS, AND BRASS OR COPPER DETECTOR BY–PASS. FACE TEST COCKS TOWARD CENTER OF VAULT AND ACCESSIBLE.
(2) STATE APPROVED 3/4" DOUBLE CHECK VALVE ASSEMBLY, COMPLETE WITH (2) RESILIENT SEATED BALL VALVES AND (4) RESILIENT SEATED TEST COCKS. FACE TEST COCKS TOWARD CENTER OF VAULT.
(3) EACH VALVE SHALL BE MARKED WITH MODEL NUMBER WITH DESIGNATION OF RESILIENT SEAT: SUCH AS "RS" OR "R", WHICH MUST BE CAST, MOLDED, OR AFFIXED ONTO THE BODY OR BONNET OF THE VALVE. ALL FERROUS BODIED VALVES SHALL BE COATED WITH A MINIMUM OF 4MLS. OF EPOXY OR EQUIVALENT POLYMERIZED COATING.
(4) 3/4" METER (CUBIC FEET READING)
(5) MEGAFLANGE
(6) ONE GALVANIZED STEEL LADDER TO BE SECURED TO VAULT WITH LADDER–UP (BILCO MODEL LU–2). LADDER TO BE ATTACHED TO VAULT PER STANDARD DETAIL W–19.
(7) CONCRETE VAULT WITH 2 LOCKING ALUMINUM LW HATCH DOORS (PART NO. HHD–42"x72"), RATED FOR H–30 LOADING, OFFSET WITH SLIP RESISTANT TREATMENT PER SECTION W4–17 OF THE ENGINEERING STANDARDS. COVER TO READ "WATER". VAULT SHALL BE EQUAL TO OLDCASTLE PRECAST MODEL LISTED IN THE TABLE BELOW.
(8) WATER TIGHT GROUT. RESTRAIN INLET/OUTLET PIPE WITH MEGALUG MID–SPAN RESTRAINT AND THRUST BLOCK ADJACENT TO VAULT SEE STANDARD DETAIL W–56.
(9) DRAIN, SLOPE TO DAYLIGHT OR STORM DRAINAGE SYSTEM, MINIMUM DIAMETER 6".
(10) TWO ADJUSTABLE PIPE STANCHIONS, BOLTED TO FLOOR.
(11) ALL PLUMBING FOR BY–PASS TO BE COPPER AND BRASS.
(12) ACCESS TO BE CENTERED OVER ASSEMBLY.
(13) CL. 52 D.I., PExFL WITH RETAINER GLANDS.
(14) INSTALL WIRE MESH RODENT SCREEN OVER DRAIN OUTLET.
(15) 2 VALVE SUPERVISORY SWITCHES, SPDT, PER FIRE DEPARTMENT REQUIREMENTS (1 SWITCH PER VALVE).

NOTES:
1. TESTING IS REQUIRED BY A WASHINGTON STATE DEPARTMENT OF HEALTH CERTIFIED BACKFLOW ASSEMBLY TESTER UPON INSTALLATION AND ANNUALLY THEREAFTER. ASSEMBLY TO BE MAINTAINED BY OWNER.
2. TEE & GATE VALVES REQUIRED ON MAIN.
3. WHEN DOUBLE CHECK VALVE ASSEMBLY IS USED IN SAME LINE WITH DOMESTIC BUILDING METER, METERED DETECTOR BYPASS SHALL BE OMITTED.
4. ALL CLEARANCES SHOWN ARE MINIMUM.
5. VAULTS SHALL NOT BE INSTALLED IN AREAS WITH VEHICULAR TRAFFIC.
6. IN CENTRAL BUSINESS DISTRICT, 3" THROUGH 6" ASSEMBLIES SHALL CONNECT TO WATER MAIN WITH 8" PIPE.
7. FDC TO BE LOCATED DOWNSTREAM OF DCVA. FDC LINE & CHECK VALVE MAY BE ROUTED INSIDE THE DCVA VAULT PROVIDED ALL PRO–VISIONS IN STANDARD DETAIL W–48 ARE MET.
8. MINIMUM 2' OF LEVEL, UNOBSTRUCTED AREA AROUND HATCHES.
9. SECURE A VALVE MARKER, PER DETAIL W–55, TO EACH GATE VALVE HANDLE.
10. LONGER VALVE ASSEMBLIES MAY REQUIRE A LARGER VAULT TO MEET THE REQUIRED CLEARANCES. SUBMIT FOR APPROVAL.

SIZE	MIN. VAULT SIZE (INSIDE) W	L	H	OLDCASTLE PERCAST MODEL	OLDCASTLE PERCAST TOP *
3"	4'–2"	4'–8"	3'–3"	675–WA	675–2–332P
4"	4'–6"	5'–3"	3'–8"	675–WA	675–2–332P
6"	4'–8"	6'–6"	4'–5"	675–WA	675–2–332P
8"	5'–0"	7'–8"	5'–3"	687–LA	687–TL–2–332
10"	5'–2"	8'–8"	6'–1"	5106–LA	5106–TL3–332

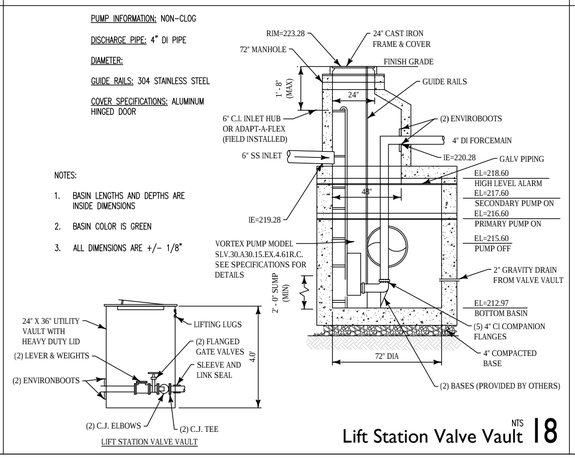
* COVER MODIFIED PER NOTE (7).

JANUARY 2017 NO SCALE

NTS
6" DDCVA 20

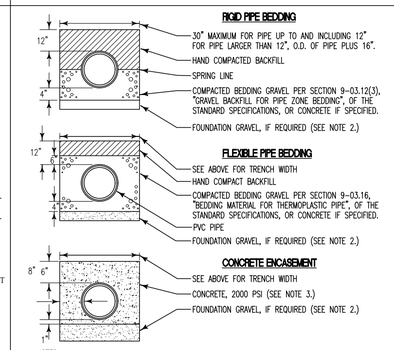
NTS
Not Used 16

NTS
Not Used 17



NOTES:
1. BASIN LENGTHS AND DEPTHS ARE INSIDE DIMENSIONS
2. BASIN COLOR IS GREEN
3. ALL DIMENSIONS ARE +/– 1/8"

NTS
Lift Station Valve Vault 18



NOTES:
1. COMPACTED CRUSHED SURFACING TOP COURSE PER SECTION 9–03.9(3), CRUSHED SURFACING, OF THE STANDARD SPECIFICATIONS CAN ALSO BE USED AS BEDDING GRAVEL.
2. EXCAVATE UNSTABLE MATERIAL DOWN TO FIRM SOIL AND REPLACE WITH FOUNDATION GRAVEL PER SECTION 9–03.9(1), "BALLAST", OF THE STANDARD SPECIFICATIONS
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANCHORING PIPE TO PREVENT FLOTATION DURING CONCRETE PLACEMENT.

NTS
Pipe Bedding 19

REVISIONS

CONFORMED SET

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KEITH N. KNEZEVICH STATE OF WASHINGTON 21871 REGISTERED PROFESSIONAL ENGINEER

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PATIENT SUPPORT CENTER
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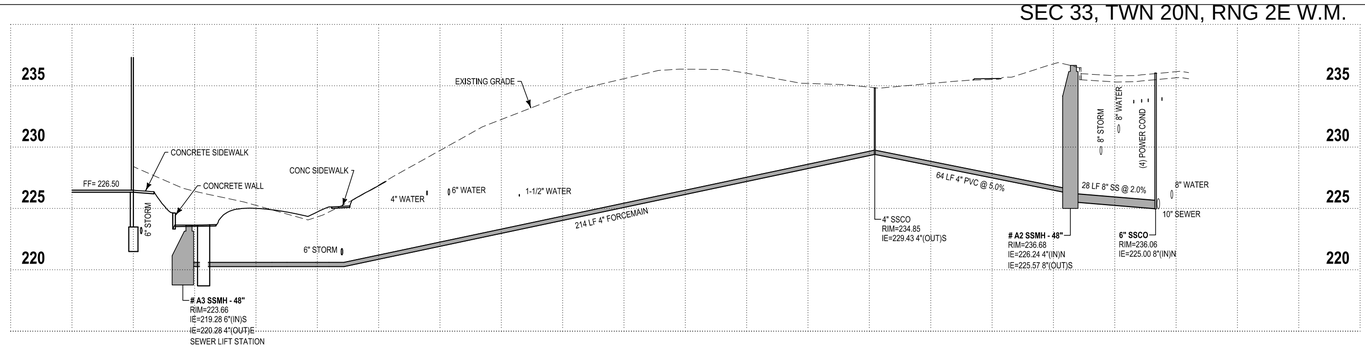
DSHS NO	16-410G (2-1)
CPL NO	C100030-01
DRAWN	PRW, REK
CHECKED	KNK
DATE	03/16/2018

UTILITY DETAILS

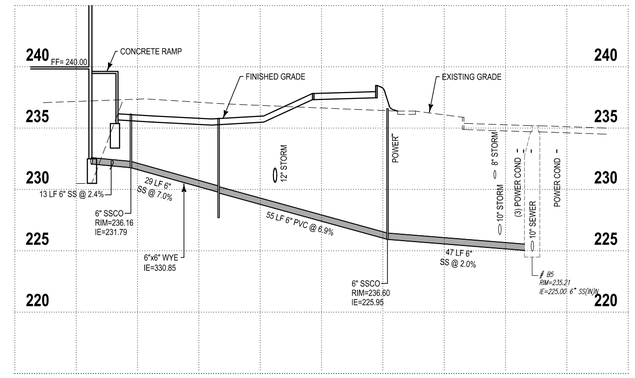
C4.10

SEC 33, TWN 20N, RNG 2E W.M.



Scale 1"=20' Horz, 1"=5' Vert

Sewer Alignment - A0 to A7 3

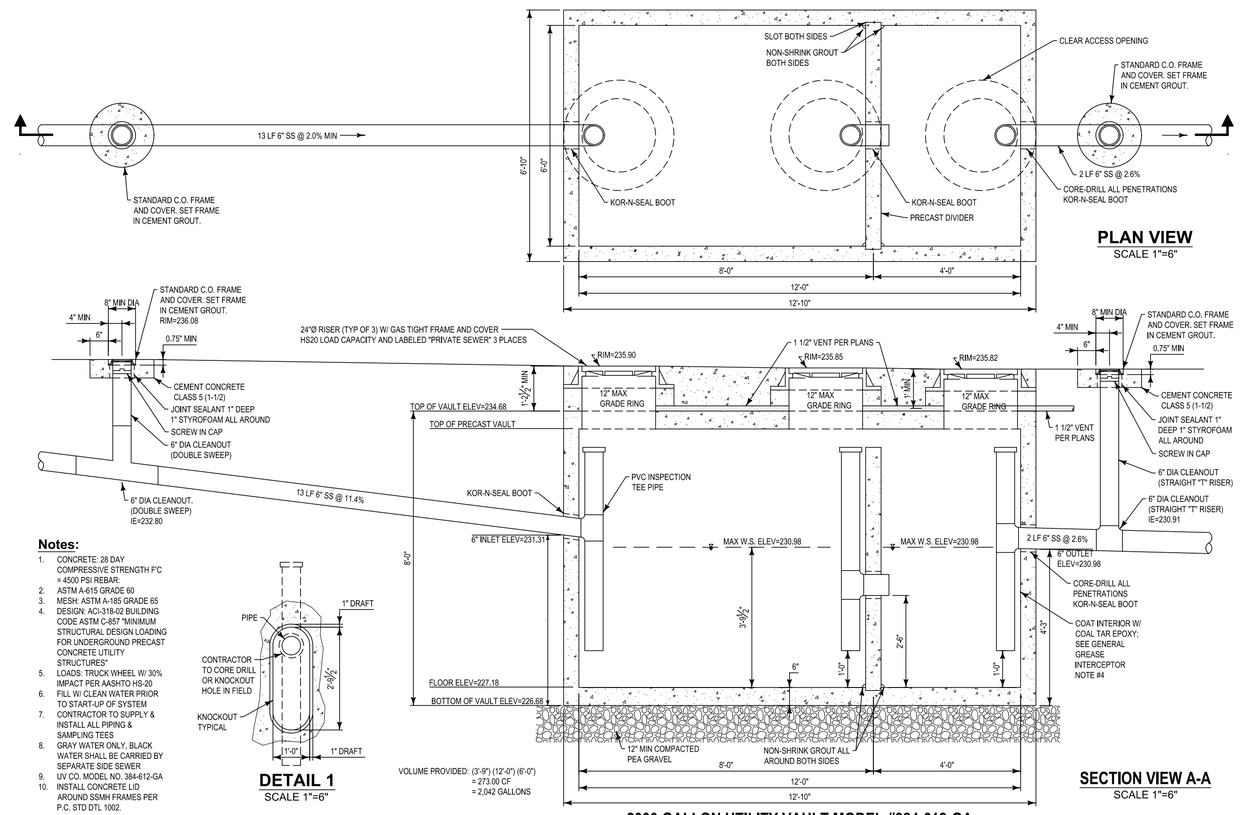


Scale 1"=20' Horz, 1"=5' Vert

Sewer Alignment - B0 to B7 5

Not Used 6 NTS

Not Used 7 NTS



Notes:

1. CONCRETE: 28 DAY COMPRESSIVE STRENGTH F'C = 4500 PSI REBAR:
2. ASTM A-615 GRADE 60
3. MESH: ASTM A-185 GRADE 65
4. DESIGN: ACI-318-02 BUILDING CODE ASTM C-857 "MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES"
5. LOADS: TRUCK WHEEL W/ 30% IMPACT PER AASHTO HS-20
6. FILL W/ CLEAN WATER PRIOR TO START-UP OF SYSTEM
7. CONTRACTOR TO SUPPLY & INSTALL ALL PIPING & SAMPLING TEES
8. GRAY WATER ONLY, BLACK WATER SHALL BE CARRIED BY SEPARATE SIDE SEWER
9. UV CO. MODEL NO. 384-612-GA
10. INSTALL CONCRETE LID AROUND SSMH FRAMES PER P.C. STD DTL 1002.

Grease Interceptor 15 NTS

Not Used 11 NTS

Not Used 12 NTS

Not Used 16 NTS

Not Used 17 NTS

Not Used 18 NTS

Not Used 19 NTS

Not Used 20 NTS

REVISIONS

CONFORMED SET

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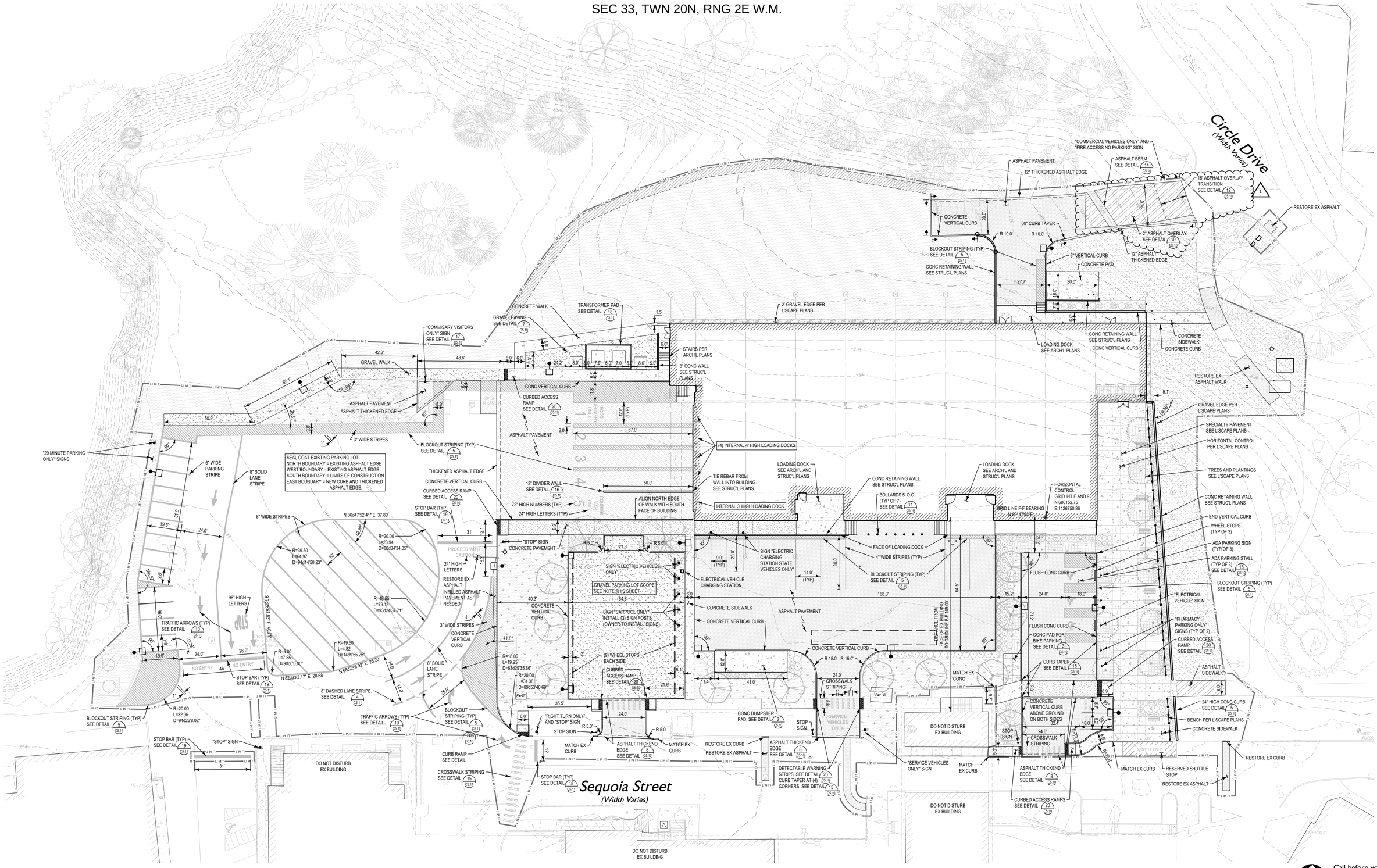
DSHS NO	16-410G (2-1)
CPL NO	C100030-01
DRAWN	PRW, REK
CHECKED	KNK
DATE	03/16/2018

SEWER PROFILES

C4.20

SEC 33, TWN 20N, RNG 2E W.M.



GRAVEL PARKING LOT SCOPE BASE BID: PAVE PARKING LOT WITH GRAVEL. SEE DETAIL 7/C5.10

BID ALT NO. 4: PAVE PARKING LOT WITH ASPHALT PAVING. SEE DETAIL ##

LIMITS OF BID ALT NO. 4 ARE GRAVEL PARKING LOT SHOWN ON THIS SHEET.

FIRE LANE STRIPING EXTENDS. SEE PROJECT SPECIFICATIONS.

Legend

- HEAVY ASPHALT PAVEMENT 1/C5.10
- CONCRETE WALK 3/C5.10
- CONCRETE PAVEMENT 2/C5.10
- ASPHALT OVERLAY
- VERTICAL CURB 4/C5.10
- FLUSH CONC CURB 6/C5.10
- THICKENED ASPHALT EDGE 8/C5.10
- WHEEL STOPS 9/C5.10
- PLANTING AREA PER L'SCAPE
- SITE SIGN 17/C5.10
- LIGHT POLE PER ELEC'L PLANS
- TRAFFIC ARROW 10/C5.11

Call before you Dig. 8-1-1 or 1-800-424-5555 UNDERGROUND SERVICE (USA)

0 10 20 40

SCALE 1"=20'

REVISIONS

1 ADD #2 02/06/2018

CONFORMED SET

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CPL NO	C100030-01
DRAWN	PRW, REK
CHECKED	KNK
DATE	03/16/2018

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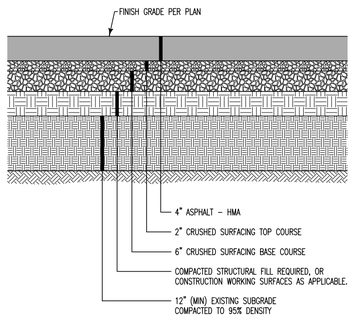
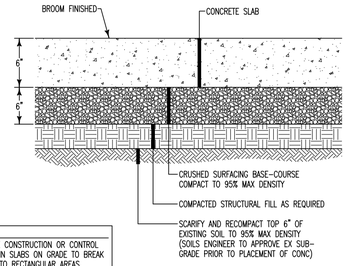
PAVING, STRIPING AND HORIZONTAL CONTROL PLAN

C5.00

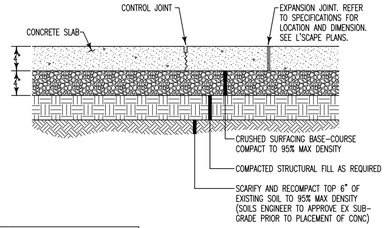


NTS
Heavy Asphalt Pavement 1



NOTE:
PROVIDE CONSTRUCTION OR CONTROL JOINTS IN SLABS ON GRADE TO BREAK SLAB INTO RECTANGULAR AREAS. AREAS TO BE APPROXIMATELY SQUARE AND HAVE NO ACUTE ANGLES. JOINT LOCATIONS TO BE APPROVED BY THE ARCHITECT. SEE LANDSCAPE PLANS FOR PATTERN, COLOR AND FINISH.

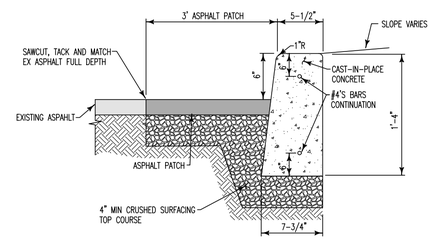
NTS
Concrete Pavement 2



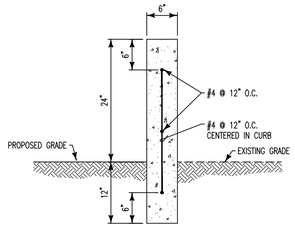
NOTE:
PROVIDE CONSTRUCTION OR CONTROL JOINTS IN SLABS ON GRADE TO BREAK SLAB INTO RECTANGULAR AREAS. AREAS TO BE APPROXIMATELY SQUARE AND HAVE NO ACUTE ANGLES. JOINT LOCATIONS TO BE APPROVED BY THE ARCHITECT. SEE LANDSCAPE PLANS FOR PATTERN, COLOR AND FINISH.

NOTES:
1. SEE SPECIFICATIONS FOR GENERAL CONCRETE PAVING NOTES
2. WHERE SIDEWALK IS OVER 7' WIDE, PLACE LONGITUDINAL DUMMY JOINT ALONG CENTER OF WALK.
3. WHERE REPLACING EXISTING SIDEWALK, START NEW SIDEWALK AT EX JOINT. MATCH EX SCORING PATTERN AND CONC. FINISH.

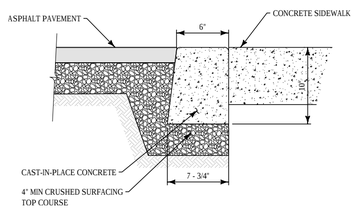
NTS
Concrete Walk 3



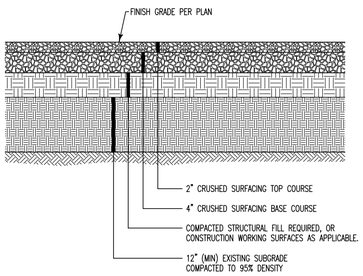
NTS
Concrete Vertical Curb 4



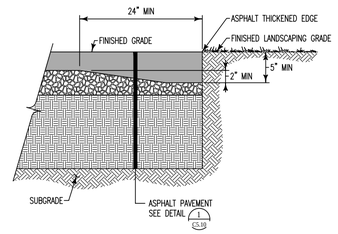
NTS
24" Concrete Curb 5



NTS
Flush Concrete Curb 6

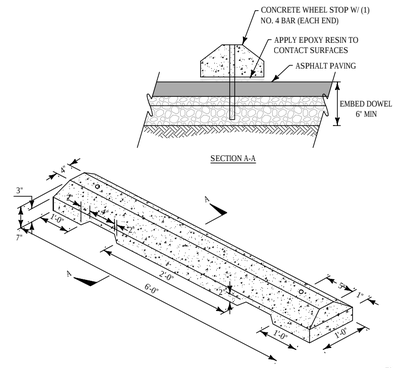


NTS
Gravel Paving 7

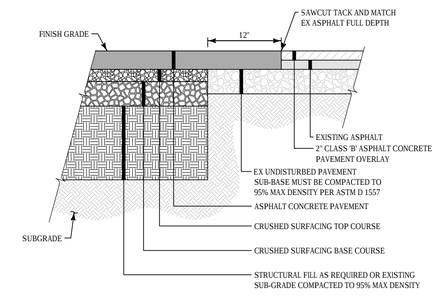


NOTES:
1. SEE GENERAL ASPHALT PAVING NOTES

NTS
Thickened Asphalt Edge 8

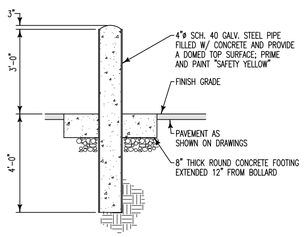


NTS
Concrete Wheel Stop 9

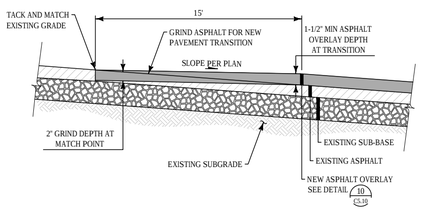


NOTES:
1. ASPHALT PAVEMENT SHALL BE PLACED IN 2 LIFTS. FINAL LIFT SHALL BE CONSTRUCTED WITH THE OVERLAY UP. THE EXISTING ASPHALT ONLY OF HER BUILDING IMPROVEMENTS ARE COMPLETE

NTS
Asphalt Pavement Overlay w/ New Paving Section 10

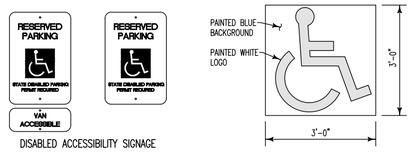


NTS
Fixed Bollard 11



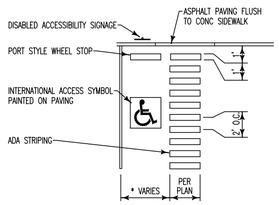
NOTES:
1. GRIND DISTANCE MAY BE GREATER OR LESS THAN SHOWN.
2. CONTRACTOR SHALL VISIT THE SITE TO DETERMINE EXACT GRINDING LIMITS FOR EACH SCHOOL PRIOR TO BID. BID SHALL INCLUDE ALL GRINDING COSTS TO INSTALL PAVING WORK AS INDICATED ON PLANS.
3. CONTRACTOR SHALL GRADE TO ENSURE POSITIVE DRAINAGE AWAY FROM BUILDING (1.0% MIN) MAINTAIN POSITIVE DRAINAGE AT ALL TIMES.

NTS
Asphalt Overlay Transition to Existing Asphalt 12



DISABLED ACCESSIBILITY SIGNAGE

INTERNATIONAL ACCESS SYMBOL PAINTED ON PAVING

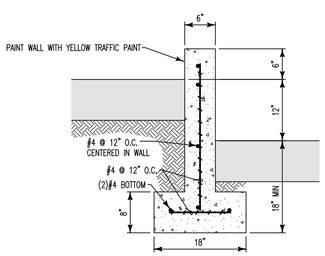


* STALL DIMENSIONS NOTE:
COMPACT STALL– 8'–0" x 16'–0"
MODIFIED STALL– 8'–6" x 20'–0"
STANDARD STALL– 9'–0" x 20'–0"

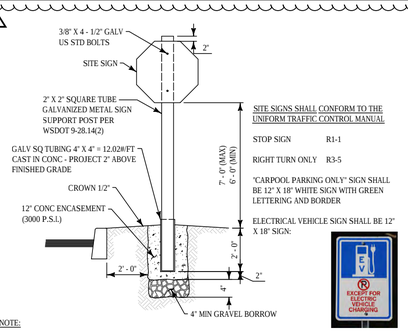
NOTES:
1. EACH PARKING SPACE RESERVED FOR PERSONS WITH PHYSICAL DISABILITIES SHALL BE IDENTIFIED BY A REFLECTORIZED SIGN PERMANENTLY POSTED IMMEDIATELY ADJACENT TO AND VISIBLE FROM EACH STALL OR SPACE CONSISTING OF A PROFILE VIEW OF A WHEELCHAIR WITH OCCUPANT IN WHITE ON DARK BLUE BACKGROUND. THE SIGN SHALL NOT BE SMALLER THAN 70 SQUARE INCHES IN AREA AND, WHEN IN THE PATH OF TRAVEL, SHALL BE AT THE HEAD OF THE PARKING SPACE FINISHED GRADE. SIGNS MAY ALSO BE CENTERED ON THE WALL AT THE INTERIOR END OF THE PARKING SPACE AT A MINIMUM HEIGHT OF 36 INCHES FROM THE PARKING SPACE FINISHED GRADE, GROUND OR SIDEWALK.
2. AN ADDITIONAL SIGN SHALL ALSO BE POSTED, IN A CONSPICUOUS PLACE, AT EACH ENTRANCE TO OFF–STREET PARKING FACILITIES, OR IMMEDIATELY ADJACENT TO AND VISIBLE FROM EACH STALL OR SPACE. THE SIGN SHALL BE NOT LESS THAN 17 INCHES BY 22 INCHES IN SIZE WITH LETTERING NOT LESS THAN 1 INCH IN HEIGHT, WHICH CLEARLY AND CONSPICUOUSLY STATES THE FOLLOWING:

"UNAUTHORIZED VEHICLES PARKED IN DESIGNATED DISABLED PARKING SPACES NOT DISPLAYING DISTINGUISHING PLACARDS OR LICENSE PLATES ISSUED FOR PHYSICALLY DISABLED PERSONS MAY BE TOWED AWAY AT OWNER'S EXPENSE. TOWED VEHICLES MAY BE RECLAIMED AT _____ OR _____ OR BY TELEPHONING _____."

NTS
Accessible Parking 18



NTS
Divider Wall 16



SITE SIGNS SHALL CONFORM TO THE UNIFORM TRAFFIC CONTROL MANUAL

STOP SIGN R1-1

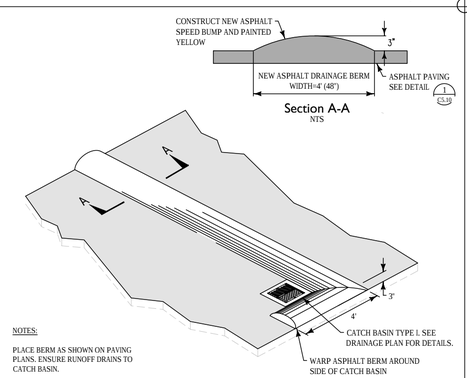
RIGHT TURN ONLY R3-5

"CARPOOL PARKING ONLY" SIGN SHALL BE 12" X 18" WHITE SIGN WITH GREEN LETTERING AND BORDER

ELECTRICAL VEHICLE SIGN SHALL BE 12" X 18" SIGN:

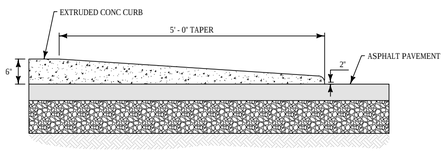
NOTE:
WHEN INSTALLING MORE THAN ONE SIGN ON A POST THE ORDER OF PRIORITY SHALL BE :
1) REGULATORY
2) WARNING
3) INFORMATION
SPACING BETWEEN SIGNS SHALL BE 2"

NTS
Sign Post 17



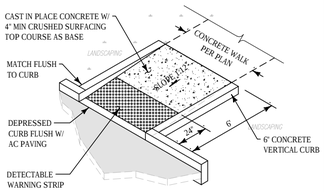
NOTES:
PLACE BERM AS SHOWN ON PAVING PLANS. ENSURE RUNOFF DRAINS TO CATCH BASIN.

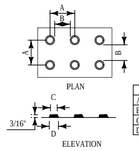
NTS
Asphalt Drainage Berm 14



NTS
Concrete Extruded Curb Taper 15

NTS
Not Used 19





	MIN	MAX
A	1 5/8"	2 3/8"
B	5/8"	1 1/2"
C	7/16"	3/4"
D	7/8"	1 7/16"

DETECTABLE WARNING STRIP DETAIL
NOT TO SCALE

NTS
Curb Ramps 20

REVISIONS
1 ADD #2 02/06/2018

CONFORMED SET

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NAC ARCHITECTURE
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DSHS NO	16-410G (2-1)
CPL NO	C100030-01
DRAWN	PRW, REK
CHECKED	KNK
DATE	03/16/2018

PAVING DETAILS

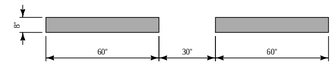
C5.10

SEC 33, TWN 20N, RNG 2E W.M.

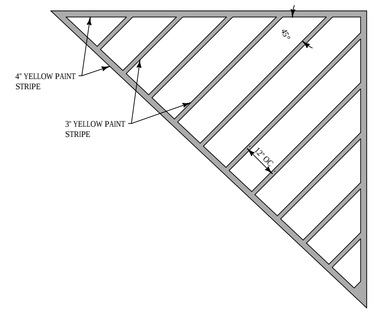
Not Used NTS 1

Not Used NTS 2

Not Used NTS 3



Dashed Lane Stripe NTS 4



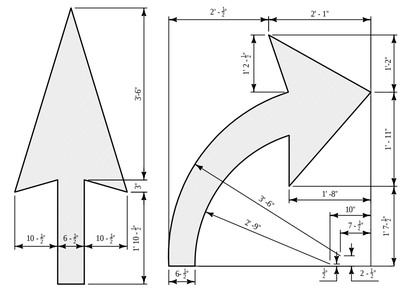
Blockout Striping (I) NTS 5

Not Used NTS 6

Not Used NTS 7

Not Used NTS 8

Not Used NTS 9



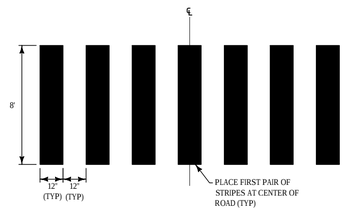
Traffic Arrows NTS 10

Not Used NTS 11

Not Used NTS 12

Not Used NTS 13

Not Used NTS 14



NOTES:

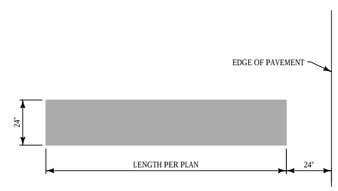
1. CROSSWALK STRIPING SHALL BE PAINTED PER PROJECT SPECIFICATIONS
2. CROSSWALK DIMENSIONS SHALL MEET SPECIFICATIONS OF MUTCD 38-18 AND FIGURE 3-14C

Crosswalk Striping NTS 15

Not Used NTS 16

Not Used NTS 17

Not Used NTS 18



Stop Bar NTS 19

Not Used NTS 20

REVISIONS

CONFORMED SET

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KEITH N. KNOX STATE OF WASHINGTON 36871 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

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CPL NO	C100030-01
DRAWN	PRW, REK
CHECKED	KNK
DATE	03/16/2018

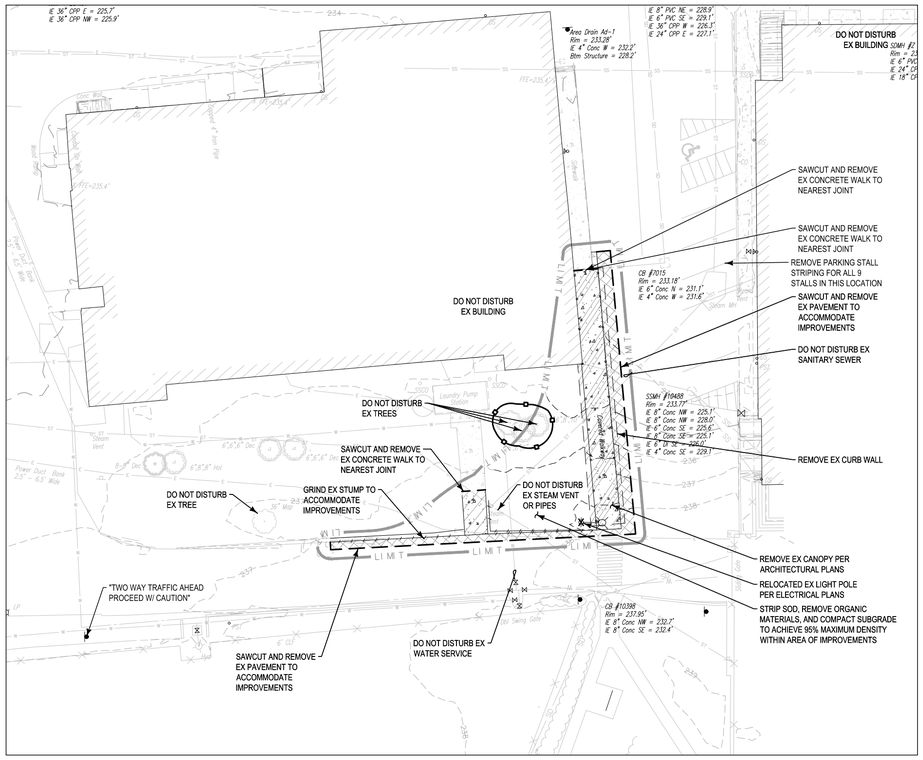
STRIPING DETAILS

C5.11

SEC 33, TWN 20N, RNG 2E W.M.

0 10 20 40
SCALE 1"=20'

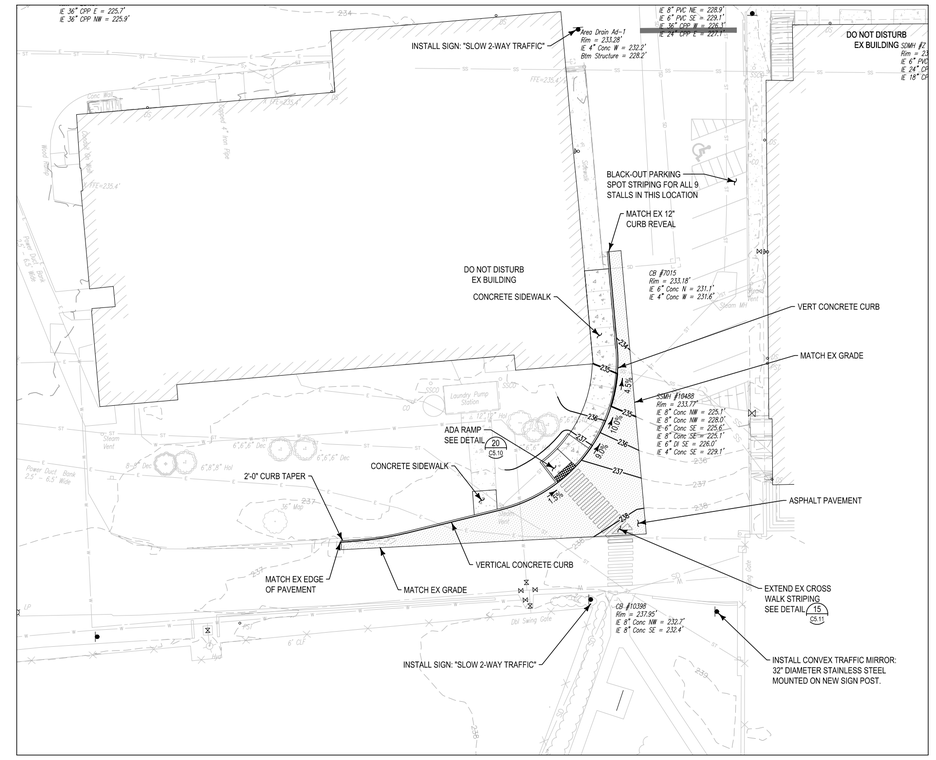
Call before you Dig. 8-1-1 or 1-800-424-5555
UNDERGROUND SERVICE (USA)



DEMOLITION PLAN

0 10 20 40
SCALE 1"=20'

Call before you Dig. 8-1-1 or 1-800-424-5555
UNDERGROUND SERVICE (USA)



CIVIL SITE PLAN

Legend

- HEAVY ASPHALT PAVEMENT 1/C6.15
- CONCRETE WALK 3/C6.15
- VERTICAL CURB 4/C6.15

NOTES:

1. SMOOTHLY TRANSITION ALL GRADES INTO EXISTING.
2. HYDROSEED DISTURBED AREAS NOT PAVED.

REVISIONS

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CHECKED	KNK
DATE	03/16/2018

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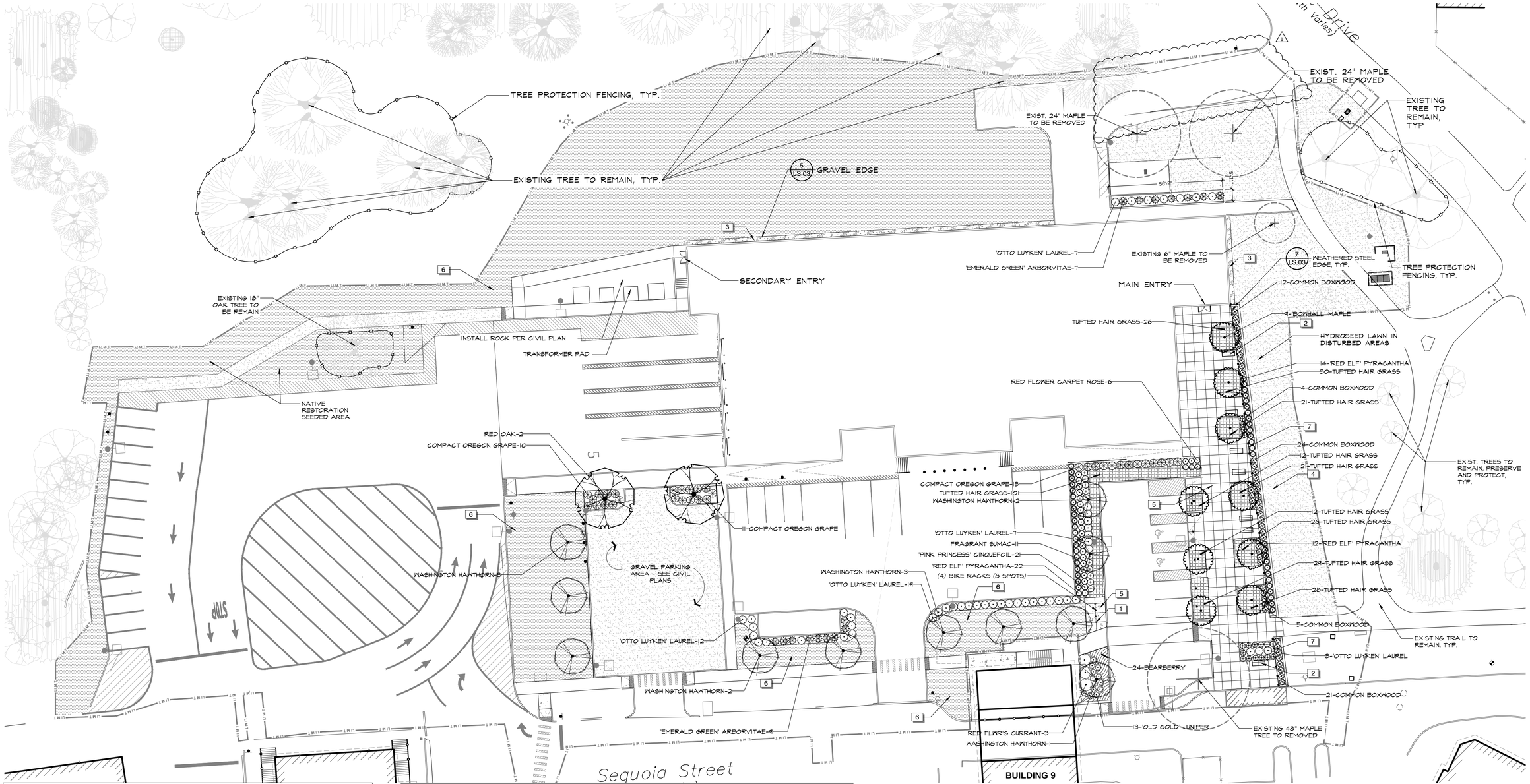
CIVIL SITE PLAN
ALTERNATE NO. 3

C6.00



PLANT SCHEDULE

TREES	QTY	BOTANICAL NAME	CAL.	DESC.
	9	ACER RUBRUM 'BOWHALL' 'BOWHALL' MAPLE	B&B/CONT.	3" CAL., 14'-16' HT.
	11	CRATAEGUS PHAENOPYRUM 'LUSTRE' WASHINGTON HAWTHORN	B&B/CONT.	3" CAL., 10'-12' HT.
	2	QUERCUS RUBRA RED OAK	B&B/CONT.	3" CAL., 14'-16' HT.

SHEET NOTES

1. REFER TO DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. NO PLANT SUBSTITUTIONS SHALL BE PERMITTED WITHOUT PRIOR APPROVAL OF LANDSCAPE ARCHITECT/OWNER.
3. ALL WORK SHALL BE PERFORMED TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT/OWNER.
4. PLANT LIST QUANTITIES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES IN LIST WITH ACTUAL PLAN CALL-OUTS, AND INSTALLING PLANTINGS PER THE LANDSCAPE PLAN. GROUNDCOVER QUANTITIES SHALL BE ADJUSTED AS REQUIRED FOR FIELD CONDITIONS AT THE SPECIFIED SPACING.
5. ALL PLANTS MUST BE APPROVED BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
6. THE EARTHWORK QUANTITIES INCLUDE: 13,500 CY CUT & 10,200 CY FILL

PLANT SCHEDULE

SHRUBS	QTY	BOTANICAL NAME	SIZE	SPACING
	66	BUXUS SEMPERVIRENS COMMON BOXWOOD	B&B/CONT., MIN. 21" HT.	3' O.C.
	13	JUNIPERUS CHINENSIS 'OLD GOLD' 'OLD GOLD' JUNIPER	2 GAL	3' O.C.
	34	MAHONIA AQUIFOLIUM 'COMPACTA' COMPACT OREGON GRAPE	2 GAL	4' O.C.
	21	POTENTILLA FRUTICOSA 'PINK PRINCESS' 'PINK PRINCESS' CINQUEFOIL	2 GAL	3' O.C.
	48	PRUNUS LAUROCERASUS 'OTTO LUYKEN' 'OTTO LUYKEN' LAUREL	B&B/CONT. 18" MIN. HT./WIDE	4' O.C.
	48	PYRACANTHA X 'RED ELF' 'RED ELF' PYRACANTHA	3 GAL	3' O.C.
	11	RHUS AROMATICA FRAGRANT SUMAC	1 GAL	3' O.C.
	3	RIBES SANGUINEUM 'KING EDWARD VII' RED FLWR'G CURRANT	3 GAL	6' O.C.
	6	ROSA X 'FLOWER CARPET RED' RED FLOWER CARPET ROSE	1 GAL	3' O.C.
	16	THUJA OCCIDENTALIS 'SMARAGD' 'EMERALD GREEN' ARBORVITAE	B&B/ CONT., 6' MIN. HT.	4' O.C.
GROUND COVERS	QTY	BOTANICAL NAME	SIZE	SPACING
	24	COTONEASTER DAMMERI BEARBERRY	1 GAL	@ 2.5' O.C.
	306	DESCHAMPSIA CESPITOSA TUFTED HAIR GRASS	1 GAL	@ 2.5' O.C.

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	DETAIL
1	BIKE RACK SHALL BE CAPITOL BIKE RACK AS AVAILABLE FROM FORMS+SURFACES, 800.451.0410 OR APPROVED EQUAL. COLOR SHALL BE BLACK. PROVIDE CUT SHEET TO OWNER FOR APPROVAL PRIOR TO ORDERING.	
2	DASH BENCH WITH A SEAT CAST OF TENSIL ULTRA HIGH PERFORMANCE CONCRETE (UHPC) SLATS, AND BLACK PONDER-COATED ALUMINUM FRAME AVAILABLE FROM FORMS+SURFACES OR APPROVED EQUAL.	1
SYMBOL	DESCRIPTION	DETAIL
3	ALUMINUM EDGE AT ROCK MULCH 1	5/LS.03
4	HYDROSEED LAWN, TYP.	
5	LIGHT COLORED CONCRETE WALK WITH 4'-8" SQUARE SCORING, TYP.	
6	HYDROSEED NATIVE VEGETATION SEED MIX AS AVAILABLE FROM SUNMARK SEEDS. SEE SPECIFICATIONS FOR SEED MIX AND OTHER INFORMATION.	
7	WEATHERED STEEL EDGE	7/LS.03

NORTH

0 20 40 60 feet
SCALE: 1" = 20'

REVISIONS
1 ADD #2 02/06/2018

CONFORMED SET

SCJ ALLIANCE
CONSULTING SERVICES
8730 TALLON LANE NE, SUITE 200, LACEY, WASHINGTON 98516
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Western State Hospital
BUILDING 22, PATIENT SUPPORT CENTER
PATIENT SUPPORT CENTER
9601 STEILACOOM BLVD SW, LAKEWOOD, WASHINGTON 98498-7213

STATE OF WASHINGTON
MARK T. GRANTHAM
LICENSED LANDSCAPE ARCHITECT

NAC ARCHITECTURE
nacarchitecture.com
2025 FIRST AVE | SUITE 300
SEATTLE WA 98121
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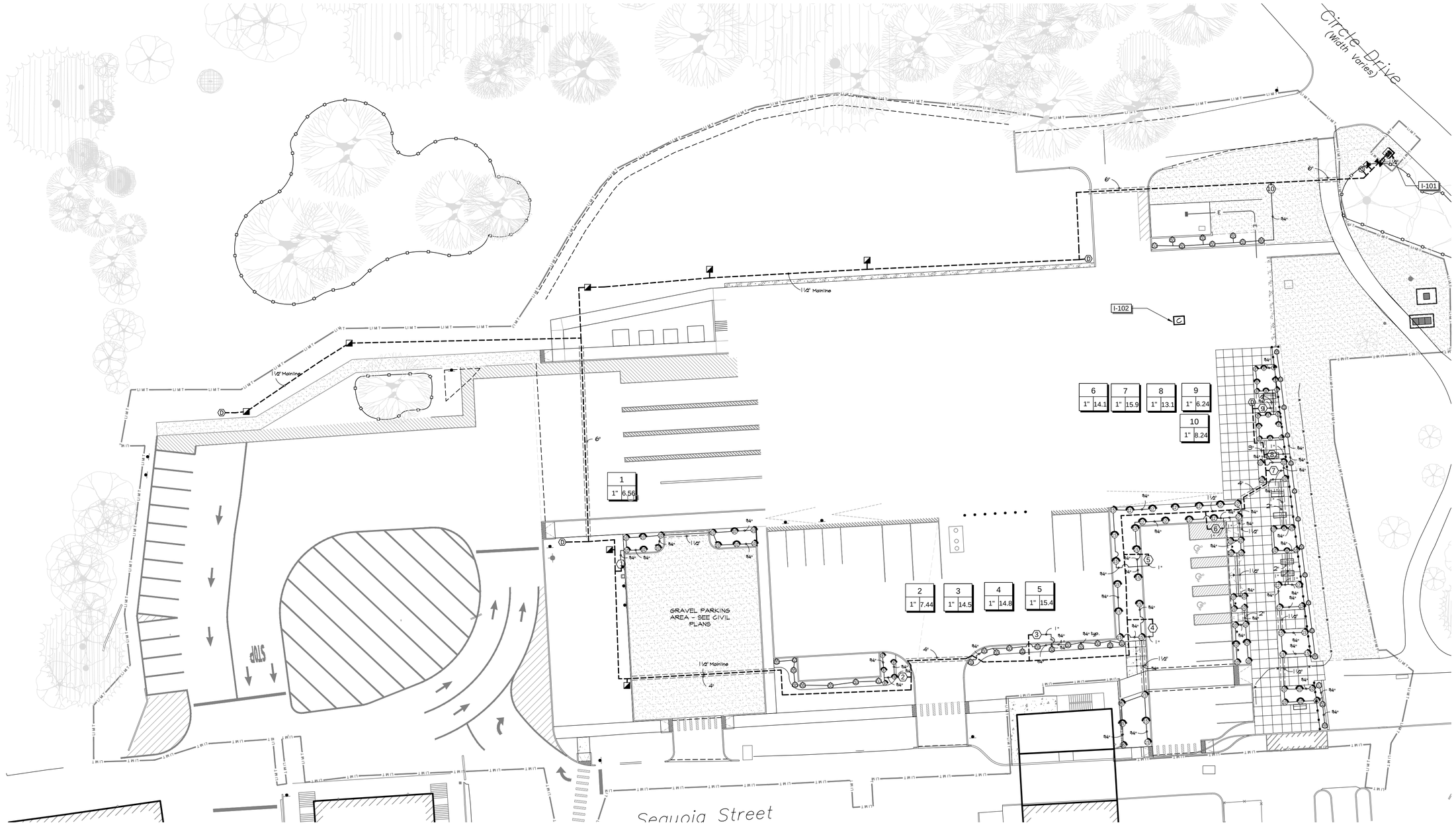
DSHS NO	16-410G (2-1)
NAC NO	121-16004
DRAWN	T.GRANTHAM
CHECKED	J.MCFARLAND
DATE	01/16/2018

LANDSCAPE PLAN

LS.01



IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI	DETAIL
EST LCS RCS CST SST	RAIN BIRD 1812-SAM-PRS 15 STRIP SERIES SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING DEVICE.	30	
Q T H F	RAIN BIRD 1812-SAM-PRS 8 SERIES MPR SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING DEVICE.	30	
Q T H F	RAIN BIRD 1812-SAM-PRS 10 SERIES MPR SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING DEVICE.	30	
Q T H TQ F	RAIN BIRD 1812-SAM-PRS 12 SERIES MPR SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING DEVICE.	30	
Q T H TQ F	RAIN BIRD 1812-SAM-PRS 15 SERIES MPR SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING DEVICE.	30	

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	DETAIL
	RAIN BIRD PEB 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.	
	RAIN BIRD 33-DRC 3/4" BRASS QUICK-COUPLING VALVE, WITH CORROSION-RESISTANT STAINLESS STEEL SPRING, THERMOPLASTIC RUBBER COVER, DOUBLE TRACK KEY LUG, AND 2-PIECE BODY.	
	SHUT OFF VALVE BAK (107-400 SERIES) BRASS BALL VALVE WITH BRASS UNIONS (MATCH LINE SIZE)	
D	DRAIN VALVE WILKINS #200 3/4" ANGLE VALVE FOR MANUAL DRAIN VALVE ASSEMBLY W/ KEY EXTENSION	
BF	FEBCO 850 1" DOUBLE CHECK BACKFLOW PREVENTION, 1/2" TO 2"	
C	RAIN BIRD ESP4-SMTEI WITH (3) ESP-SM6 22 STATION INDOOR SMART MODULAR CONTROL SYSTEM. WALL MOUNT, TIPPING BUCKET RAIN SENSOR THAT MEASURES RAINFALL.	
M	WATER METER 1"	
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21	
	IRRIGATION MAINLINE: PVC SCHEDULE 40	
	PIPE SLEEVE: PVC CLASS 200 SDR 21 INSTALL AT 24" DEPTH	

Valve Callout

Valve Number

Valve Flow

Valve Size

IRRIGATION SHEET NOTES

1. SEE DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. PLAN IS DIAGRAMMATIC. ALL PIPING, LATERALS, AND WIRE TO BE LOCATED IN BED OR LAWN AREAS WHERE APPROPRIATE.
3. PIPE SIZES ARE TO REMAIN CONSTANT BETWEEN PIPE SIZE CALL-OUTS. PIPES ARE LABELED TO SMALLEST PIPE SIZE ONLY (¾").
4. ALL IRRIGATION HEADS LOCATED IN LAWN AREAS SHALL BE 4" POP-UPS AND HEADS IN SHRUB AREAS SHALL BE 12" POP-UPS.
5. ALL PIPES AND SLEEVES UNDER PAVED AREAS SHALL BE 24" DEEP. ALL MAINLINE SHALL BE 18" DEEP IN ALL UNPAVED AREAS, 24" IN PAVED ARES. ALL LATERALS SHALL BE 12" DEEP IN ALL UNPAVED AREAS AND 24" DEEP IN PAVED AREAS.
6. LOCATE ALL MAINLINES WITHIN THE PROJECT LIMITS. INSTALL #14-AWG DIRECT BURIAL LOW VOLTAGE WIRE ALONG MAINLINE; TAPE AND BUNDLE WIRE EVER 20' FT. PROVIDE RED COLOR WIRE FOR SIGNAL AND WHITE COLOR WIRE FOR COMMON. PROVIDE A MINIMUM OF ONE SPARE WIRE FOR EVERY 10 VALVES FOR A MAXIMUM OF FIVE SPARE WIRES.
7. ALL WORK SHALL BE PERFORMED TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT/OWNER.

REFERENCE NOTES SCHEDULE

SYMBOL	IRRIGATION DESCRIPTION
I-101	P.O.C. AT NEW 1" DEDUCT METER. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION. SYSTEM DESIGNED AT 65 P.S.I.
I-102	CONTROLLER SHALL BE INSTALLED ON NORTH WALL OF MECHANICAL ROOM, ELECTRICAL CONTRACTOR SHALL SUPPLY POWER TO THE CONTROLLER AND A CONDUIT TO THE NEAREST LANDSCAPE BED. MOUNT RAIN GAUGE ON A SOUTHWEST CORNER OF BUILDING PER MANUFACTURER'S RECOMMENDATIONS.

NORTH

0 20 40 60 feet

SCALE: 1" = 20'

REVISIONS

1 ADD #2 02/06/2018

CONFORMED SET

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IRRIGATION PLAN

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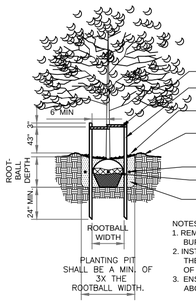
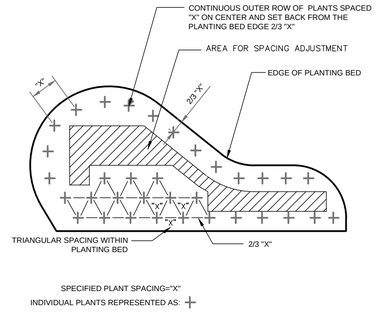
LS.02

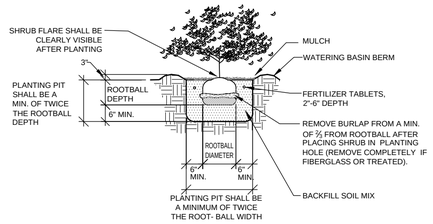


NOTES:
1. REMOVE TREATED OR SYNTHETIC BURLAP COMPLETELY.
2. INSTALL 24" DEPTH ROOT BARRIER AT THE EDGE OF ANY PAVING WITHIN 8 FT. OF TREE TRUNK.
3. ENSURE THE TRUNK FLARE IS VISIBLE ABOVE GRADE AFTER PLANTING.

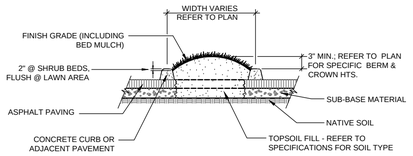
1 TREE PLANTING & STAKING DETAIL
N.T.S. P-CO-WSH1-22



2 PLANT SPACING DETAIL
NTS P-CO-WSH1-08

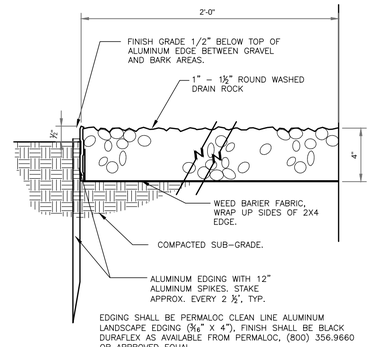


3 SHRUB PLANTING DETAIL (B&B OR CONT.)
NTS P-CO-WSH1-13



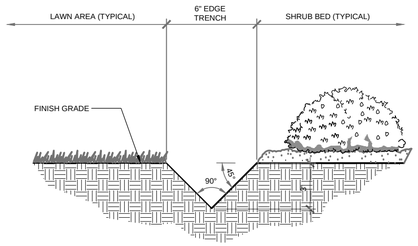
NOTE: GENERAL CONTRACTOR SHALL REMOVE EXCESS ASPHALT PAVEMENT AND SUB- BASE MATERIAL DOWN TO NATIVE SOIL.

4 PARKING ISLAND PLANTER DETAIL
NTS P-CO-WSH1-11

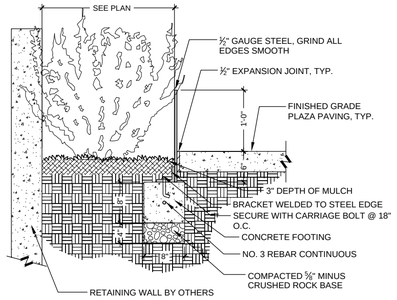


EDGING SHALL BE PERMALOC CLEAN LINE ALUMINUM LANDSCAPE EDGING (3/16" X 4"), FINISH SHALL BE BLACK DURAFLEX AS AVAILABLE FROM PERMALOC, (800) 356.9660 OR APPROVED EQUAL.

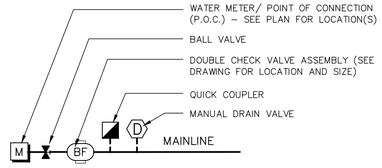
5 ALUMINUM EDGE AT ROCK MULCH BORDER
3" = 1'-0" P-CO-WSH1-28



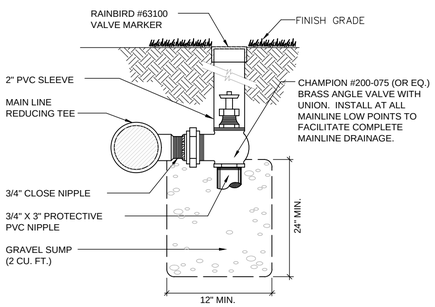
6 LAWN EDGE DETAIL
3" = 1'-0" P-CO-WSH1-23



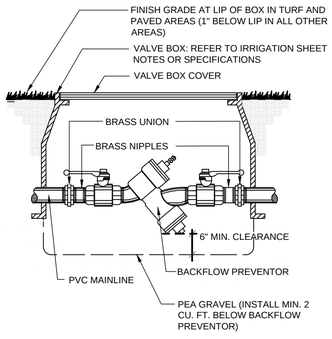
7 WEATHERED STEEL EDGING
1" = 1'-0" P-CO-WSH1-29



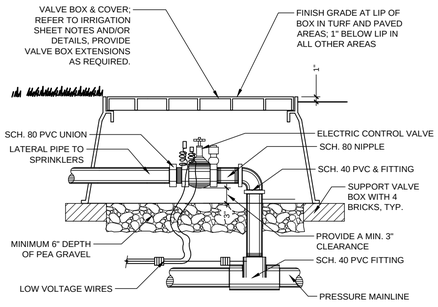
8 POINT OF CONNECTION (POC) DETAIL
N.T.S. P-CO-WSH1-12



9 MANUAL DRAIN VALVE DETAIL
NTS P-CO-WSH1-14

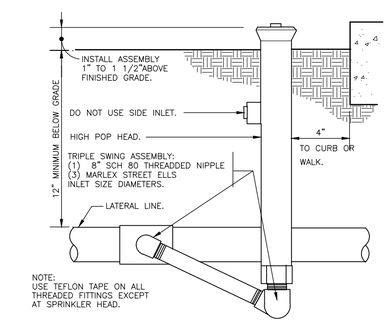


10 DOUBLE CHECK VALVE (DCVA)
NTS P-CO-WSH1-26



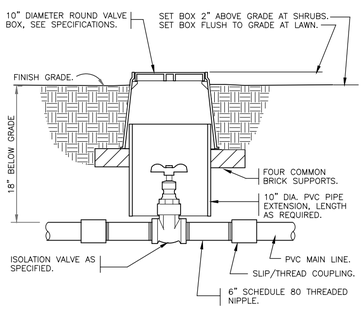
NOTE: ALL WIRES TO BE INSTALLED AS PER LOCAL CODES. NO "IN-LINE" WIRE SPLICES ALLOWED. TAPE AND BUNDLE WIRES EVERY 20 FEET. PROVIDE EXPANSION COILS AT EACH VALVE - WRAPPING WIRE AROUND 1/2" PIPE 15 TIMES. ALL THREADED CONNECTIONS SHALL BE MADE WITH TEFLON TAPE.

11 ELECTRONIC CONTROL VALVE
NTS P-CO-WSH1-25

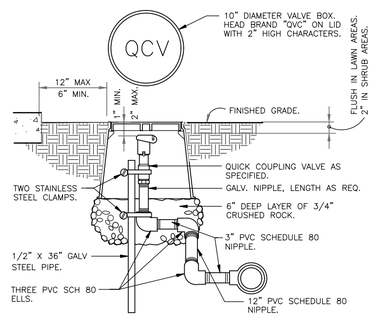


NOTE:
USE TEFLON TAPE ON ALL THREADED FITTINGS EXCEPT AT SPRINKLER HEAD.

12 SHRUB SPRAY HIGHPOP MARLEX ASSEMBLY
3" = 1'-0" P-CO-WSH1-18



13 BRASS ISOLATION VALVE
1 1/2" = 1'-0" P-CO-WSH1-20



14 QUICK COUPLING VALVE IN BOX
1 1/2" = 1'-0" P-CO-WSH1-21

15 PLAZA LAYOUT ENLARGEMENT

REVISIONS
1 ADD #2 02/06/2018

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DETAIL SHEET

LS.03