BINDING EDGE

PORT OF TACOMA

WEST SITCUM
STORMWATER TREATMENT
CONTRACT NO. 070664
MID NO. 201024.01

PORT COMMISSIONERS:

JOHN McCARTHY
DONALD C. JOHNSON
RICHARD P. MARZANO
CLARE PETRICH
DON MEYER

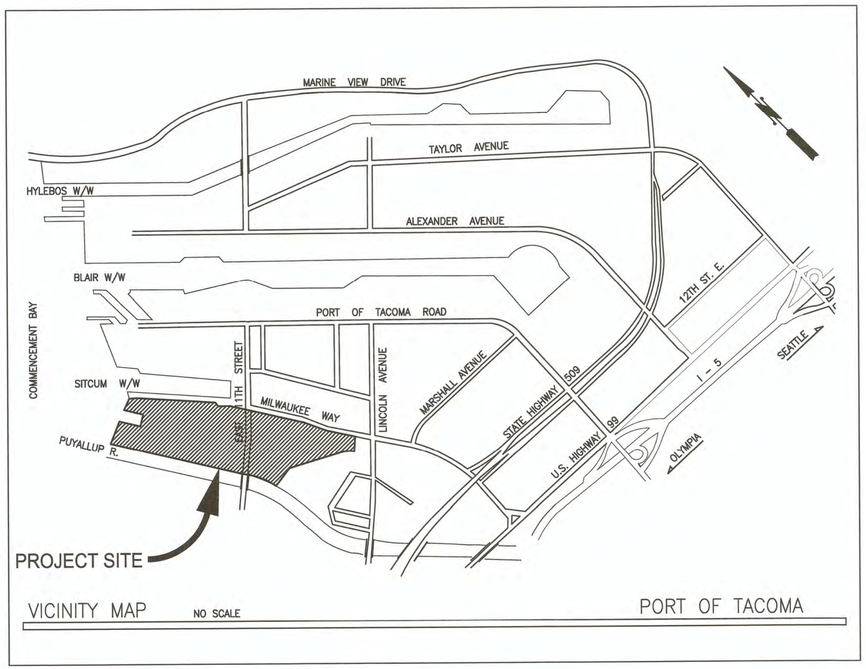
PORT STAFF:

JOHN WOLFE
Chief Executive Officer

DAKOTA CHAMBERLAIN, PE
Chief Facilities
Development Director

JANE VANDENBERG, PE
Director of Engineering

HUGHES WIKE, PE
Project Manager



Digitally signed by Cedar Simmons
Date: 2018.04.25 14:22:42-07'00'

DRAWING LIST

SHEET DESIGNATION	SHEET #	SHEET TITLE	REVISION
G01	01	TITLE SHEET	0
G02	02	LEGEND, ABBREVIATIONS, AND GENERAL NOTES	0
G03	03	SITE KEY MAP AND SURVEY CONTROL	0
G04	04	PROCESS FLOW DIAGRAM AND DESIGN CRITERIA - BASINS A AND B	0
G05	05	PROCESS FLOW DIAGRAM AND DESIGN CRITERIA - BASIN C	0
G06	06	HYDRAULIC PROFILE	0
G07	07	CONSTRUCTION STAGING - BASINS A, B, & C	0
G08	08	TRAFFIC ROUTING PLAN	0
D01	09	DEMOLITION PLAN	0
D02	10	OWS DEMOLITION DETAILS	0
C01	11	SITE PLAN - BASIN A	0
C02	12	SITE PLAN - BASIN B	0
C03	13	SITE PLAN - BASIN C	0
C04	14	TEMPORARY ESCP - BASINS A, B, & C	0
C05	15	EROSION CONTROL NOTES AND DETAILS	0
C06	16	GENERAL CIVIL DETAILS	0
S00	17	STRUCTURAL NOTES	0
S01	18	STRUCTURAL PLAN - BASIN A	0
S02	19	STRUCTURAL PLAN - BASIN B	0
S03	20	STRUCTURAL PLAN - BASIN C	0
S04	21	STRUCTURAL SECTION - BASIN A	0
S05	22	STRUCTURAL SECTION - BASIN B	0
S06	23	STRUCTURAL SECTION - BASIN C	0
S07	24	INLET BAFFLE SECTION & DETAILS	0
S08	25	VALVE VAULT AND HDS FOUNDATION & DETAILS	0
S09	26	STRUCTURAL DETAILS	0
S10	27	STRUCTURAL DETAILS	0
M01	28	MECHANICAL PLAN - BASIN A	0
M02	29	MECHANICAL PLAN - BASIN B	0
M03	30	MECHANICAL PLAN - BASIN C	0
M04	31	MECHANICAL SECTION - BASIN A	0
M05	32	MECHANICAL SECTION - BASIN A	0
M06	33	MECHANICAL SECTION - BASIN B	0
M07	34	MECHANICAL SECTION - BASIN B	0
M08	35	MECHANICAL SECTION - BASIN C	0
M09	36	MECHANICAL SECTION - BASIN C	0
M10	37	MECHANICAL DETAILS	0
E01	38	ELECTRICAL LEGEND AND ABBREVIATIONS	0
E02	39	ONE-LINE DIAGRAM AND LOAD CALCULATIONS	0
E03	40	P & ID	0
E04	41	ELECTRICAL SITE PLAN - BASIN A	0
E05	42	ELECTRICAL SITE PLAN - BASIN B	0
E06	43	ELECTRICAL SITE PLAN - BASIN C	0
E07	44	ELECTRICAL ENCLOSURE PLAN AND DETAILS	0
E08	45	ELECTRICAL PUMP STATION DETAILS	0
E09	46	ELECTRICAL ELEMENTARY DIAGRAMS	0
E10	47	ELECTRICAL ELEMENTARY DIAGRAMS	

Parametrix
ENGINEERING · PLANNING · ENVIRONMENTAL SCIENCES
801 WASHINGTON AVENUE, SUITE 390
BREMERTON, WA 98337
P 360.377.0014
WWW.PARAMETRIX.COM

MARK:	REVISION:	BY:	APPR:	DATE:

Port of Tacoma
P.O. BOX 1837 TACOMA, WA 98401 (253)383-5841

CEDAR I. SIMMONS — STATE OF WASHINGTON — 19988 — REGISTERED PROFESSIONAL ENGINEER
APRIL 25, 2018

APPROVED:
DIRECTOR ENG. DATE 4/26/2018

DLD	JAN 2018
CHECKED BY	DATE
CIS	APR 2018
PROJ. ENGR	DATE
PRINTED BY: peterden	Apr 25, 2018
PORT ADDRESS:	ONE SITCUM PLAZA
	TACOMA, WA 98401–1837

WEST SITCUM
STORMWATER TREATMENT
TITLE SHEET

CONT/CONS:	070664
M. ID:	201024.01
PHASE:	BID SET
TOWNSHIP:	21N
RANGE:	3E
SECTIONS:	33 & 34
DAT–HRZ:	WA83–S
VERT:	MLLW
DRAWING SCALE:	AS NOTED
PARCEL:	SEE G02

6583
G01
SH 01 OF 47

PORT OF TACOMA FILE: U:\PSO\Projects\Clients\8001-NW Seaport Alliance\553-8001-001 West Sitcum\99Svcs\CADD\DWG\PS80010001G-01

BINDING EDGE

SURVEY NOTES:

1. THIS MAP CORRECTLY REPRESENTS CONDITIONS AND FEATURES EXISTING AT THE TIME OF THIS SURVEY IN NOVEMBER, 2017.
2. CONVENTIONAL AND GPS SURVEY EQUIPMENT WAS USED IN THE PERFORMANCE OF THIS SURVEY. ALL EQUIPMENT IS MAINTAINED IN CONFORMANCE WITH CURRENT STATE STATUTE.
3. THIS SURVEY WAS PREPARED BY FIELD TRAVERSE AS PER WAC 332–130–090, PART C. RELATIVE ACCURACY EXCEEDS 1 FOOT IN TEN THOUSAND.
4. ALL SURFACE FEATURES AND INVERT STRUCTURE ELEVATION SHOWN HEREON WERE FIELD LOCATED AND MEASURED BY PARAMETRIX FOR THIS SURVEY. UNDERGROUND UTILITY LINES ARE BASED UPON A COMBINATION OF ASBUILT PLANS, SURFACE FEATURE MEASUREMENTS AND ONSITE UNDERGROUND UTILITY MARKINGS PERFORMED BY OTHERS.
5. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.
6. BOUNDARY INFORMATION SHOWN HEREON IS BASED ON PUBLIC GIS INFORMATION PROVIDED BY THE PIERCE COUNTY. BOUNDARY LINES SHOWN ARE FOR REPRESENTATION PURPOSES ONLY AND SHOULD NOT BE USED FOR DESIGN ACTIVITIES THAT WILL RELY ON AN ACCURATE REPRESENTATION OF BOUNDARY INFORMATION.
7. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT, WHICH MAY REVEAL RESTRICTIONS OR EASEMENTS OF RECORD. ACCORDINGLY, NONE ARE SHOWN HEREON.

HORIZONTAL DATUM:

THE HORIZONTAL DATUM FOR THIS SURVEY IS NAD 83/91, WASHINGTON STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, BASED ON THE WASHINGTON STATE REFERENCE NETWORK (WSRN) ADJUSTED TO CITY OF TACOMA SURVEY MONUMENT NO. 555 WITH A CONFIRMATION TIE TO CITY OF TACOMA SURVEY MONUMENT NO. 552.

SURVEY MONUMENT NO. 555	SURVEY MONUMENT NO. 552
NORTHING: 705,705.799	NORTHING: 704,923.149
EASTING: 1167945.472	EASTING: 1168286.477

VERTICAL DATUM:

VERTICAL DATUM FOR THIS SURVEY IS MLLW (MEAN LOW LOW WATER) PER CITY OF TACOMA PUBLIC WORKS VERTICAL DATUM CHART NGVD 29. FIELD SURVEYED ELEVATION DATA ESTABLISHED UTILIZING THE WASHINGTON STATE REFERENCE NETWORK (WSRN) ADJUSTED TO CITY OF TACOMA VERTICAL CONTROL MONUMENT NO. 2595 AND CONVERTED TO MLLW DATUM WITH A CONFIRMATION TIE TO CITY OF TACOMA VERTICAL CONTROL MONUMENT NO. 2597

VERTICAL CONTROL MONUMENT NO. 2595.
ELEV. 10.909'– NGVD 29
ELEV. 16.869 – MLLW

VERTICAL CONTROL MONUMENT NO. 2597.
ELEV. 10.047' – NGVD 29
ELEV 16.007 –MLLW

THE CONVERSION FROM NGVD 29 TO MLLW DATUM WAS REFERENCED TO NOAA TIDAL BENCHMARK "TIDAL 22" AND THE CITY OF TACOMA PUBLIC VERTICAL DATUM CONVERSION CHART (EPOCH 1883–2001).

HIGHEST OBSERVED (12/17/2012)	14.87 FT.
MEAN HIGHER HIGH WATER (MHHW)	11.80 FT.
MEAN HIGH WATER (MHW)	10.92 FT.
MEAN TIDE LEVEL (MTL)	6.89 FT.
NGVD 29	5.96 FT.
MEAN LOW WATER (MLW)	2.85 FT.
MEAN LOWER LOW WATER (MLLW)	0.00 FT.

SOURCE: NOAA, STATION ID = 9446484,
NAME = TIDAL 22, TACOMA, WASHINGTON

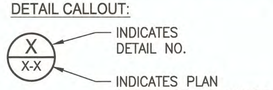
NGVD29 + 5.96' = MLLW ELEVATION

GENERAL NOTES:

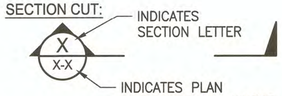
1. THIS PROJECT INVOLVES INSTALLING STORMWATER PUMP STATIONS, HYDRODYNAMIC SEPARATORS, TREATMENT SYSTEMS, CONSTRUCTION OF CONVEYANCE FEATURES, AND ASSOCIATED PAVEMENT RECONSTRUCTION.
2. THE PROJECT CONSISTS OF THREE SITES WITHIN THE WEST SITCUM CONTAINER TERMINAL. PROJECT LOCATIONS ARE AS FOLLOWS:
   BASIN A: 1002 MILWAUKEE WY, TACOMA, WA 98421
   PARCEL NO. 8950000050 & 8950000061
   BASIN B: 1002 MILWAUKEE WY, TACOMA, WA 98421
   PARCEL NO. 8950000061
   BASIN C: 1738 MILWAUKEE WAY, TACOMA, WA 98421
   PARCEL NO. 8950000050 & 8950000092
3. ALL SAFETY CODES, REGULATIONS AND SPECIFICATIONS SHALL BE COMPLIED WITH FOR THE DURATION OF THE PROJECT. CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAG PERSONNEL, OR OTHER DEVICES TO PROVIDE FOR PUBLIC SAFETY.
4. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS, REGULATIONS AND ALL PERMITS INCLUDING BUT NOT LIMITED TO OWNER'S GENERAL INDUSTRIAL STORMWATER PERMIT AND CITY OF TACOMA SITE DEVELOPMENT PERMIT.
5. CONTRACTOR SHALL COORDINATE WITH OWNER AND EQUIPMENT SUPPLIERS FOR DELIVERY, INSTALLATION, AND COMMISSIONING OF OWNER–SUPPLIED EQUIPMENT, INCLUDING THE PUMPING STATIONS, HYDRODYNAMIC SEPARATORS, AND INDUSTRIAL MEDIA MODULAR WETLAND TREATMENT SYSTEMS.
6. SEE MECHANICAL AND ELECTRICAL SHEETS FOR WORK SCOPE DELINEATION DETAILS.
7. PRIOR TO COMMISSIONING OF TREATMENT SYSTEMS, CONTRACTOR SHALL CLEAN EXISTING STORM DRAIN STRUCTURES UPSTREAM OF TREATMENT SYSTEMS TO END OF PIPE BY FLUSHING ONE PIPE VOLUME MINIMUM, AND IN ACCORDANCE WITH WSDOT 7–07.
8. ALL CONSTRUCTION SHALL BE COORDINATED WITH THE PORT OF TACOMA'S ENGINEER.
9. REFER TO SPECIFICATIONS SECTION 01 14 00 FOR WORK STAGING AND WORKING HOURS RESTRICTIONS.
10. ALL INDICATED SCALES IN DRAWINGS ARE APPROXIMATE AND DIMENSIONS SHOWN TAKE PRECEDENCE OVER SCALED DISTANCES. CONTRACTOR SHALL VERIFY DIMENSIONS AND QUANTITIES
11. EXISTING FEATURES WERE DETERMINED BY FIELD SURVEYS PERFORMED IN JULY OF 2016 BY OTHERS AND BY PARAMETRIX IN 2017.
12. EXISTING UTILITY INFORMATION SHOWN ON THESE DRAWINGS WAS COMPILED FROM THE ABOVE–MENTIONED FIELD SURVEYS AND PLANS PROVIDED BY THE PORT OF TACOMA AND LOCATIONS SHOULD BE CONSIDERED APPROXIMATE.
13. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION SURVEYING AND VERIFY EXISTING UTILITY LOCATIONS, AS WELL AS CALL AND ARRANGE FOR AN INDEPENDENT LOCATE CONTRACTOR TO PROVIDE UTILITY LOCATES ON THE CONSTRUCTION SITES. THE CONTRACTOR SHALL ALSO WALK THE SITES WITH THE ENGINEER AND PORT PERSONNEL TO REVIEW EXACT LOCATION OF PROPOSED TREATMENT SYSTEMS AND TIE–IN LOCATIONS TO EXISTING CONVEYANCE SYSTEMS.
14. ALL TRACK, PAVEMENT, EXCAVATIONS MATERIALS NOT REQUIRED FOR NEW WORK, AND OTHER MISCELLANEOUS ITEMS DESIGNATED FOR REMOVAL SHALL BE DISPOSED OF OFF OF PORT PROPERTY IN ACCORDANCE WITH ALL PROJECT SPECIFICATION, APPLICABLE LOCAL, STATE , AND FEDERAL LAWS AND REGULATIONS.
15. MATERIAL STOCKPILES SHALL BE LOCATED AS SHOWN ON THE DRAWINGS.
16. FOR ALL PROJECT EXCAVATIONS, CONTRACTOR SHALL DEWATER AS NECESSARY FOR DRY PLACEMENT OF NEW MATERIALS AND SHORE EXCAVATIONS IN ACCORDANCE WITH OSHA OR WISHA REQUIREMENTS AS APPLICABLE. REFER TO SPEC SECTION 31 23 19 AND 31 23 33.
17. CONTRACTOR TO RESTORE ALL AREAS AFFECTED BY WORK AND OPERATIONS. UPON COMPLETION OF A WORK AREA, THE CONTRACTOR SHALL THOROUGHLY CLEAN AND BROOM SWEEP THE AREA PRIOR TO MOVING TO NEXT WORK AREA.
18. REFERENCE DOCUMENTS INCLUDING GEOTECHNICAL REPORT BY HWA AND AS–BUILT DRAWINGS AVAILABLE FOR REVIEW AT PORT OF TACOMA OFFICE.
19. CONTRACTOR SHALL EXPOSE, VERIFY, CONNECT, AND MATCH EXISTING UTILITIES IN CONFORMANCE WITH THE INTENT OF THE PLANS AND SPECIFICATIONS.
20. PRIOR TO EXCAVATING FOR CONSTRUCTION, CONTRACTOR SHALL POTHOLE TO LOCATE ALL EXISTING UTILITIES THAT MAY INTERFERE WITH CONSTRUCTION. CONTRACTOR SHALL COORDINATE POTHOLING WITH OWNER AND PROVIDE MIN 48 HOURS WRITTEN NOTICE POTHOLE LOCATIONS IDENTIFIED.

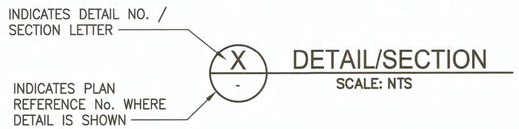
DETAIL AND SECTION DESIGNATIONS

DETAIL CALLOUT:



SECTION CUT:





ABREVIATIONS:

AC	ASPHALT CONCRETE
APPROX	APPROXIMATE
ASPH	ASPHALT
AVE	AVENUE
BLDG	BUILDING
BM	BENCH MARK
BMP	BEST MANAGEMENT PRACTICE
CB	CATCH BASIN
CF	CUBIC FEET
CFS	CUBIC FEET PER SECOND
CL OR ℄	CENTERLINE
CLF	CHAINLINK FENCE
CO	CLEAN OUT
CONC	CONCRETE
CSBC	CRUSHED SURFACING BASE COURSE
CSTC	CRUSHED SURFACING TOP COURSE
CU	CUBIC
CULV	CULVERT
CY	CUBIC YARDS
DEMO	DEMOLISH
DI	DUCTILE IRON
DIA	DIAMETER
DIMS	DIMENSIONS
DIP	DUCTILE IRON PIPE
DWG	DRAWING
E	EAST/EASTING
EA	EACH
ECO	ECOLOGY
EL/ELEV	ELEVATION
ESCP	EROSION AND SEDIMENTATION CONTROL PLAN
EX/EXIST	EXISTING
FH	FIRE HYDRANT
FL	FLANGE
FO	FIBER OPTIC
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FEET, FOOT
FWHCA	FISH AND WILDLIFE HABITAT CONSERVGATION AREAS
G	GAS
GIS	GEOGRAPHIC INFORMATION SYSTEM
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HDS	HYDRODYNAMIC SEPARATOR
HGL	HYDRAULIC GRADE LINE
HP	HORSE POWER
ID	IDENTIFICATION
IE	INVERT ELEVATION
L	LENGTH
LF	LINEAR FEET/FOOT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
MWS	MODULAR WETLAND SYSTEM
N	NORTH/NORTHING
N.T.S.	NOT TO SCALE
NE	NORTHEAST
NO.	NUMBER
NW	NORTHWEST
OWS	OIL/WATER SEPARATOR
P	POWER
P/S	PUMP STATION
P&ID	PROCESS AND INSTRUMENTATION DIAGRAM
PCC	PORTLAND CEMENT CONCRETE
PFD	PROCESS FLOW DIAGRAM
P.I.P.	PROTECT IN PLACE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PMX	PARAMETRIX
PVC	POLYVINYL CHLORIDE
R	RADIUS/RIVER
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT OF WAY
S	SOUTH
SD	STORM DRAIN
SDE	STORM DRAIN EFFLUENT
SDFM	STORM DRAIN FORCE MAIN
SDMH	STORM DRAIN MANHOLE
SQ	SQUARE
SS	SANITARY SEWER
SSD	SCREENED STORM DRAIN
SSMH	SANITARY SEWER MANHOLE
SST	STAINLESS STEEL
ST	STREET
STBY	STAND BY
STD	STANDARD
T	TELEPHONE
TDH	TOTAL DYNAMIC HEAD
TESC	TEMPORARY EROSION AND SEDIMENTATION CONTROL
TMNT	TREATMENT
TOC	TOP OF CONCRETE
TSD	TREATED STORM DRAIN
TYP	TYPICAL
V	VOLT
W	WATER/WATT/WEST
W/	WITH
W/W	WATERWAY
YD	YARD

LEGEND:

EXISTING

- SIGN
- MAIL BOX
- MANHOLE SEWER
- MANHOLE STORM
- CATCH BASIN
- AREA DRAIN
- POWER JUNCTION BOX
- POWER PANEL
- TELEPHONE HAND HOLE
- TELEPHONE RISER
- GATE POST/BOLLARD
- FIRE HYDRANT
- WATER VAULT
- WATER VALVE
- WATER BLOW OFF VALVE
- MONITORING WELL
- POWER POLE WITH DROP LINE
- POWER POLE WITH DROP LINE, TRANSFORMER
- POWER POLE WITH TRANSFORMER
- POWER POLE HIGH TENSION
- POWER JUNCTION BOX
- POWER POLE WITH LIGHT AND DROP LINE
- COMMUNICATION LOCATES
- POWER LOCATES
- STORM LINE
- WATER LOCATES
- CHAIN LINK FENCE

PROPOSED

- NEW FENCE
- NEW CURBING
- SAWCUT
- SILT FENCE
- ECOLOGY BLOCK WALL
- NEW CONCRETE SEDIMENT TRAP STRUCTURE
- CLEARING AND GRUBBING LIMITS
- OHW
- SHORELINE 200' BUFFER
- BASIN BOUNDARY
- PARCEL BOUNDARY
- PROPERTY LINE
- CHECK DAMS
- INLET GRAVEL AND WIRE MESH FILTER CATCH BASIN PROTECTION
- POINT IDENTIFIER
- EQUIPMENT DESIGNATION

Port of Tacoma
P.O. BOX 1837 TACOMA, WA 98401 (253)383-5841

Parametrix
ENGINEERING. PLANNING. ENVIRONMENTAL SCIENCES
60 WASHINGTON AVENUE, SUITE 390
BREMERTON, WA 98337
P 360.377.0014
WWW.PARAMETRIX.COM

MARK:	REVISION:	BY:	APPR:	DATE:

CERTIFICATE OF REGISTERED PROFESSIONAL ENGINEER
STATE OF WASHINGTON
STEVEN L. SIMMONS
55398
APRIL 25, 2018

		DLD	JAN 2018
		CHECKED BY	DATE
		CIS	APR 2018
		PROJ. ENGR	DATE
		peterden	Apr 25, 2018
		TACOMA PLAZA	
		TACOMA, WA	98401–1837
			APRIL 25, 2018

APPROVED:
DIRECTOR ENG. DATE

WEST SITCUM
STORMWATER TREATMENT
LEGEND, ABBREVIATIONS, AND GENERAL NOTES

PRINTED BY: peterden Apr 25, 2018
PORT ADDRESS: ONE SITCUM PLAZA
TACOMA, WA 98401–1837

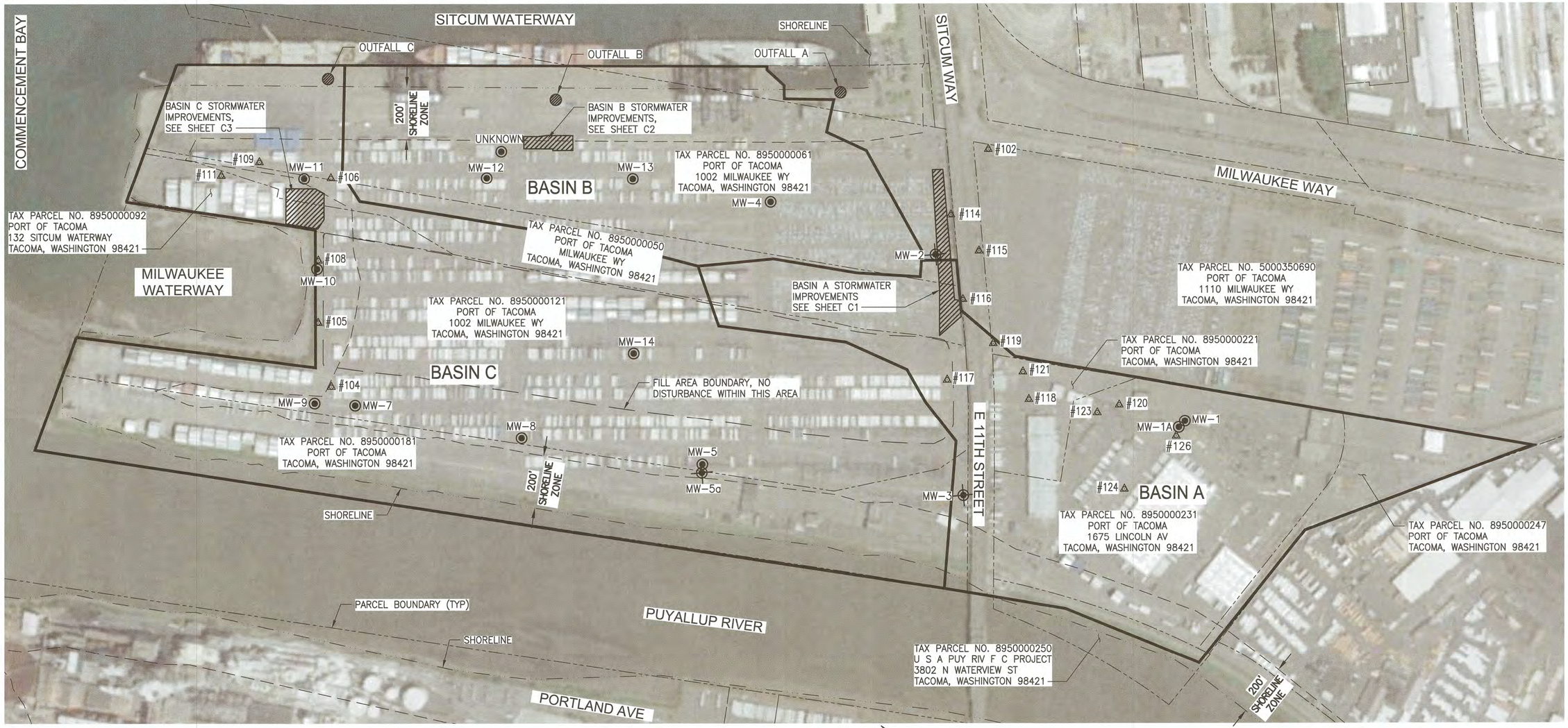
CONT/CONS:	070664	TOWNSHIP: 21N	RANGE: 3E
M. ID:	201024.01	DAT–HRZ: WA83–S	VERT: MLLW
PHASE:	BID SET	PARCEL: SEE G02	DRAWING SCALE: AS NOTED

SECTIONS: 33 & 34

6583
G02
SH 02 OF 47

PORT OF TACOMA FILE: U:\PSO\Projects\Clients\8001-NW Seaport Alliance\553-8001-001 West Sitcum\99Svcs\CADD\DWG\PS8001001G-02

BINDING EDGE



SURVEY CONTROL DATA TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTON
102	709,677.02	1,165,503.64	19.22	SET MAG NAIL
104	710,986.97	1,163,191.18	17.59	SET MAG NAIL
105	711,183.26	1,163,342.27	18.28	SET MAG NAIL
106	711,505.01	1,163,791.58	17.35	SET MAG NAIL
108	711,337.20	1,163,522.55	18.18	SET MAG NAIL
109	711,750.86	1,163,660.19	17.48	SET MAG NAIL
111	711,827.27	1,163,526.66	16.89	SET MAG NAIL
114	709,622.56	1,165,221.96	17.37	SET MAG NAIL
115	709,452.55	1,165,187.53	18.12	SET MAG NAIL
116	709,378.54	1,165,007.76	17.40	SET MAG NAIL
117	709,225.04	1,164,736.80	17.59	SET MAG NAIL
118	708,941.57	1,164,883.73	17.35	SET MAG NAIL
119	709,181.84	1,164,955.73	18.06	SET MAG NAIL
120	708,666.58	1,165,091.83	17.49	SET MAG NAIL
121	709,026.39	1,164,947.84	17.96	SET MAG NAIL
123	708,710.94	1,165,015.04	18.09	SET MAG NAIL
124	708,443.67	1,164,862.19	18.31	SET MAG NAIL
126	708,424.34	1,165,142.96	17.97	SET MAG NAIL

LEGEND

- SHORELINE
- 200' SHORELINE ZONE
- DRAINAGE BASIN BOUNDARY
- PARCEL BOUNDARY
- WORK SITE LOCATION
- FILL AREA BOUNDARY
- MONITORING WELL – MEASURED IN THE FIELD IN APRIL 2008
- MONITORING WELL – PREVIOUS SURVEY CONDUCTED IN 1996
- SURVEY CONTROL POINT
- OUTFALL

SITE KEY MAP

SCALE IN FEET
0 200 400

Port of Tacoma
P.O. BOX 1837 TACOMA, WA 98401 (253)383-5841

Parametrix
ENGINEERING PLANNING ENVIRONMENTAL SCIENCES
60 WASHINGTON AVENUE, SUITE 390
BREMERTON, WA 98337
P 360.377.0014
WWW.PARAMETRIX.COM

MARK:	REVISION:	BY:	APPR:	DATE:

CEDRIC R. SIMONS — STATE OF WASHINGTON — 55598 — REGISTERED PROFESSIONAL ENGINEER
APRIL 25, 2018

APPROVED:
DIRECTOR ENG. DATE

DLD JAN 2018
CHECKED BY DATE
CIS APR 2018
PROJ. ENGR DATE
peterden Apr 25, 2018
PRINTED BY:
PORT ADDRESS: ONE SITCUM PLAZA
TACOMA, WA 98401-1837
DRAWING SCALE: AS NOTED

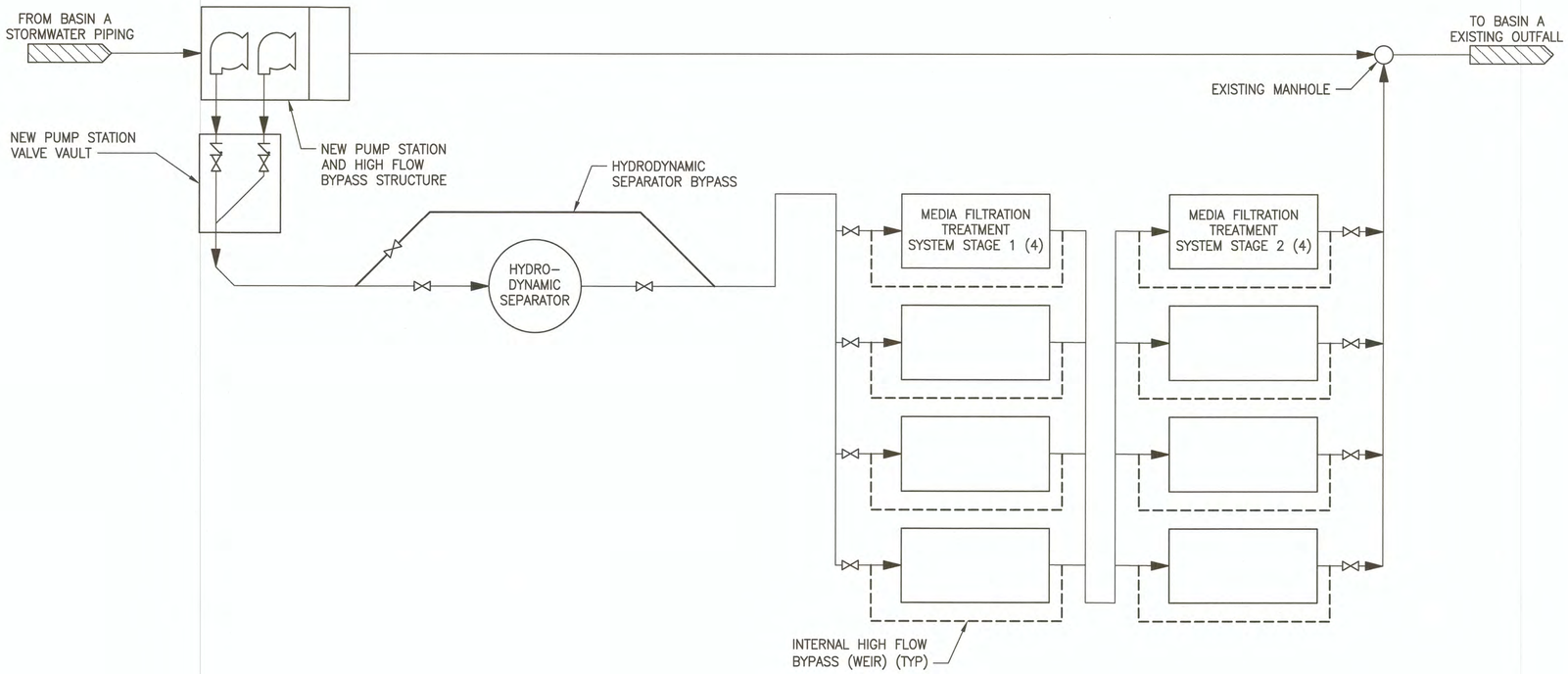
WEST SITCUM STORMWATER TREATMENT

SITE KEY MAP AND SURVEY CONTROL

CONT/CONS: 070664	TOWNSHIP: 21N	RANGE: 3E	SECTIONS:33 & 34
M. ID: 201024.01	DAT-HRZ: WA83-S	VERT: MLLW	
PHASE: BID SET	PARCEL: SEE G02		

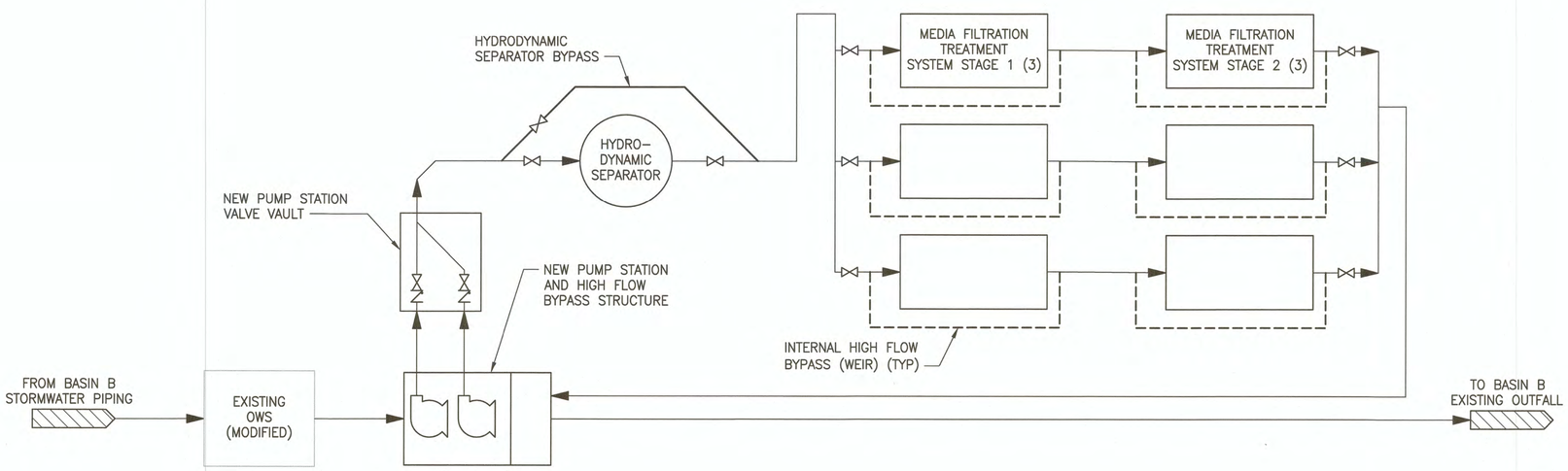
6583
G03
SH 03 OF 47

PORT OF TACOMA FILE: U:\PSO\Projects\Clients\8001-NW Seaport Alliance\553-8001-001 West Sitcum\99Svcs\CADD\DWG\PS8001001G-03



PFD - BASIN A

SCALE: NOT TO SCALE



PFD - BASIN B

SCALE: NOT TO SCALE

DESIGN CRITERIA

ITEM DESCRIPTION	VALUE
PORT OF TACOMA	
COMMENCEMENT BAY ORDINARY	
HIGH WATER MARK	12.2 FT
MEAN HIGHER HIGH WATER	11.8 FT
BASIN A	
WATER QUALITY FLOW RATE	2.9 CFS
PUMP STATION	
PUMP QUANTITY (1 STBY)	2
PUMP CAPACITY (EA)	1,430 GPM @ 30.2 FT TDH
HP (EA)	20
BYPASS STRUCTURE	
TYPE	FLAP GATE
HEADLOSS	0.65 FEET
TREATMENT SYSTEM	
TYPE	2 STAGE MEDIA FILTRATION (100% REDUNDANCY)
QUANTITY, TOTAL	8
CAPACITY, EA	6 @ 1 CFS, 2 @ 0.23 CFS
OPERATING HEAD	6 @ 4.9 FT, 2 @ 3.4 FT
BASIN B	
WATER QUALITY FLOW RATE	2.2 CFS
PUMP STATION	
PUMP QUANTITY (1 STBY)	2
PUMP CAPACITY (EA)	1,090 GPM @ 25.6 FT TDH
HP (EA)	12
BYPASS STRUCTURE	
TYPE	FLAP GATE
HEADLOSS	0.65 FEET
TREATMENT SYSTEM	
TYPE	2 STAGE MEDIA FILTRATION (100% REDUNDANCY)
QUANTITY, TOTAL	6
CAPACITY, EA	4 @ 1 CFS, 2 @ 0.577 CFS
OPERATING HEAD	4 @ 4.9 FT, 2 @ 3.4 FT

Port of Tacoma
P.O. BOX 1837 TACOMA, WA 98401 (253)383-5841
Parametrix
ENGINEERING PLANNING ENVIRONMENTAL SCIENCES
360 WASHINGTON AVENUE, SUITE 390
BREMERTON, WA 98337
P 360.377.0014
WWW.PARAMETRIX.COM

MARK:	REVISION:	BY:	APPR:	DATE:

DAVID I. SIMMONS
STATE OF WASHINGTON
55386
REGISTERED PROFESSIONAL ENGINEER
APRIL 25, 2018

DLD	JAN 2018		
CHECKED BY	DATE		
CIS	APR 2018		
PROJ. ENGR	DATE		

DIRECTOR ENG. DATE:	
PRINTED BY: peterden Apr 25, 2018	
PORT ADDRESS: ONE SITCUM PLAZA	
TACOMA, WA 98401-1837	

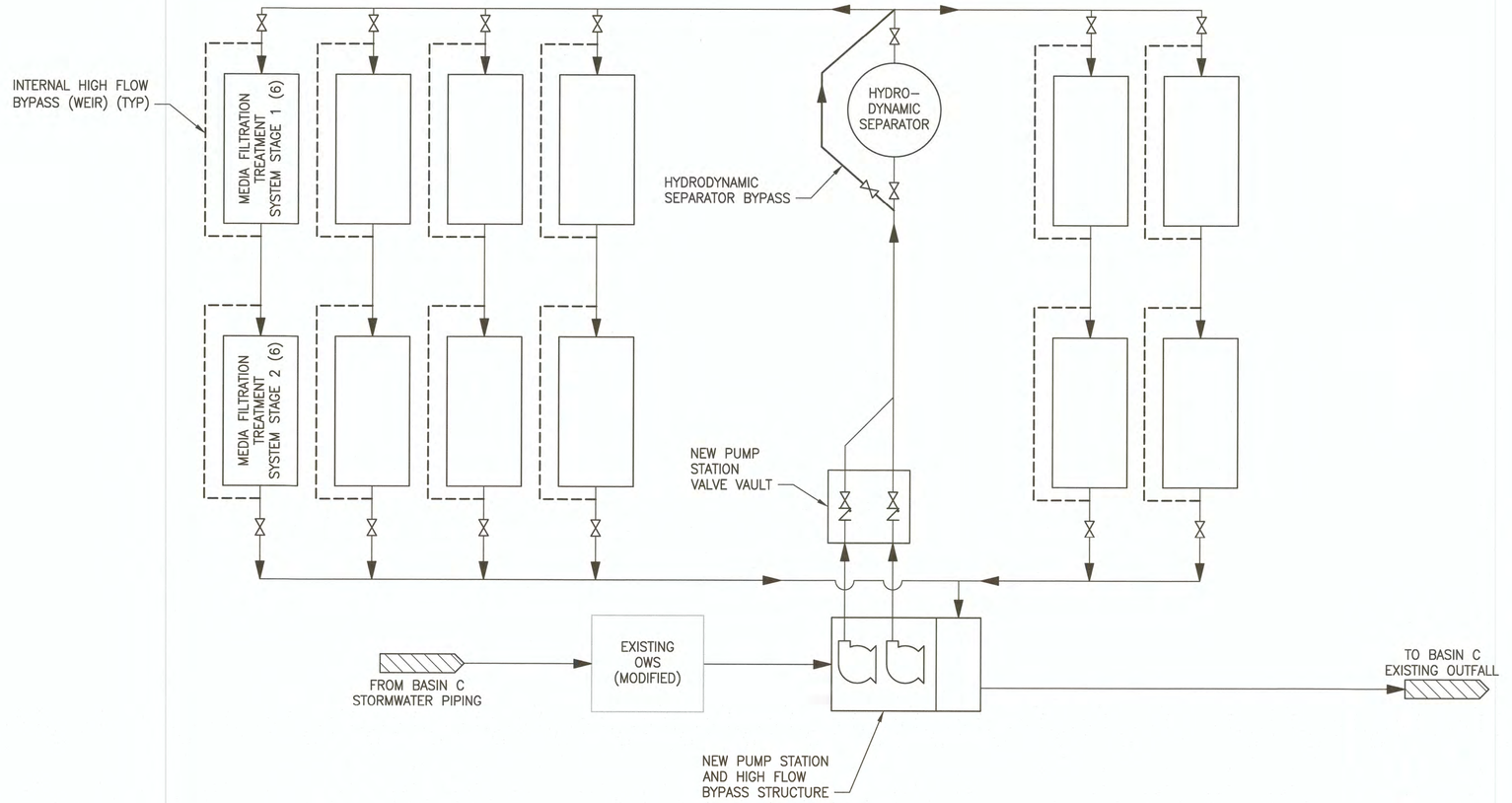
TOWNSHIP: 21N	RANGE: 3E	SECTIONS:33 & 34	
DAT–HRZ: WA83–S	VERT: MLLW		
PARCEL: SEE G02	DRAWING SCALE: AS NOTED		

APPROVED:
4/26/2018

WEST SITCUM
STORMWATER TREATMENT
PROCESS FLOW DIAGRAM AND DESIGN CRITERIA - BASINS A AND B

6583
G04
SH 04 OF 47

CONT/CONS:	070664
M. ID:	201024.01
PHASE:	BID SET



PFD - BASIN C

SCALE: NOT TO SCALE

DESIGN CRITERIA

ITEM DESCRIPTION	VALUE
PORT OF TACOMA	
COMMENCEMENT BAY ORDINARY HIGH WATER MARK	12.2 FT
BASIN C	
WATER QUALITY FLOW RATE	4.9 CFS
PUMP STATION	
PUMP QUANTITY (1 STBY)	2
PUMP CAPACITY (EA)	2,420 GPM @ 31.6 FT TDH
HP (EA)	35
BYPASS STRUCTURE	
TYPE	FLAP GATE
HEADLOSS	0.65 FEET
TREATMENT SYSTEM	
TYPE	2 STAGE MEDIA FILTRATION (100% REDUNDANCY)
QUANTITY, TOTAL	12
CAPACITY, EA	10 @ 1 CFS, 2 @ 0.577 CFS
OPERATING HEAD	10 @ 4.9 FT, 2 @ 3.4 FT

Port of Tacoma
P.O. Box 1837 TACOMA, WA 98401 (253)383-5841

Parametrix
ENGINEERING · PLANNING · ENVIRONMENTAL SCIENCES
60 WASHINGTON AVENUE, SUITE 390
BREMERTON, WA 98337
P 360.377.0014
WWW.PARAMETRIX.COM

MARK:	REVISION:	BY:	APPR:	DATE:

CHRISTOPHER J. SIMMONS — STATE OF WASHINGTON — 56598 — REGISTERED PROFESSIONAL ENGINEER
APRIL 25, 2018

DLD	JAN 2018	APPROVED:	
CHECKED BY	DATE		
CIS	APR 2018	DIRECTOR ENG.	DATE
PROJ. ENGR	DATE	PRINTED BY: peterden	Apr 25, 2018

WEST SITCUM
STORMWATER TREATMENT
PROCESS FLOW DIAGRAM AND DESIGN CRITERIA - BASIN C

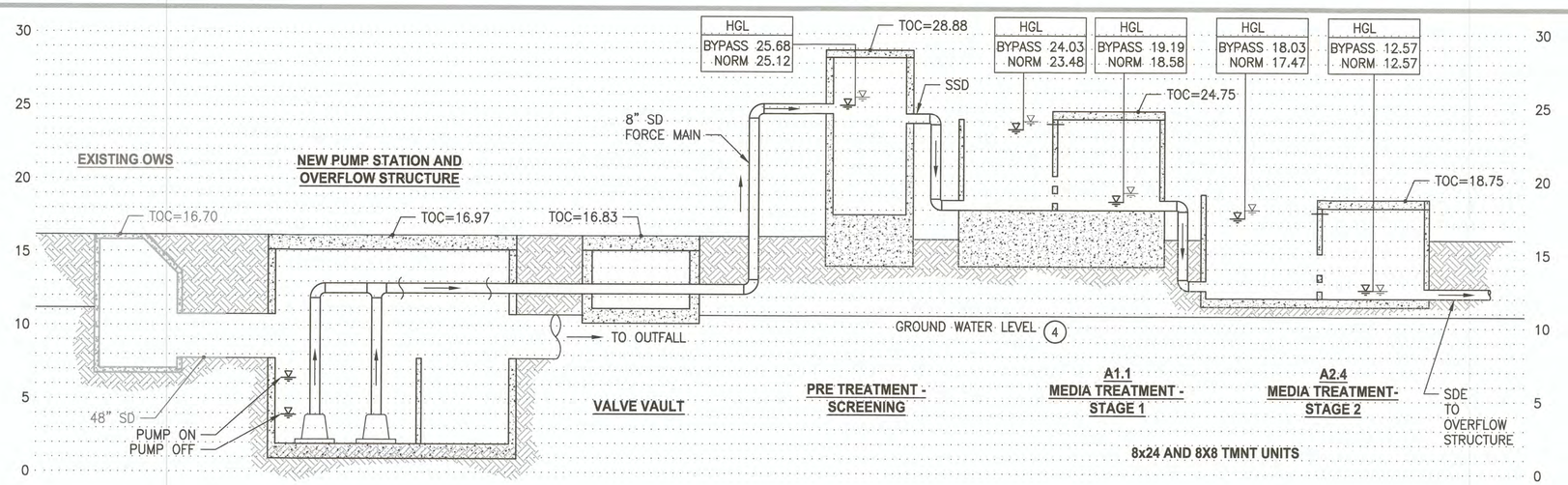
PORT ADDRESS: ONE SITCUM PLAZA
TACOMA, WA 98401-1837

CONT/CONS: 070664	TOWNSHIP: 21N	RANGE: 3E	SECTIONS:33 & 34
M. ID: 201024.01	DAT-HRZ: WA83-S	VERT: MLLW	
PHASE: BID SET	PARCEL: SEE G02	DRAWING SCALE: AS NOTED	

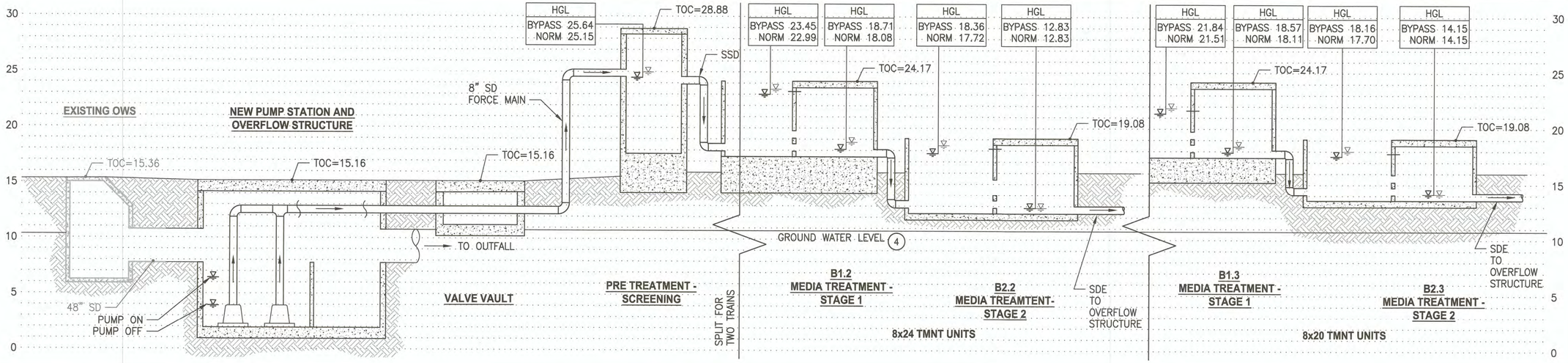
6583
G05
SH 05 OF 47

BINDING EDGE

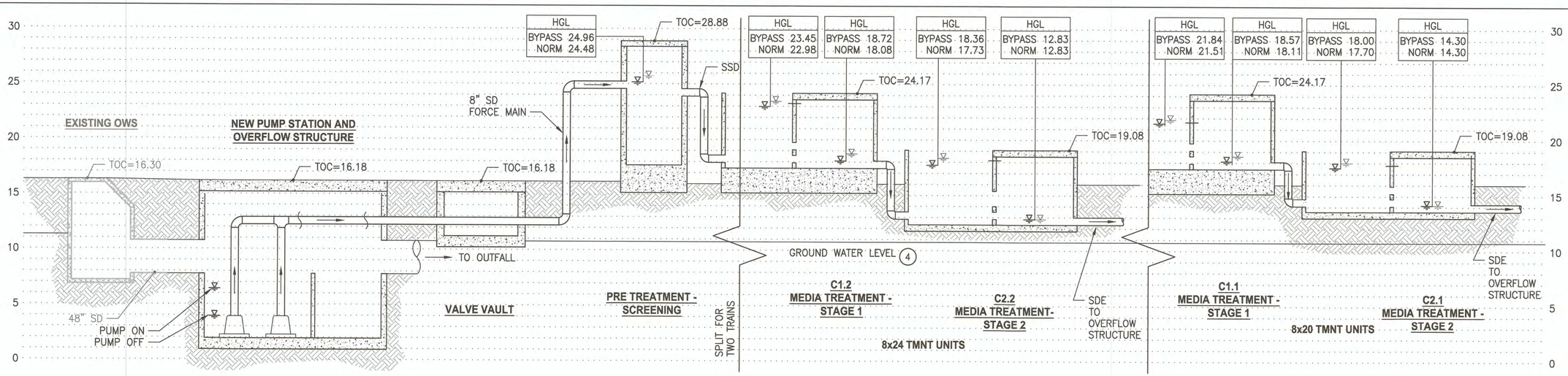
HYDRAULIC PROFILE BASIN A



HYDRAULIC PROFILE BASIN B



HYDRAULIC PROFILE BASIN C



NOTES:

1. LIQUID ELEVATIONS SHOWN ARE FOR 8x24 MWS UNITS AT BASIN WQFR:
   A: 2.9 CFS
   B: 2.2 CFS
   C: 4.9 CFS
   NORMAL OPERATION
2. BYPASS HGL IS WHEN TREATMENT UNITS IN INTERNAL BYPASS.
3. MEAN HIGHER HIGH TIDE IS EL 11.80 EL12.20 USED AS CONTROLLING DOWNSTREAM WATER SURFACE LEVEL.
4. GROUNDWATER LEVEL SHOWN FOR SHORING DESIGN PER GEOTECHNICAL REPORT. GROUND WATER LEVEL WILL FLUCTUATE WITH TIDAL INFLUENCE.

Port of Tacoma
P.O. BOX 1837 TACOMA, WA 98401 (253)383-5841

Parametrix
ENGINEERING PLANNING ENVIRONMENTAL SCIENCES
60 WASHINGTON AVENUE, SUITE 390
BREMERTON, WA 98337
P 360.377.0014
WWW.PARAMETRIX.COM

MARK:	REVISION:	BY:	APPR:	DATE:

DAVID L. SIMMONS — STATE OF WASHINGTON — 05388 — REGISTERED PROFESSIONAL ENGINEER
APRIL 25, 2018

APPROVED:
DIRECTOR ENG. DATE

DLD JAN 2018
CHECKED BY DATE
CIS APR 2018
PROJ. ENGR DATE
PRINTED BY: peterden Apr 25, 2018
PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837

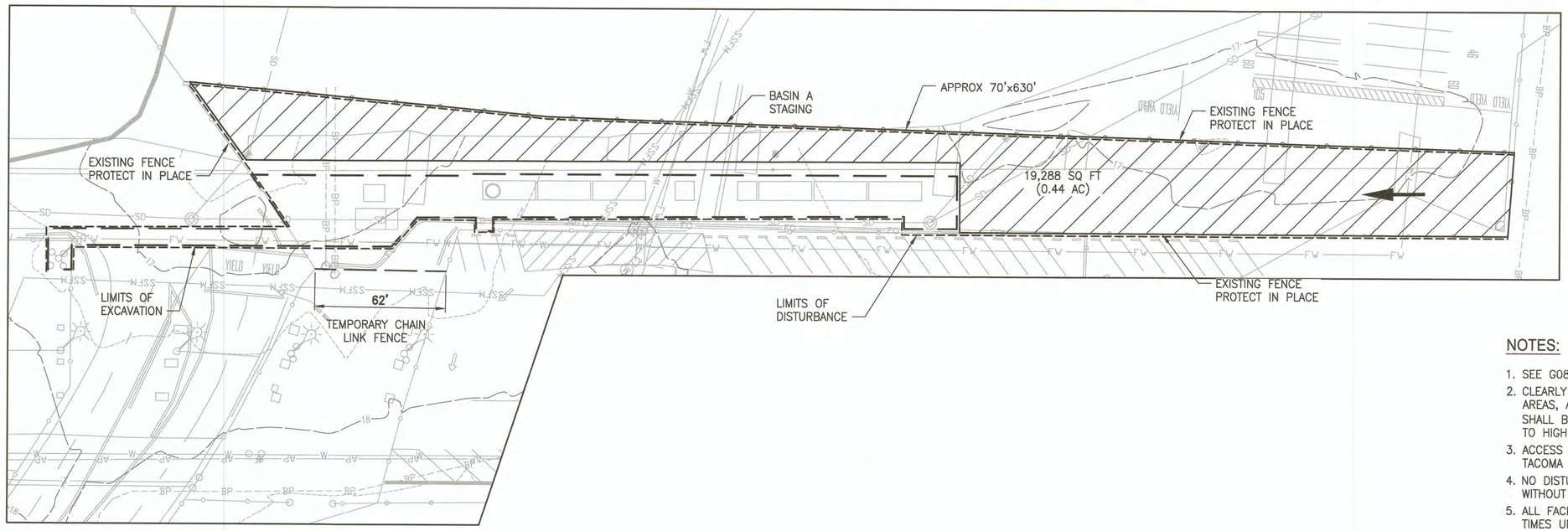
WEST SITCUM STORMWATER TREATMENT
HYDRAULIC PROFILE

CONT/CONS: 070664	TOWNSHIP: 21N	RANGE: 3E	SECTIONS:33 & 34
M. ID: 201024.01	DAT–HRZ: WA83–S	VERT: MLLW	
PHASE: BID SET	PARCEL: SEE G02	DRAWING SCALE: AS NOTED	

6583
G06
SH 06 OF 47

PORT OF TACOMA FILE: U:\PSO\Projects\Clients\8001-NW Seaport Alliance\553-8001-001 West Sitcum\99Svcs\CADD\DWG\PS8001001G-06

BINDING EDGE



CONSTRUCTION STAGING - BASIN A

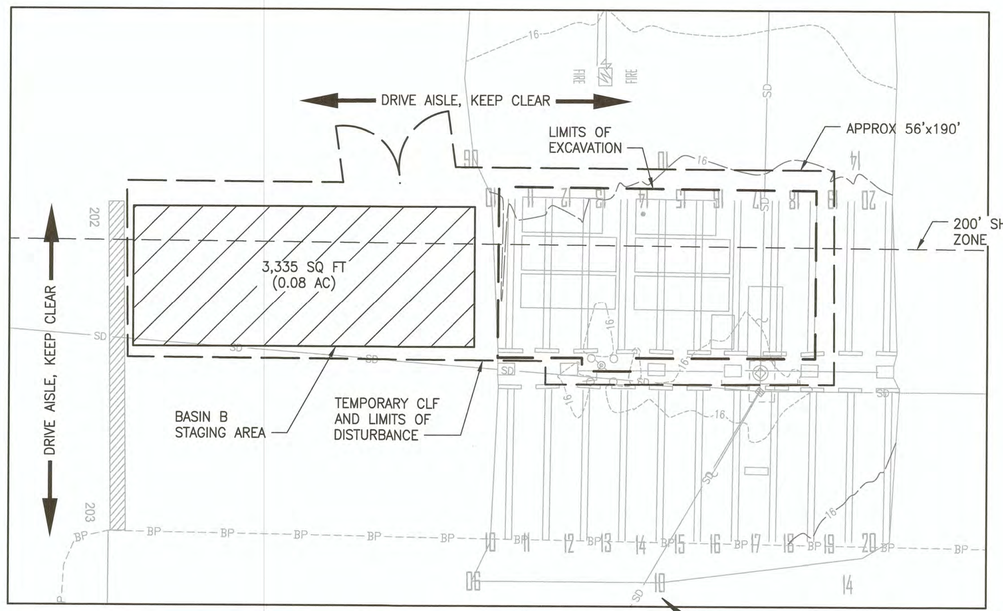
SCALE IN FEET
0 30 60

LEGEND:

- TEMPORARY CHAINLINK FENCE (CLF)
- STAGING AREA
- TRAFFIC ROUTING
- CONSTRUCTION ACCESS GATE
- LIMITS OF EXCAVATION

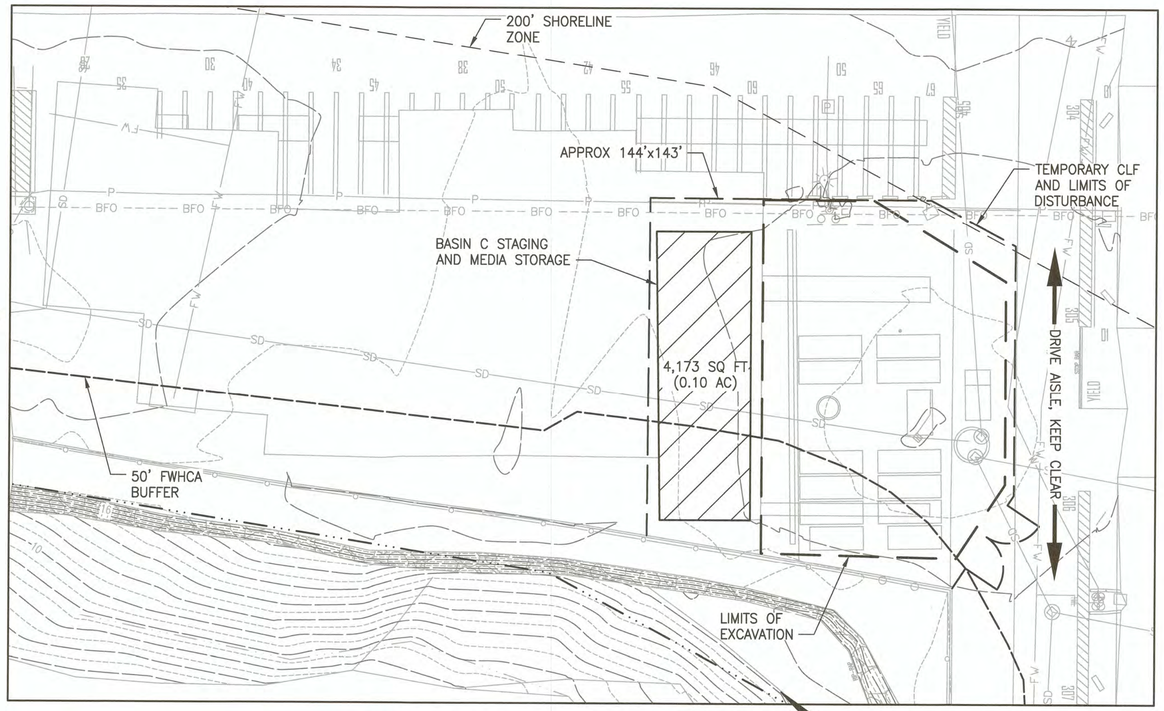
NOTES:

1. SEE G08 FOR LOCATION OF CENTRAL STAGING AREA.
2. CLEARLY DELINEATE WORK LIMITS, STAGING AND STOCKPILE AREAS, AND TEMPORARY CLF PRIOR TO CONSTRUCTION. CLF SHALL BE 6' HIGH WEIGHTED AGAINST TIPPING AT BASE, DUE TO HIGH WIND GUSTS. MARK WITH FLASHING YELLOW LIGHTS.
3. ACCESS TO ALL SITES SHALL BE COORDINATED WITH PORT OF TACOMA AND FACILITY PERSONNEL.
4. NO DISTURBANCE BEYOND EXCAVATION LIMITS IS PERMITTED WITHOUT WRITTEN PERMISSION.
5. ALL FACILITY TRAFFIC LANES SHALL REMAIN CLEAR AT ALL TIMES UNLESS OTHERWISE NOTED.
6. COORDINATE CLF PLACEMENT WITH PROJECT PHASING PER ENGINEER, PORT STAFF, TENANT, AND SECURITY REQUIREMENTS.



CONSTRUCTION STAGING - BASIN B

SCALE IN FEET
0 20 40



CONSTRUCTION STAGING - BASIN C

SCALE IN FEET
0 30 60

Port of Tacoma
P.O. BOX 1837 TACOMA, WA 98401 (253)383-5841

MARK:	REVISION:	BY:	APPR:	DATE:

Parametrix
ENGINEERING · PLANNING · ENVIRONMENTAL SCIENCES
360 WASHINGTON AVENUE, SUITE 390
BREMERTON, WA 98337
P 360.377.0014
WWW.PARAMETRIX.COM

DAVID L. SIMMONS — STATE OF WASHINGTON — 20386 — REGISTERED PROFESSIONAL ENGINEER
APRIL 25, 2018

APPROVED:

DLD	JAN 2018
CHECKED BY	DATE
CIS	APR 2018
PROJ. ENGR	DATE
DIRECTOR ENG.	DATE

PRINTED BY: peterden Apr 25, 2018
PORT ADDRESS: ONE SITCUM PLAZA
TACOMA, WA 98401-1837

WEST SITCUM
STORMWATER TREATMENT
CONSTRUCTION STAGING - BASINS A, B, & C

CONT/CONS:	070664	TOWNSHIP: 21N	RANGE: 3E
M. ID:	201024.01	DAT-HRZ: WA83-S	VERT: MLLW
PHASE:	BID SET	PARCEL: SEE G02	DRAWING SCALE: AS NOTED
		SECTIONS:33 & 34	

6583
G07
SH 07 OF 47

PORT OF TACOMA FILE: U:\PSO\Projects\Clients\8001-NW Seaport Alliance\553-8001-001 West Sitcum\99Svcs\CADD\DWG\PS8001001G-07

6583 G08 SH 08 OF 47	WEST SITCUM STORMWATER TREATMENT CONSTRUCTION STAGING - BASINS A, B, & C			APPROVED:	DLD JAN 2018	Parametrix ENGINEERING . PLANNING . ENVIRONMENTAL SCIENCES 60 WASHINGTON AVENUE, SUITE 390 BREMERTON, WA 98337 P.360.377.0014 WWW.PARAMETRIX.COM	Port of Tacoma P.O. BOX 1837 TACOMA, WA 98401 (253)383-9841
				4/26/2018	CHECKED BY DATE		
					CIS APR 2018		
				DIRECTOR ENG. DATE	PROJ. ENGR DATE		
CONT/CONS: 070664	TOWNSHIP: 21N	RANGE: 3E	SECTIONS:33 & 34	PRINTED BY: peterden Apr 25, 2018			
M. ID: 201024.01	DAT-HRZ: WA83-S	VERT: MLLW		PORT ADDRESS: ONE SITCUM PLAZA			
PHASE: BID SET	PARCEL: SEE G02	DRAWING SCALE: AS NOTED		TACOMA, WA 98401-1837			

CEDRIC I. SIMMONS STATE OF WASHINGTON 55386 REGISTERED PROFESSIONAL ENGINEER
APRIL 25, 2018

MARK:	REVISION:	BY:	APPR:	DATE: