CITY OF HILLSBORO
SHUTE PARK AQUATIC AND RECREATION CENTER PARKING LOT

ENGINEER'S NOTE TO CONTRACTOR:

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT THOSE SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN ON THESE DRAWINGS. THE CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN OR NOT SHOWN ON THESE DRAWINGS.

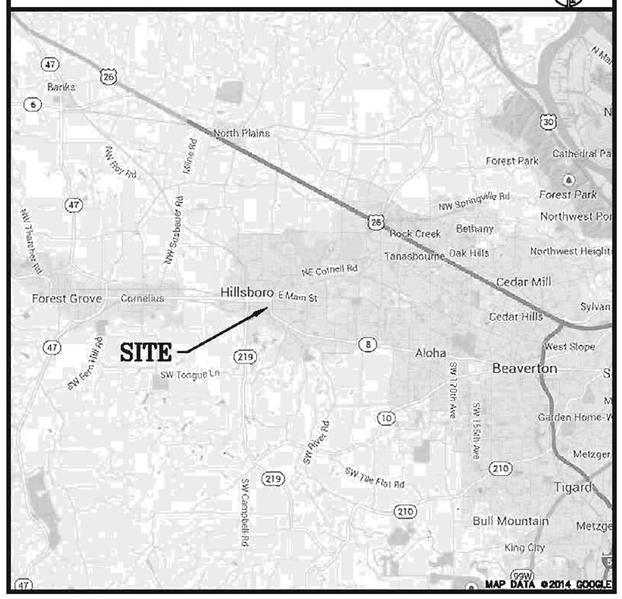
THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND SHALL REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

THIS DESIGN COMPLIES WITH O.R.S. 92.044 (7) IN THAT NO UTILITY INFRASTRUCTURE IS DESIGNED TO BE WITHIN ONE FOOT OF A SURVEY MONUMENT LOCATION SHOWN ON A SUBDIVISION OR PARTITION PLAT. NO DESIGN MODIFICATIONS NOR FINAL FIELD LOCATION CHANGE SHALL BE PERMITTED IF IT WOULD CAUSE ANY UTILITY INFRASTRUCTURE TO BE PLACED WITHIN THE PROHIBITED AREA.

VICINITY MAP

NOT TO SCALE



INDEX OF DRAWINGS

1.	COVR	COVER SHEET / INDEX OF DRAWINGS
2.	XCON	EXISTING CONDITIONS AND DEMOLITION PLAN
3.	NTS	GENERAL NOTES AND TYPICAL SECTIONS
4.	ST01	ALLEY AND SD LINES '01' & '02' PLAN AND PROFILE
5.	SITE	DIMENSIONED SITE PLAN
6.	SD01	PRIVATE STORM SYSTEM PLAN
7.	GRD1	GRADING AND EROSION CONTROL PLAN
8.	GRD2	GRADING AND EROSION CONTROL NOTES AND DETAILS
9.	DET1	CONSTRUCTION DETAILS
10.	DET2	CONSTRUCTION DETAILS
11.	DET3	CONSTRUCTION DETAILS
12.	DET4	CONSTRUCTION DETAILS
13.	EL1	LIGHTING PLAN
14.	EL2	LIGHTING DETAILS
15.	LSC1	LANDSCAPE PLAN
16.	FUTL	FRANCHISE & PUBLIC UTILITY CONDUIT AND VAULT LINE DIAGRAM

LOCATION MAP

NOT TO SCALE

UTILITY CONTACTS

POWER	PORTLAND GENERAL ELECTRIC 4950 NW 235TH AVENUE HILLSBORO, OREGON 97124 503-844-5335	GAS	NORTHWEST NATURAL GAS COMPANY 220 NW 2ND AVENUE PORTLAND, OR 97209 503-721-2449
TELEPHONE	FRONTIER COMMUNICATIONS P.O. BOX 1100 BEAVERTON, OREGON 97075 503-643-1001	CABLE	COMCAST 14200 SW BRIGADOON COURT BEAVERTON, OR 97005 503-685-4883
FIRE	HILLSBORO FIRE AND RESCUE MAIN FIRE STATION 240 S 1ST AVENUE HILLSBORO, OREGON 97123 503-681-6166	WATER	CITY OF HILLSBORO 150 E MAIN STREET HILLSBORO, OR 97123 503-615-6702

PROJECT TEAM

CLIENT	CITY OF HILLSBORO FACILITIES AND FLEET DEPARTMENT 150 E MAIN STREET, 5TH FLOOR HILLSBORO, OREGON 97123 503-681-5371 KARL DINGER, SENIOR PROJECT MANAGER	SURVEYOR	CITY OF HILLSBORO SURVEY STAFF
ENGINEER	NW ENGINEERS 3409 NW JOHN OLSEN PLACE HILLSBORO, OREGON 97124 503-601-4401 GREG THIEL, P.E.	GEOTECH	REDMOND GEOTECHNICAL SERVICES P.O. BOX 20547 PORTLAND, OREGON 97294 503-285-0598 DAN REDMOND, P.E.

LEGEND

- UP — UNDERGROUND POWER LINE
- FO — FIBER OPTIC LINE
- W — WATER
- SD — STORM DRAIN
- SS — SANITARY SEWER
- SIGN
- CATCH BASIN
- WM — WATER METER
- WV — WATER VALVE
- SEWER CLEAN OUT
- SS — SANITARY MANHOLE
- SD — STORM MANHOLE
- UTILITY POLE
- GUY ANCHOR
- MB — MAILBOX
- VM — WATER VAULT MANHOLE
- EVERGREEN TREE
- DECIDUOUS TREE

BENCH MARK

DESCRIPTION:
USC AND GS BRASS CAP IN CONCRETE ON SOUTH SIDE OF TUALATIN VALLEY HIGHWAY, ABOUT 0.3 MILES EASTERLY OF SE 21ST AVENUE, 10 FEET SOUTH OF THE RAILROAD TRACKS, ABOUT 80 FEET NORTHWESTERLY AND ABOUT 90 FEET NORTHEASTERLY OF THE NORTH END OF LOWE'S SIGN. STAMPED 172.490 Y95 1934. ELEVATION SOURCE: 2014 REVISION

CITY BENCHMARK C, (US COAST & GEODETIC SURVEY BENCHMARK Y-95)

ELEVATION: 172.36 FEET CITY OF HILLSBORO DATUM

SITE IMPERVIOUS AREAS

TOTAL SITE AREA =	34,844 SF (0.80 AC)
EXISTING IMPERVIOUS AREA =	12,200 SF (0.28 AC)
EXISTING PERVIOUS AREA =	22,650 SF (0.52 AC)
TOTAL NEW IMPERVIOUS AREA =	29,821 SF (0.68 AC)
TOTAL NEW PERVIOUS AREA =	5,227 SF (0.12 AC)

LOCATES

48 HOUR NOTICE REQUIRED PRIOR TO EXCAVATION
THE CONTRACTOR MUST COMPLY WITH THE REGULATIONS OF O.R.S. 757.541 TO 757.571 IN LOCATION AND PROTECTION OF UNDERGROUND UTILITIES. OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER.

CALL BEFORE YOU DIG! 1-800-332-2344

SHEET NO. COVR
DRAWING NO. 1 OF 16
PROJECT NO. XXXXX
PLOT DATE: May 19, 2015

SHUTE PARK AQUATIC AND RECREATION CENTER PARKING LOT
COVER SHEET / INDEX OF DRAWINGS
FILE NAME: N0302_01_COVR.dwg

Hillsboro OREGON
PHONE: 503.681.6146 | FAX: 503.681.6245
150 E MAIN ST | 4TH FLOOR | HILLSBORO, OR 97123-4089

REGISTERED PROFESSIONAL ENGINEER GREGORY M. THIEL OREGON
EXPIRES: 6/30/2016

NW ENGINEERS
Engineering & Planning
3409 NW John Olsen Place
Hillsboro, OR 97124
503 601.4401 503 601.4402 - fax

SCALE: PLAN
HORIZ. VERT.
PROFILE
DRAWN: MJC
CHECKED: GMT

#	DATE	REVISION	BY	APP'D
1	5-5-15	BID SET		
2	5-29-15	ADDENDUM #1 SET		

LEGEND

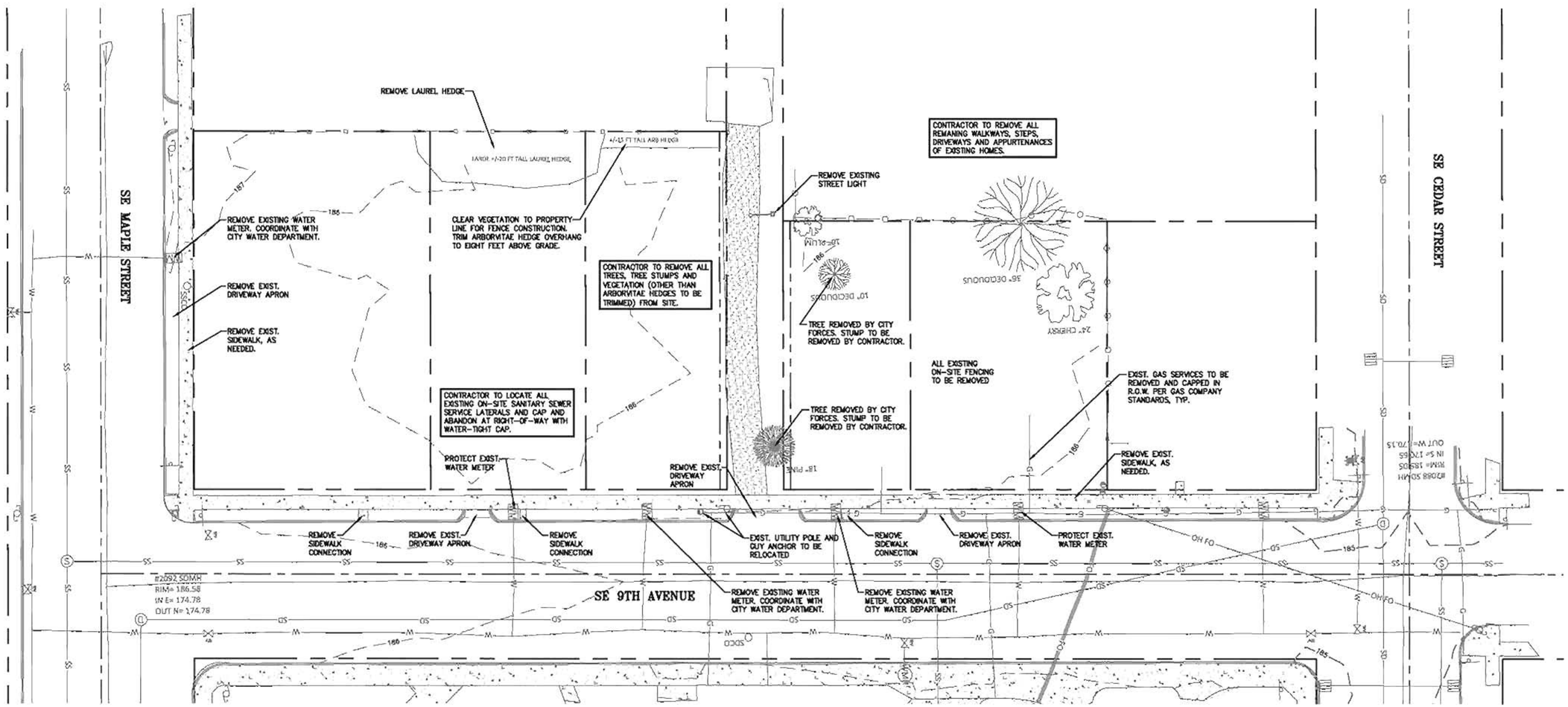
UP	UNDERGROUND POWER LINE	SS	SANITARY MANHOLE
FO	FIBER OPTIC LINE	SD	STORM MANHOLE
W	WATER		UTILITY POLE
SD	STORM DRAIN		GUY ANCHOR
SS	SANITARY SEWER	MB	MAILBOX
	SIGN	WM	WATER VAULT MANHOLE
	CATCH BASIN		EVERGREEN TREE
WM	WATER METER		DECIDUOUS TREE
WV	WATER VALVE		
	SEWER CLEAN OUT		

NORTH

20 0 10 20 40

1 inch = 20 ft.
11x17 SCALE: 1 inch = 40 ft.

NOTE:
SEE ALSO SHEET 17 FOR ADDITIONAL DEMOLITION ITEMS.



EXISTING CONDITIONS PLAN

HORIZONTAL SCALE: 1" = 20'

SHEET NO. XCON
DRAWING NO. 2 OF 16
PROJECT NO. XXXXX
PLOT DATE: May 19, 2015
FILE NAME: N0302_02_XCON.dwg

SHUTE PARK AQUATIC AND RECREATION CENTER PARKING LOT

EXISTING CONDITIONS AND DEMOLITION PLAN

Hillsboro OREGON
PHONE: 503.681.6146 | FAX: 503.681.6245
150 E MAIN ST | 4TH FLOOR | HILLSBORO, OR 97123-4089

REGISTERED PROFESSIONAL ENGINEER
GREGORY M. THIEL
EXPIRES: 6/30/2016

NW ENGINEERS
Engineering & Planning
3409 NW John Olsen Place
Hillsboro, OR 97124
503 601 4401 503 601 4402 - fax

SCALE: PLAN 1"=20'; HORIZ.; VERT.; PROFILE; DRAWN: MJC; CHECKED: GMT

#	DATE	REVISION	BY	APP'D
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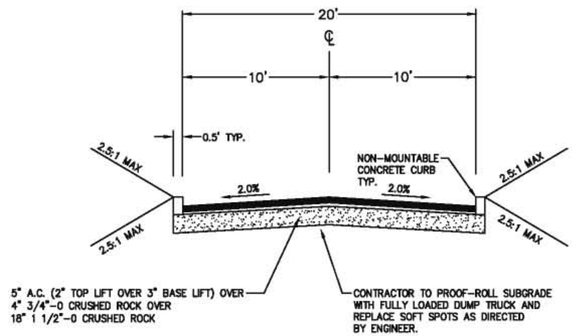
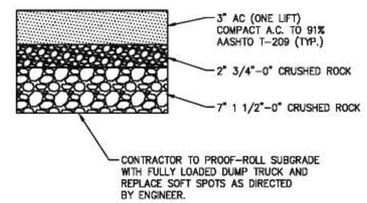
5-19-15		ADDENDUM #1 SET		



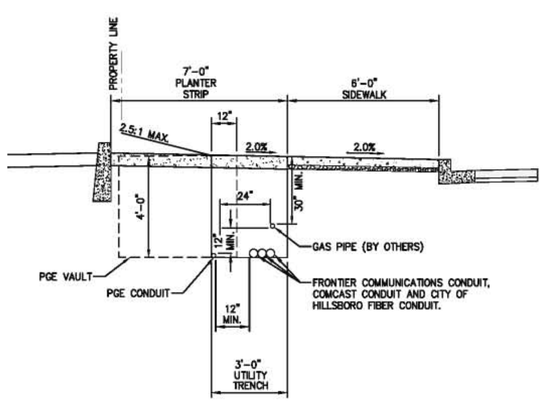
TYPICAL ALLEY SECTION

NTS



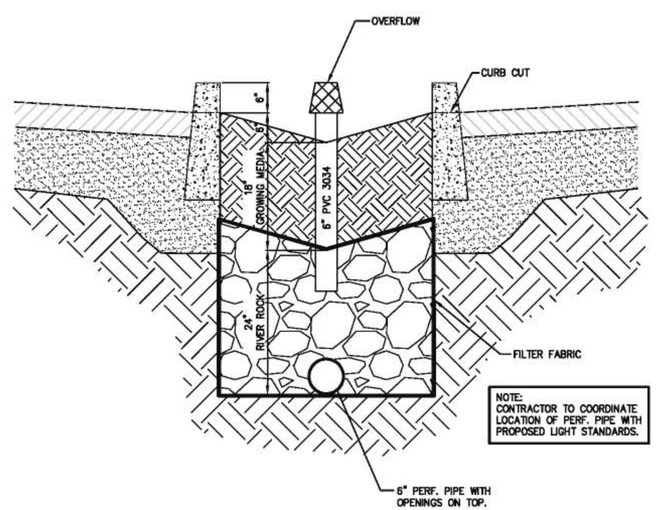
TYPICAL PARKING LOT PAVEMENT SECTION

N.T.S.



UTILITY TRENCH SECTION

NTS



LIDA TYPE SWALE SECTION

NTS

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THESE PLANS, THE CITY OF HILLSBORO DESIGN AND CONSTRUCTION STANDARDS, 2013 EDITION AND CLEAN WATER SERVICES (C.W.S.) RESOLUTION AND ORDER (R&O) CWS 07-20, DATED JUNE 1, 2007.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN ALL REQUIRED EROSION CONTROL MEASURES IN ACCORDANCE WITH THE GRADING AND EROSION CONTROL PLAN. COORDINATE EROSION CONTROL MEASURES WITH THE CITY OF HILLSBORO INSPECTOR.
3. ON SITES WHERE VEGETATION AND GROUND COVER ARE REMOVED, VEGETATIVE GROUND COVER SHALL BE PLANTED AND ESTABLISHED BY OCTOBER 1 AND CONTINUE TO FUNCTION THROUGH MAY 31 OF THE FOLLOWING YEAR, OR AS APPROVED BY THE CITY. IF GROUND COVER IS NOT ESTABLISHED BY OCTOBER 1, THE OPEN AREAS SHALL BE PROTECTED THROUGH MAY 31 OF THE FOLLOWING YEAR WITH BARK MULCH, EROSION BLANKETS, OR OTHER METHODS APPROVED BY THE DISTRICT OR CITY.
4. TRAFFIC CONTROL SHALL BE IN COMPLIANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), MOST RECENT EDITION. MAINTAIN A MINIMUM OF ONE TRAFFIC LANE OPEN AT ALL TIMES. TRAFFIC LANES IN BOTH DIRECTIONS SHALL BE RESTORED AT THE END OF EACH WORK DAY IN ACCORDANCE WITH THE PROJECT GENERAL CONDITIONS.
5. NO SCHOOL BUSES MAY BE DELAYED BY THE CONTRACTOR. CONTRACTOR SHALL CONTACT THE HILLSBORO SCHOOL DISTRICT TO COORDINATE CONSTRUCTION ACTIVITIES AROUND MORNING/AFTERNOON SCHOOL BUS OPERATIONS.
6. ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987).
7. UTILITY LOCATIONS ARE APPROXIMATE ONLY. EXACT LOCATIONS TO BE DETERMINED IN THE FIELD BY CONTRACTOR. ALL UTILITIES NOT SHOWN SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE. PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CALL THE OREGON UTILITY NOTIFICATION CENTER AT (503) 332-2344 FOR THE MARKING OF UNDERGROUND LINES. THE CONTRACTOR SHALL "POTHOLE" AS NEEDED TO FIND AND PROTECT THOSE SERVICES AND TO AVOID CONFLICTS.
8. PRE-CONSTRUCTION CONFERENCE REQUIRED. PRIOR TO AUTHORIZATION TO BEGIN CONSTRUCTION A PRE-CONSTRUCTION CONFERENCE MEETING WILL BE HELD. ATTENDANCE IS MANDATORY FOR: PROJECT ENGINEER/DESIGNER, CONTRACTOR AND SELECTED SUBCONTRACTORS.
9. ALL CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH CITY INSPECTOR(S). CONTRACTOR SHALL NOTIFY CITY INSPECTOR(S) 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION BY CALLING (503)681-6146. CONSTRUCTION WORK HOURS SHALL BE MONDAY THROUGH FRIDAY BETWEEN 8:00AM AND 4:30PM.
10. DURING CONSTRUCTION THE CONTRACTOR AND/OR SUBCONTRACTOR(S) SHALL HAVE A MINIMUM OF ONE (1) SET OF APPROVED CONSTRUCTION PLANS AND SPECIFICATIONS ON THE JOB SITE AT ALL TIMES.
11. ALL EXISTING ASPHALT CONCRETE PAVEMENT (AC) AND PORTLAND CEMENT CONCRETE (PCC) SHALL BE SAWCUT, REMOVED AND REPLACED AS REQUIRED.
12. SAWCUT STRAIGHT MATCH LINES TO CREATE A BUTT JOINT BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT.
13. CONTRACTOR SHALL CONFINE WORK TO CITY OWNED PROPERTY, DEDICATED RIGHTS-OF-WAY, EXISTING EASEMENTS AND TEMPORARY CONSTRUCTION EASEMENTS.
14. NO STOCKPILING OF MATERIALS AND/OR STORAGE OF EQUIPMENT IN THE RIGHT-OF-WAY SHALL BE PERMITTED.
15. ALL DAMAGE CAUSED BY CONTRACTOR SHALL BE RESTORED TO 'AS GOOD OR BETTER' CONDITION.
16. ALL LANDSCAPING AND/OR SOD SHALL BE REPLACED TO AN 'AS GOOD OR BETTER' CONDITION.
17. UPON COMPLETION, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIALS.
18. CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL AND MAINTAIN SECURITY FENCING AROUND THE ENTIRETY OF THE SITE THROUGHOUT SITE CONSTRUCTION.

SHEET NO. NTS | DRAWING NO. 3 OF 16 | PROJECT NO. XXXXX | PLOT DATE: May 19, 2015

SHUTE PARK AQUATIC AND RECREATION CENTER PARKING LOT

GENERAL NOTES AND TYPICAL SECTIONS

FILE NAME: N0302_03_NTS.dwg

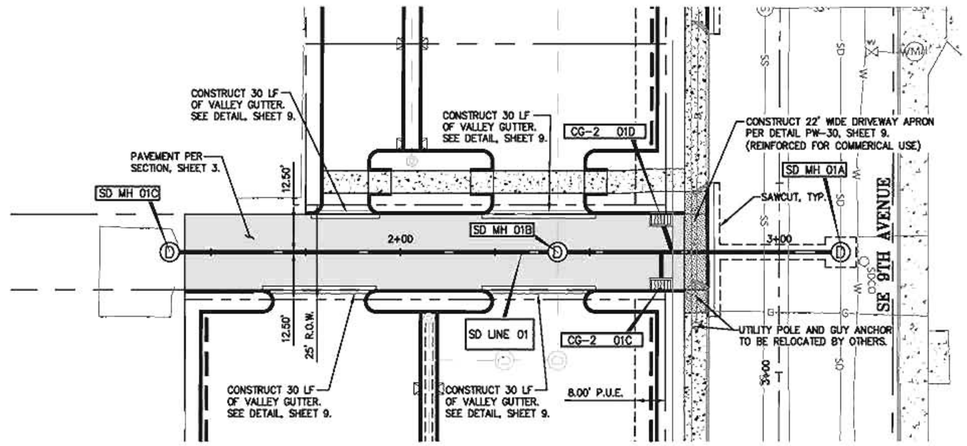
Hillsboro OREGON
PHONE: 503.681.6146 | FAX: 503.681.6245
150 E MAIN ST | 4TH FLOOR | HILLSBORO, OR 97123-4089

REGISTERED PROFESSIONAL ENGINEER — GREGORY M. THIEL — OREGON — EXPIRES: 6/30/2016

NW ENGINEERS
Engineering & Planning
3409 NW John Olsen Place
Hillsboro, OR 97124
503.601.4401 503.601.4402 - fax

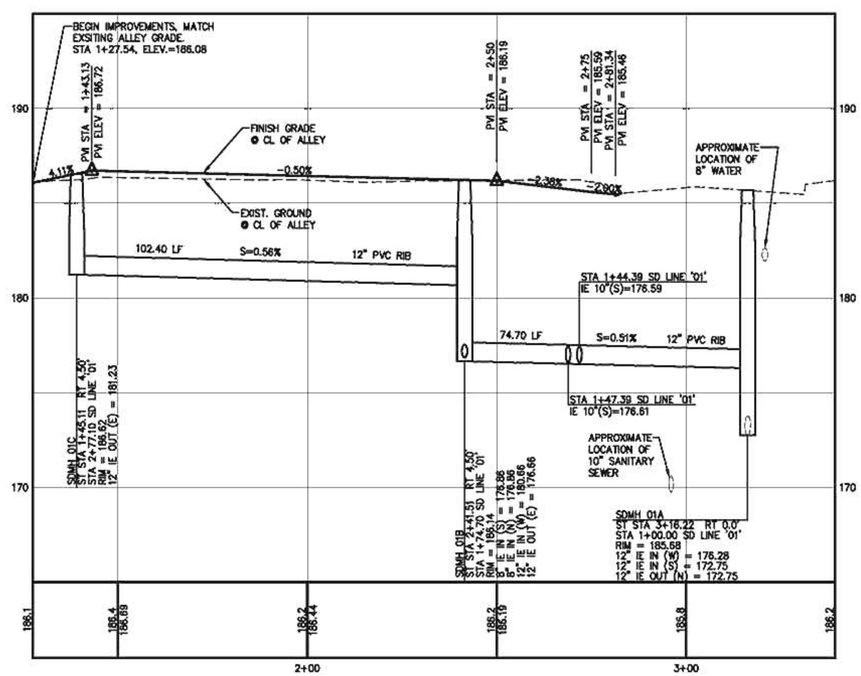
SCALE: PLAN 1"=20' | PROFILE: HORIZ. VERT. | DRAWN: MJC | CHECKED: GMT

#	DATE	REVISION	BY	APP'D
1	5-5-15	BID SET		
2	5-19-15	ADDENDUM #1 SET		



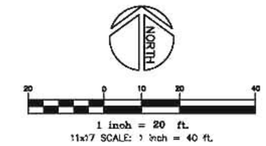
ALLEY AND SD LINE '01' – PLAN

HORIZONTAL SCALE: 1" = 20'



ALLEY AND SD LINE '01' – PROFILE

HORIZONTAL SCALE: 1" = 20' VERTICAL SCALE: 1" = 4'



BACKFILL NOTE:
ALL PIPES UNDER PAVED SURFACES REQUIRE GRANULAR CLASS 'B' BACKFILL.

CATCH BASIN DATA

CATCH BASIN	STREET STATION	RIM ELEV.	I.E. IN	I.E. OUT	SLOPE	PIPE DATA
CG2-01C	2+68.83 9.00' LT.	185.54	----	181.54	54.78%	9.00 L.F. 10" PVC 3034
CG2-02D	2+68.83 9.00' RT.	185.54	----	181.54	52.16%	9.49 L.F. 10" PVC 3034

SHEET NO. ST01
DRAWING NO. 4 OF 16
PROJECT NO. XXXXX
PLOT DATE: May 19, 2015

SHUTE PARK AQUATIC AND RECREATION CENTER PARKING LOT

ALLEY AND SD LINES '01' & '02' PLAN AND PROFILE

FILE NAME: N0302_04_ST01.dwg

Hillsboro OREGON

PHONE: 503.681.6146 | FAX: 503.681.6245
150 E MAIN ST | 4TH FLOOR | HILLSBORO, OR 97123-4089

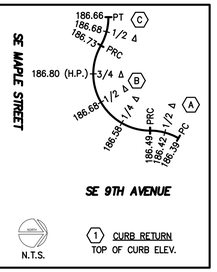
REGISTERED PROFESSIONAL ENGINEER 59688PE OREGON JAN. 12, 1995 GREGORY M. THIEL
EXPIRES: 6/30/2016

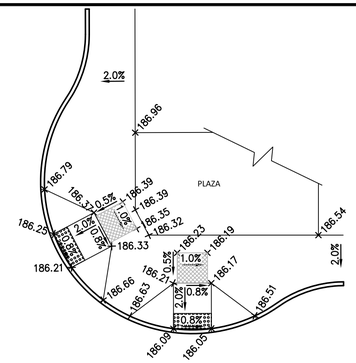
NW ENGINEERS
Engineering & Planning
3409 NW John Olsen Place
Hillsboro, OR 97124
503 601 4401 503 601 4402 - fax

SCALE
PLAN 1"=20'
HORIZ.
VERT.
PROFILE
DRAWN: MJC
CHECKED: GMT

#	DATE	REVISION	BY	APP'D
5-5-15		BID SET		
5-19-15		ADDENDUM #1 SET		

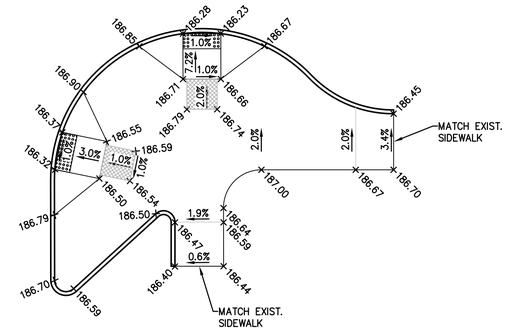
CURB RETURN NO. 1 DATA	
CURVE DATA	STREET STATION
(A) Δ = 34–38–34, R = 15.00', T = 4.68', L = 9.07'	P.C. = STA 1+56.42, 18.34' LT. SE 9TH AVENUE; P.R.C. = STA 1+47.91, 15.62' LT. SE 9TH AVENUE
(B) Δ = 158–48–20, R = 20.00', T = 106.90', L = 55.43'	P.R.C. = STA 1+47.91, 15.62' LT. SE 9TH AVENUE; P.R.C. = STA 1+66.85, 19.90' LT. SE MAPLE STREET
(C) Δ = 33–55–53, R = 15.00', T = 4.58', L = 8.88'	P.R.C. = STA 1+66.85, 19.90' LT. SE MAPLE STREET; P.T. = STA 1+58.48, 22.45' LT. SE MAPLE STREET





SIDEWALK RAMP #1 DETAILED GRADING

HORIZONTAL SCALE: 1" = 10'



SIDEWALK RAMP #2 DETAILED GRADING

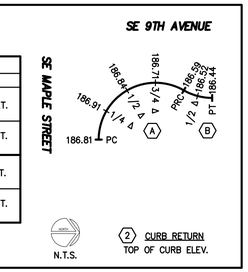
HORIZONTAL SCALE: 1" = 10'

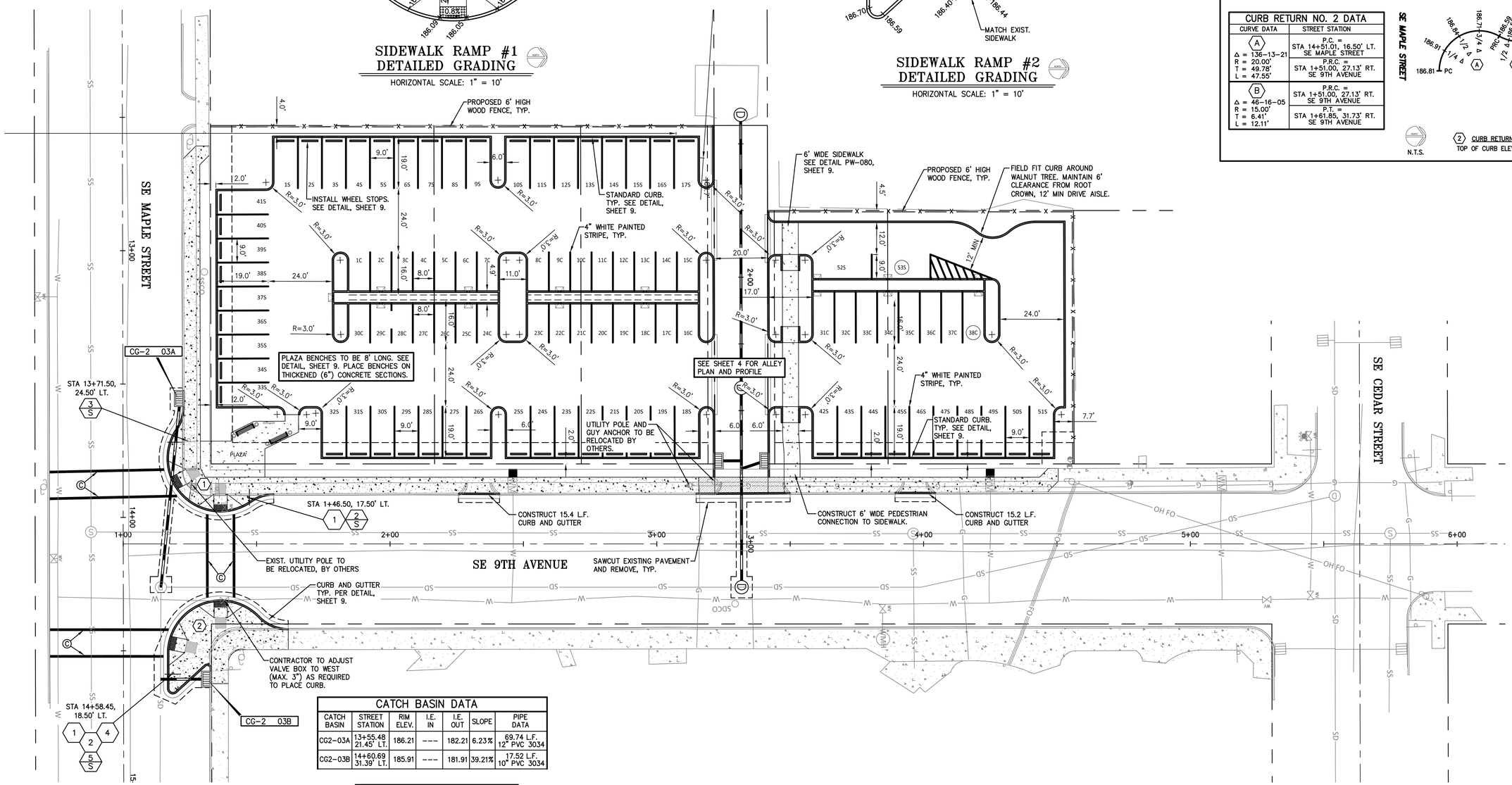
NORTH

1 inch = 20 ft.

11x17 SCALE: 1 inch = 40 ft.

CURB RETURN NO. 2 DATA	
CURVE DATA	STREET STATION
(A) Δ = 136–13–21, R = 20.00', T = 49.78', L = 47.55'	P.C. = STA 14+51.01, 16.50' LT. SE MAPLE STREET; P.R.C. = STA 1+51.00, 27.13' RT. SE 9TH AVENUE
(B) Δ = 46–16–05, R = 15.00', T = 6.41', L = 12.11'	P.R.C. = STA 1+51.00, 27.13' RT. SE 9TH AVENUE; P.T. = STA 1+61.85, 31.73' RT. SE 9TH AVENUE





CATCH BASIN DATA						
CATCH BASIN	STREET STATION	RIM ELEV.	I.E. IN	I.E. OUT	SLOPE	PIPE DATA
CG2-03A	13+55.48 21.45' LT.	186.21	---	182.21	6.23%	69.74 L.F. 12" PVC 3034
CG2-03B	14+60.69 31.39' LT.	185.91	---	181.91	39.21%	17.52 L.F. 10" PVC 3034

BACKFILL NOTE:
ALL PIPES UNDER PAVED SURFACES REQUIRE GRANULAR CLASS 'B' BACKFILL.

NOTE:
EXISTING CROSS WALKWALKS TO BE REMOVED ENTIRELY PRIOR TO PLACEMENT OF NEW CROSS WALKS.

SEE SHEET 10 FOR SIGN AND STRIPING DETAILS

SEE SHEET 11 FOR SIGN INSTALLATION DETAILS

SITE PLAN

HORIZONTAL SCALE: 1" = 20'

SHEET NO. SITE | DRAWING NO. 5 OF 16 | PROJECT NO. XXXXX | PLOT DATE: Jun 01, 2015

SHUTE PARK AQUATIC AND RECREATION CENTER PARKING LOT

DIMENSIONED SITE PLAN

FILE NAME: N0302_05_SITE.dwg

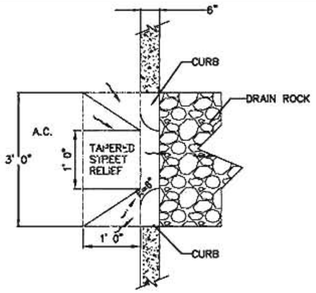
Hillsboro OREGON
PHONE: 503.681.6146 | FAX: 503.681.6245
150 E MAIN ST | 4TH FLOOR | HILLSBORO, OR 97123-4089

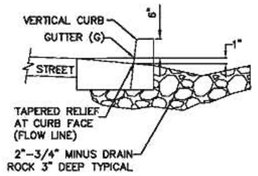
REGISTERED PROFESSIONAL ENGINEER — OREGON — MICHAEL T. GREGORY — EXPIRES: 6/30/2016

NW ENGINEERS — Engineering & Planning
3409 NW John Olsen Place, Hillsboro, OR 97124
503 931 1401 | 503 601 4402 - fax

SCALE: PLAN 1"=20' | PROFILE: HORIZ. / VERT. | DRAWN: MJC | CHECKED: GMT

#	DATE	REVISION	BY	APP'D
1	5-5-15	BID SET		
2	5-19-15	ADDENDUM #1 SET		





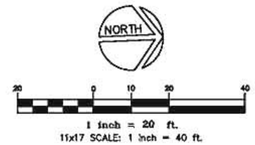
CURB CUT-OUT

NOTES:

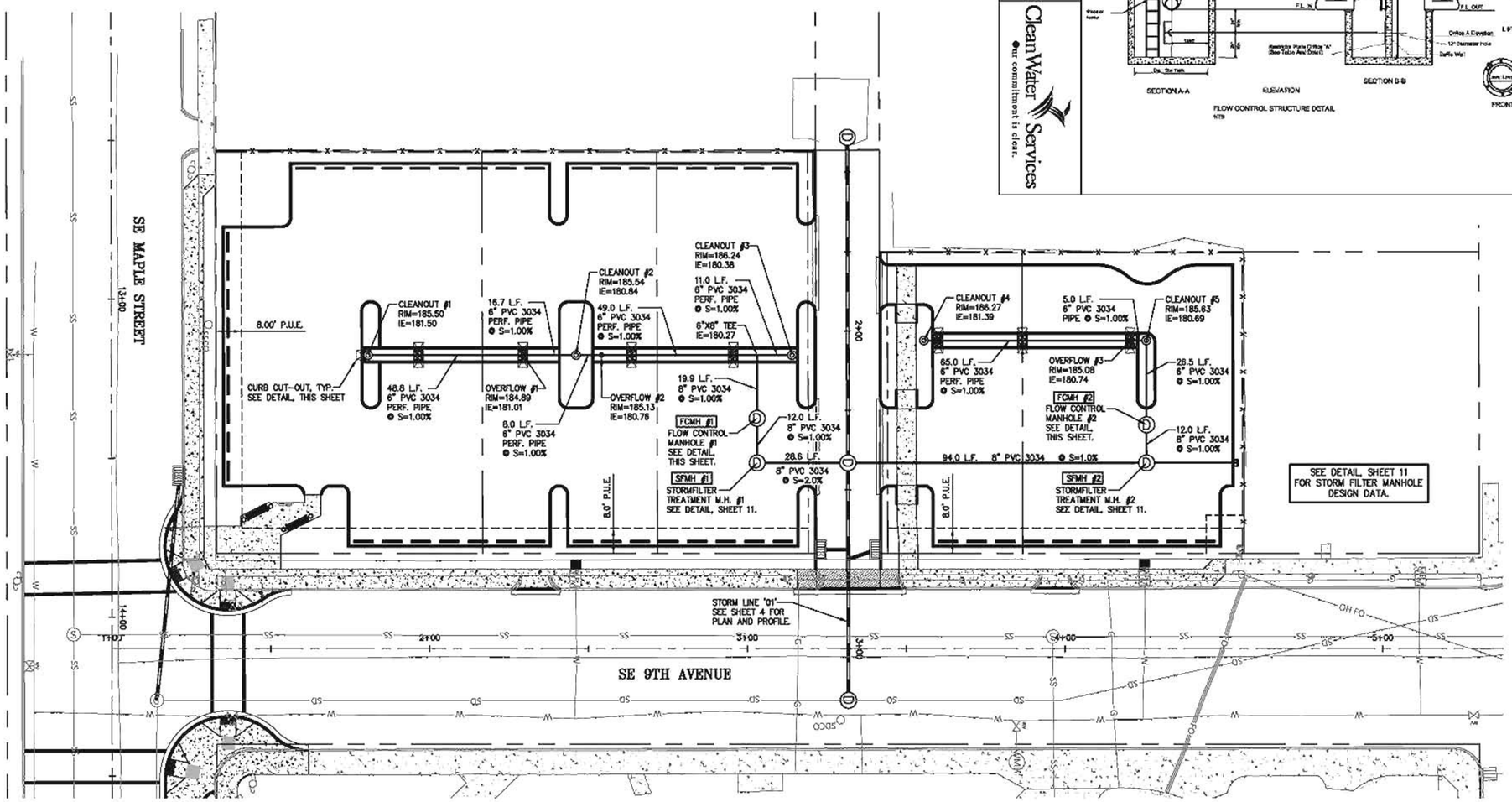
1. INFLOW STRUCTURE PER LOCAL JURISDICTION. CURB CUT OUTS NOT ALLOWED ON WASHINGTON COUNTY ROADS – USE MODIFIED CG-30 SEE DETAIL FOR INLET STRUCTURE, OR ODOT DETAIL DET 1750 FOR APPROPRIATELY SIZED CURB CUT.
2. INFLOW STRUCTURE – CURB CUTOUT SHALL HAVE MINIMUM 1" DROP AT THE FLOW LINE LEADING TO THE SPLASH PAD, SEE DETAIL.
3. FLOW RETARDING DRAIN ROCK MINIMUM SIZE 2" – ¾ MINUS OR SIZED BY DESIGN INFLOW TO BE PLACED 3" DEEP BEHIND SPLASH PAD.

CURB CUT-OUT – DETAIL

N.T.S.



BACKFILL NOTE:
ALL PIPES UNDER PAVED SURFACES REQUIRE GRANULAR CLASS 'B' BACKFILL.



PRIVATE STORM SYSTEM – PLAN

HORIZONTAL SCALE: 1" = 20'

DRAWING NO. 270

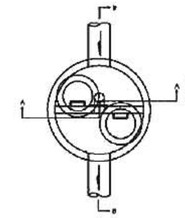
FLOW CONTROL STRUCTURE DETAIL

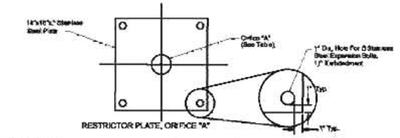
REVISED 12-06

CleanWater Services
our commitment is clear.

NOTES:

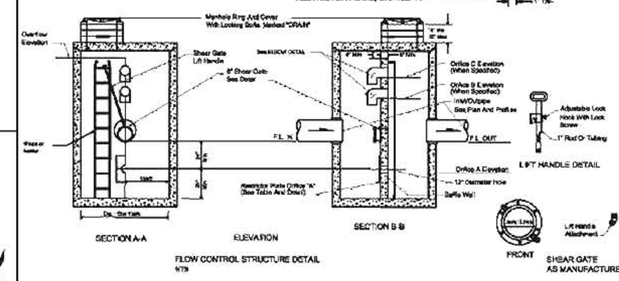
1. BAFFLE WALL SHALL HAVE 1/4" GAP AT EXPANSION EACH WAY.
2. PRECAST BAFFLE SHALL BE REMOVED AND GROUTED IN PLACE.
3. JOINT BETWEEN CONCRETE BAFFLE AND MANHOLE WALL SHALL BE WATERTIGHT.
4. SUPPORTS FOR ORIFICE SHALL BE ALUMINUM, ALUMINIZED STEEL OR GALVANIZED STEEL, OR ALUMINIZED STEEL SHALL HAVE TREATMENT 1.
5. FRAME AND LADDER OR STEPS ARE TO BE OFFSET SO THAT SHEAR GATE IS 150 MM FROM THE TOP, CLEAR OPENING IS CLEAR OF FRAME AND GATE, FRAME IS CLEAR OF CURB.
6. MULTI-ORIFICE CLOSURE SHALL BE PROPORTIONALLY TO INSURE LADDER CLEARANCE.
7. SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B209 AND ASTM B 275, DESIGNATION 6061-T6 (ALT 6063-T6) AND ACCORDANCE WITH ASTM B 26, CLASS 360. LIFT HANDLE MAY BE SOLID ROD OR HOLLOW TUBING WITH ADJUSTABLE HOOK AS REQUIRED. MOUNTING FLANGE AND GASKET REQUIRED BETWEEN SHEAR MOUNTING FLANGE AND GATE FLANGE. MATING SURFACES OF LID AND BODY SHALL BE MACHINED FOR PROPER FIT. FLANGE MOUNTING BOLTS SHALL BE 316 STAINLESS STEEL.
8. SHEAR GATE MAXIMUM OPENING SHALL BE CONTROLLED BY LIMITED HINGE MOVEMENT, STOP TAB OR SOME OTHER DEVICE.
9. ALTERNATE SHEAR GATES DESIGNS ARE ACCEPTABLE, IF MATERIAL SPECIFICATIONS ARE MET AND FLANGE BOLT PATTERN MATCHED.
10. MANHOLE CERTIFICATION REQUIRED FOR TRAFFIC LOADING





FLOW CONTROL STRUCTURE TABLE

	FCMH #1	FCMH #2
Diameter Of Manhole (in.)	60"	60"
F.L. (In)	180.07	179.29
F.L. (Out)	179.87	179.29
Outlet Pipe Diameter (in.)	8"	8"
Number Of Orifice	3	3
Orifice A Elevation	180.42	180.42
Diameter Of Orifice A (in.)	3.0"	3.0"
Orifice B Elevation	181.50	181.50
Diameter Of Orifice B (in.)	1.5"	1.5"
Orifice C Elevation	182.00	181.75
Diameter Of Orifice C (in)	1.5"	1.5"
Overflow Elevation	182.25	182.00
Rim Elevation	185.80	185.37
Riser Diameter (in.)	8"	8"



FLOW CONTROL STRUCTURE DETAIL
NTS

DRAINAGE DETAILS

SHEET NO. SD01
DRAWING NO. 6 OF 16
PROJECT NO. XXXXX
PLOT DATE: May 19, 2015

SHUTE PARK AQUATIC AND RECREATION CENTER PARKING LOT

PRIVATE STORM SYSTEM PLAN

FILE NAME: N0302_06_SD01.dwg

Hillsboro OREGON
PHONE: 503.681.6146 | FAX: 503.681.6245
150 E MAIN ST | 4TH FLOOR | HILLSBORO, OR 97123-4089

REGISTERED PROFESSIONAL ENGINEER OREGON GREGORY M. THIEL
EXPIRES: 6/30/2016

NW ENGINEERS
Engineering & Planning
3409 NW John Olsen Place
Hillsboro, OR 97124
503 601 4402 - fax
503 601 4402

SCALE: PLAN 1"=20' | HORIZ. | VERT.
DRAWN: MJC
CHECKED: GMT

#	DATE	REVISION	BY	APP'D
1	5-5-15	JFID SET		
2	5-19-15	ADDENDUM #3 SET		

GRADING & EROSION CONTROL LEGEND

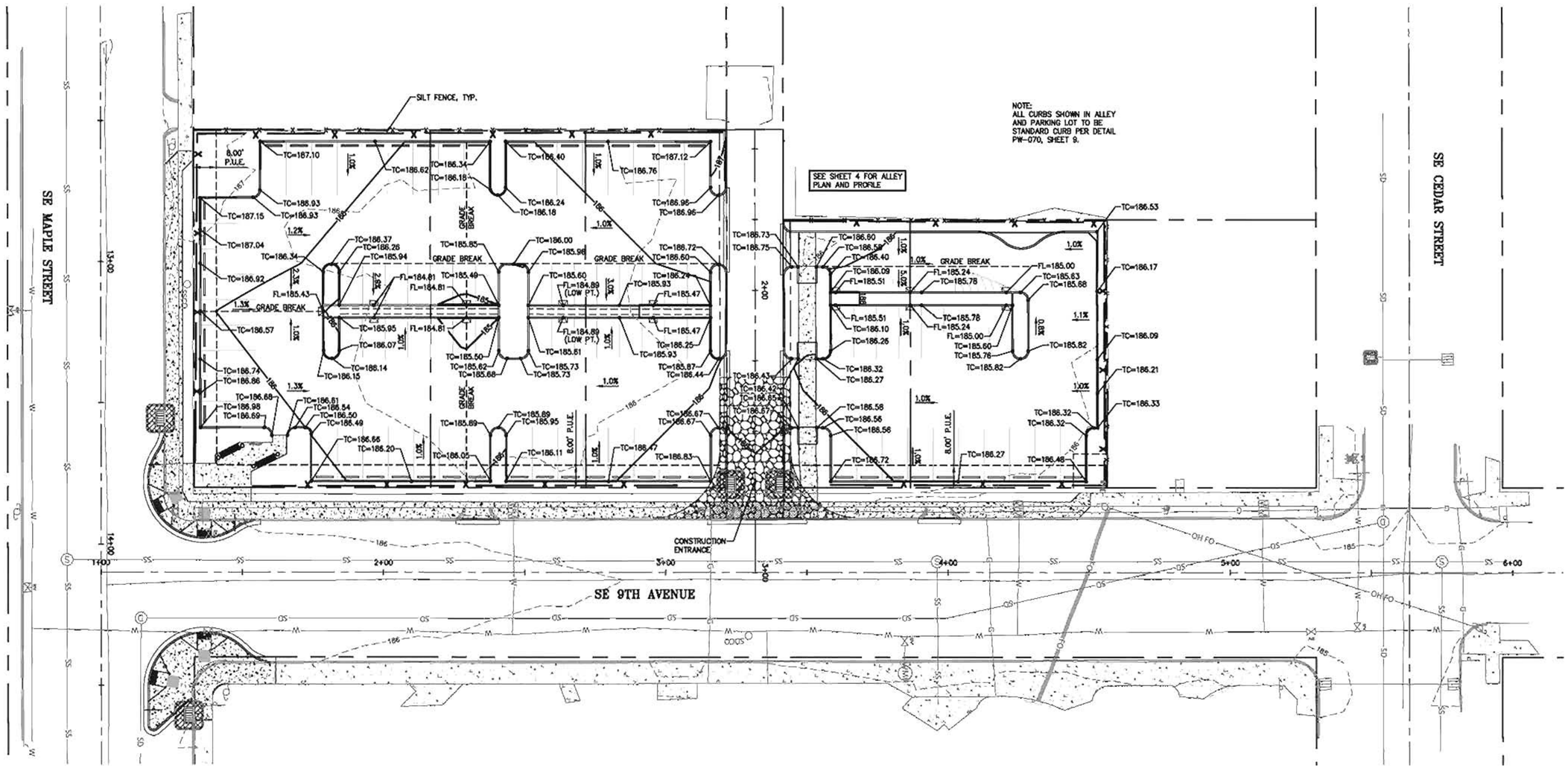
180	EXISTING CONTOUR
180	PROPOSED CONTOUR
X	PROPOSED SEDIMENT FENCE
	ROCK CONSTRUCTION ENTRANCE
	INLET PROTECTION TYPE 4 & 5 TO BE INSTALL AT CATCH BASINS SHOWN THUS.

NORTH

1 inch = 20 ft.
11x17 SCALE: 1 inch = 40 ft.

ABBREVIATIONS

FL = FLOW LINE
TC = TOP OF CURB
RIM = CATCH BASIN RIM



GRADING AND EROSION CONTROL PLAN

HORIZONTAL SCALE: 1" = 20'

SHEET NO. GRD1
DRAWING NO. 7 OF 16
PROJECT NO. XXXXX
PLOT DATE: May 19, 2015

SHUTE PARK AQUATIC AND RECREATION CENTER PARKING LOT

GRADING AND EROSION CONTROL PLAN

FILE NAME: N0302_07_GRD1.dwg

Hillsboro OREGON
PHONE: 503.681.6146 | FAX: 503.681.6245
150 E MAIN ST | 4TH FLOOR | HILLSBORO, OR 97123-4089

REGISTERED PROFESSIONAL ENGINEER — M. THEL GREGORY — OREGON
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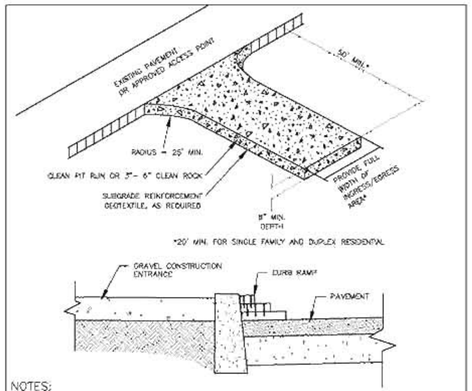
503.601.4402 - fax
503.601.4401

SCALE: PLAN 1"=20'; HORIZ.; VERT.
DRAWN: MJC
CHECKED: GMT

#	DATE	REVISION	BY	APP'D
5-5-15	BID SET			
5-19-15	ADDENDUM #1 SET			



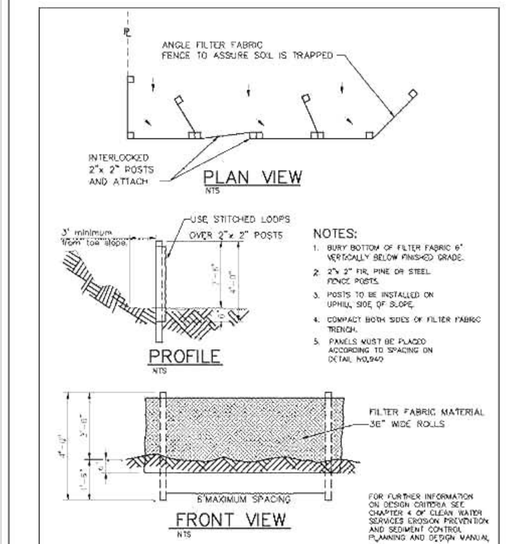
NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. WHERE RUNOFF CONTAINING SEDIMENT LADEN WATER IS LEAVING THE SITE VIA THE CONSTRUCTION ENTRANCE, OTHER MEASURES SHALL BE IMPLEMENTED TO DIVERT RUNOFF THROUGH AN APPROVED FILTERING SYSTEM.
5. DIMENSIONS
   SINGLE FAMILY
   20' LONG BY 20' WIDE 8" DEEP OF ¾" MINUS CLEAN ROCK.
   COMMERCIAL
   50' LONG BY 20' WIDE 3-6" CLEAN ROCK.
   GOVERNING AUTHORITY MAY REQUIRE GEOTEXTILE FABRIC TO PREVENT SUB-SOIL PUMPING.

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

CONSTRUCTION ENTRANCE

Detail Drawing 855 — REVISED 12-06 — Clean Water Services: Our commitment is clear.



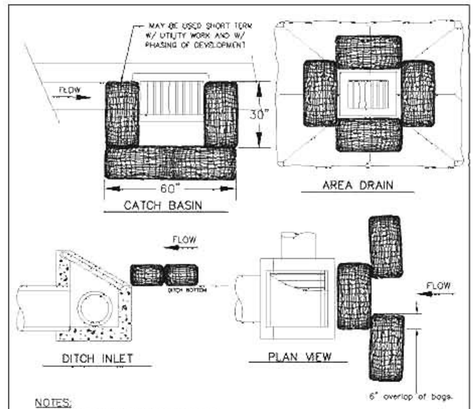
NOTES:

1. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
2. 2"x 2" FIR, PINE OR STEEL FENCE POSTS.
3. POSTS TO BE INSTALLED ON UPHILL SIDE OF SLOPE.
4. COMPACT BOTH SIDES OF FILTER FABRIC TRENCH.
5. PANELS MUST BE PLACED ACCORDING TO SPACING ON DETAIL NO.940

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

SEDIMENT FENCE

DRAWING NO. 875 — REVISED 12-06 — Clean Water Services: Our commitment is clear.



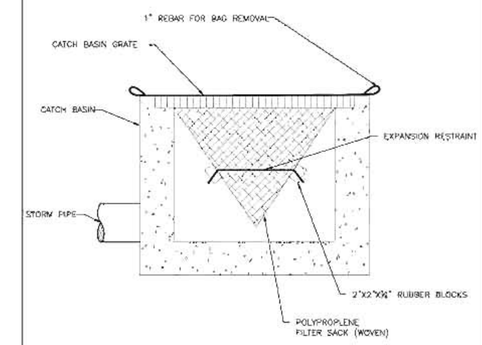
NOTES:

1. ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPES.
2. BIO-FILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USING (2) 1"x2" WOODEN STAKES OR APPROVED EQUAL PER BAG.
3. WHEN USING 30" BIO-BAGS TO PROTECT A CATCH BASIN YOU MUST HAVE 4 BAGS AND THEY SHALL BE OVERLAPPED BY 6".

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

INLET PROTECTION TYPE 4

DRAWING NO. 915 — REVISED 12-06 — Clean Water Services: Our commitment is clear.



WOVEN POLYPROPLENE SACK

NOTE:

1. RECESSED CURB INLET CATCH BASINS MUST BE BLOCKED WHEN USING FILTER FABRIC INLET SACKS. SIZE OF FILTER FABRIC INLET SACKS TO BE DETERMINED BY MANUFACTURER.

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

INLET PROTECTION TYPE 5

DRAWING NO. 920 — REVISED 12-06 — Clean Water Services: Our commitment is clear.

NOTES:

1. WHEN RAINFALL AND RUNOFF OCCURS DAILY INSPECTIONS OF THE EROSION AND SEDIMENT CONTROLS AND DISCHARGE OUTFALLS MUST BE PROVIDED BY SOME ONE KNOWLEDGEABLE AND EXPERIENCED IN THE PRINCIPLES, PRACTICES, INSTALLATION, AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS WHO WORKS FOR THE PERMITTEE.
2. CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND FROM OCTOBER 1 THROUGH MAY 31 EACH YEAR.
3. DURING WET WEATHER PERIOD, TEMPORARY STABILIZATION OF THE SITE MUST OCCUR AT THE END OF EACH WORK DAY.
4. SEDIMENT CONTROLS MUST BE INSTALLED AND MAINTAINED ON ALL DOWN GRADIENT SIDES OF THE CONSTRUCTION SITE AT ALL TIMES DURING CONSTRUCTION. THEY MUST REMAIN IN PLACE UNTIL PERMANENT VEGETATION OR OTHER PERMANENT COVERING OF A SOIL IS OBTAIN. (NPDES)
5. ALL ACTIVE INLETS MUST HAVE SEDIMENT CONTROLS INSTALLED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION. UNLESS OTHERWISE APPROVED, A SURFACE MOUNTED AND ATTACHABLE, U-SHAPED FILTER BAG IS REQUIRED FOR ALL CURB INLET CATCH BASINS.
6. SIGNIFICANT AMOUNTS OF SEDIMENT WHICH LEAVES THE SITE MUST BE CLEANED UP WITHIN 24 HOURS AND PLACED BACK ON THE SITE AND STABILIZED OR PROPERLY DISPOSED. THE CAUSE OF THE SEDIMENT RELEASE MUST BE FOUND AND PREVENTED FROM CAUSING A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN UP OF SEDIMENT SHALL BE PREFORMED ACCORDING TO THE OREGON DEPARTMENT OF STATE LANDS REQUIRED TIME FRAME.
7. SEDIMENT MUST NOT BE INTENTIONALLY WASHED INTO STORM SEWERS, DRAINAGE WAYS, OR WATER BODIES.
8. SEDIMENT MUST BE REMOVED FROM BEHIND ALL SEDIMENT CONTROL MEASURES WHEN IT HAS REACHED A HEIGHT OF 1/2RD THE BARRIER HEIGHT, AND PRIOR TO THE CONTROL MEASURES REMOVAL.
9. CLEANING OF ALL STRUCTURES WITH SUMPS MUST OCCUR WHEN THE SEDIMENT RETENTION CAPACITY HAS BEEN REDUCED BY 50% AND AT COMPLETION OF PROJECT.
10. ANY USE OF TOXIC OR OTHER HAZARDOUS MATERIALS MUST INCLUDE PROPER STORAGE, APPLICATION, AND DISPOSAL.
11. THE PERMITTEE MUST PROPERLY MANAGE HAZARDOUS WASTES, USED OILS, CONTAMINATED SOILS, CONCRETE WASTE, SANITARY WASTE, LIQUID WASTE, OR OTHER TOXIC SUBSTANCES DISCOVERED OR GENERATED DURING CONSTRUCTION.
12. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURERS RECOMMENDATIONS. NUTRIENT RELEASES FROM FERTILIZERS TO SURFACE WATERS MUST BE MINIMIZED. TIME RELEASE FERTILIZERS SHOULD BE USED AND CARE SHOULD BE MADE IN APPLICATION OF FERTILIZERS WITHIN ANY WATER WAY RIPARIAN ZONE.
13. OWNER OR DESIGNATED PERSON SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES, IN ACCORDANCE WITH CURRENT CLEAN WATER SERVICES STANDARDS AND STATE AND FEDERAL REGULATIONS.
14. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BOUNDARIES OF THE CLEARING LIMITS, VEGETATED BUFFERS, AND ANY SENSITIVE AREAS SHOWN ON THIS PLAN SHALL BE CLEARLY DELINEATED IN THE FIELD. UNLESS OTHERWISE APPROVED, NO DISTURBANCE IS PERMITTED BEYOND THE CLEARING LIMITS. THE OWNER/PERMITTEE MUST MAINTAIN THE DELINEATION FOR THE DURATION OF THE PROJECT.
NOTE: VEGETATED CORRIDORS TO BE DELINEATED WITH ORANGE CONSTRUCTION FENCE OR APPROVED EQUAL.
15. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BMPS THAT MUST BE INSTALLED ARE GRAVEL CONSTRUCTION ENTRANCE, PERIMETER SEDIMENT CONTROL, AND INLET PROTECTION. THESE BMPS MUST BE MAINTAINED FOR THE DURATION OF THE PROJECT.
16. IF VEGETATIVE SEED MIXES ARE SPECIFIED, SEEDING MUST TAKE PLACE NO LATER THAN SEPTEMBER 1ST; THE TYPE AND PERCENTAGES OF SEED IN THE MIX ARE AS IDENTIFIED ON THE PLANS OR AS SPECIFIED BY THE DESIGN ENGINEER.
17. WATER-TIGHT TRUCKS MUST BE USED TO TRANSPORT SATURATED SOILS FROM THE CONSTRUCTION SITE. AN APPROVED EQUIVALENT IS TO DRAIN THE SOIL ON SITE AT A DESIGNATED LOCATION USING APPROPRIATE BMPS. SOIL MUST BE DRAINED SUFFICIENTLY FOR MINIMAL SPILLAGE.
18. ALL PUMPING OF SEDIMENT LADEN WATER MUST BE DISCHARGED OVER AN UNDISTURBED, PREFERABLY VEGETATED AREA, AND THROUGH A SEDIMENT CONTROL BMP (I.E. FILTER BAG).
19. THE ESC PLAN MUST BE KEPT ON SITE. ALL MEASURES SHOWN ON THE PLAN MUST BE INSTALLED PROPERLY TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER A SURFACE WATER SYSTEM, ROADWAY, OR OTHER PROPERTIES.
20. THE ESC MEASURES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS DURING THE CONSTRUCTION PERIOD. THESE MEASURES SHALL BE UPGRADED AS NEEDED TO MAINTAIN COMPLIANCE WITH ALL REGULATIONS.
21. WRITTEN ESC LOGS ARE SUCCESSFUL TO BE MAINTAINED ONSITE AND AVAILABLE TO DISTRICT INSPECTORS UPON REQUEST.
22. IN AREAS SUBJECT TO WIND EROSION, APPROPRIATE BMPS MUST BE USED WHICH MAY INCLUDE THE APPLICATION OF FINE WATER SPRAYING, PLASTIC SHEETING, MULCHING, OR OTHER APPROVED MEASURES.
23. ALL EXPOSED SOILS MUST BE COVERED DURING WET WEATHER PERIOD.

STANDARD EROSION CONTROL NOTES FOR SITES LESS THAN 1 ACRE

DRAWING NO. 945 — REVISED 12-06 — Clean Water Services: Our commitment is clear.

SHEET NO. GRD2 | DRAWING NO. 8 OF 16 | PROJECT NO. XXXXX | PLOT DATE: May 19, 2015

SHUTE PARK AQUATIC AND RECREATION CENTER PARKING LOT

GRADING AND EROSION CONTROL NOTES AND DETAILS

FILE NAME: N0302_08_GRD2.dwg

Hillsboro OREGON
PHONE: 503.681.6146 | FAX: 503.681.6245
150 E MAIN ST | 4TH FLOOR | HILLSBORO, OR 97123-4089

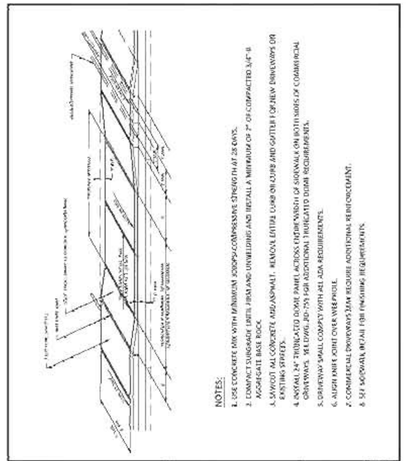
REGISTERED PROFESSIONAL ENGINEER — OREGON — GREGORY M. TIMEL — EXPIRES: 6/30/2016

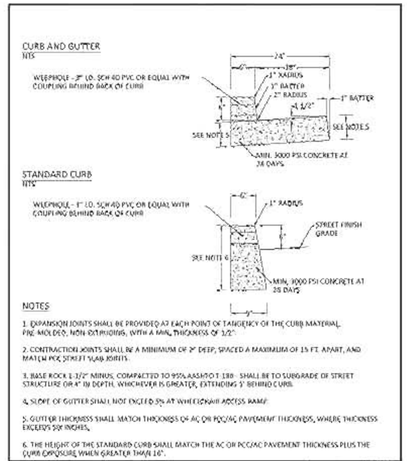
NW ENGINEERS — Engineering & Planning
3409 NW John Olsen Place
Hillsboro, OR 97124
503 601 4402 - tel.
503 601 4401 - fax

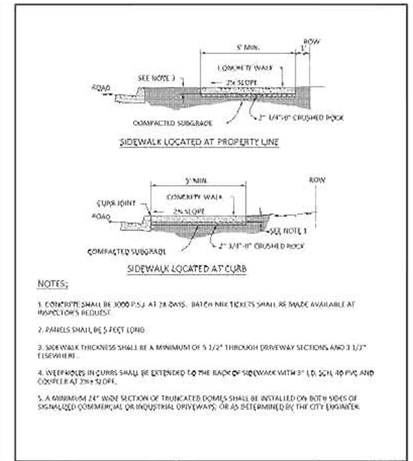
SCALE: PLAN 1"=20' | HORIZ. | VERT. | PROFILE

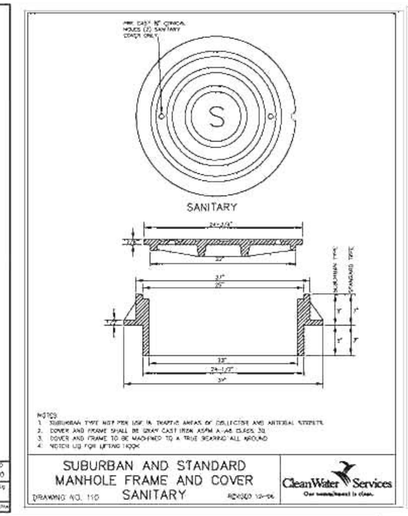
DRAWN: MJC | CHECKED: GMT

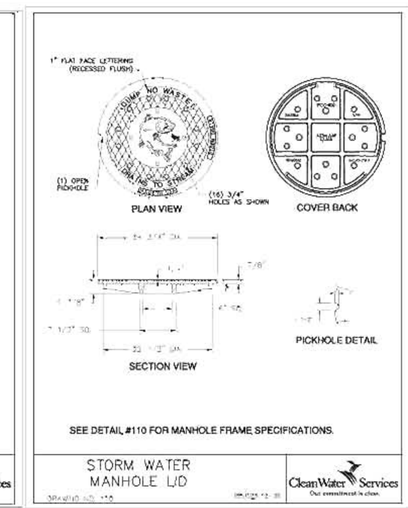
#	DATE	REVISION	BY	APP'D
	5-5-15	BID SET		
	5-19-15	ADDENDUM #1 SET		

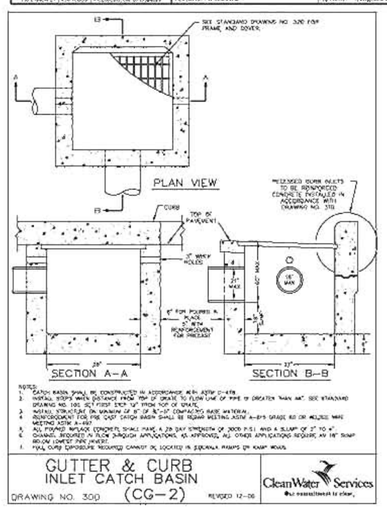


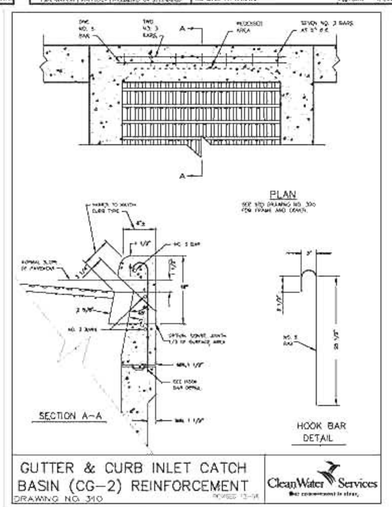


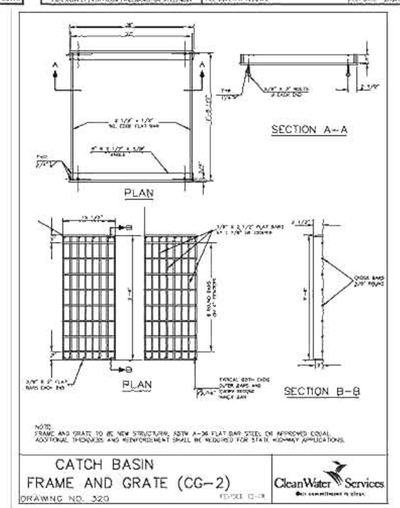


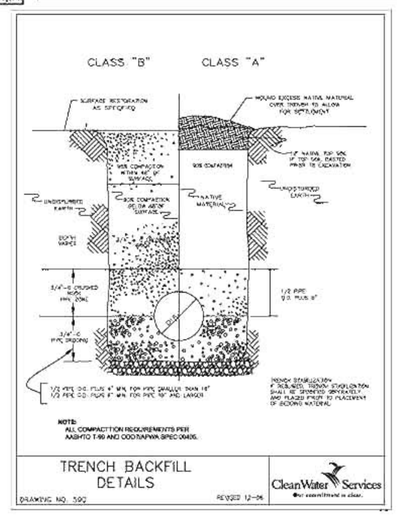


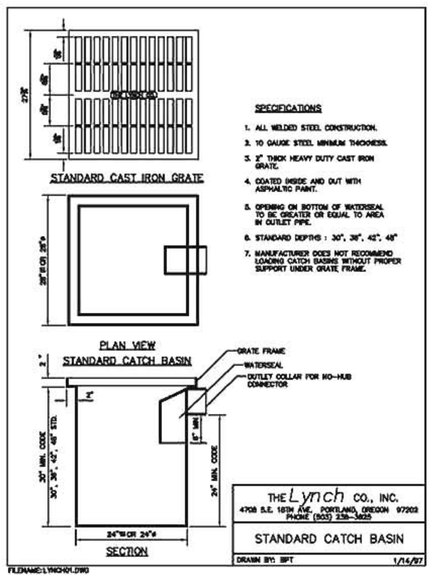


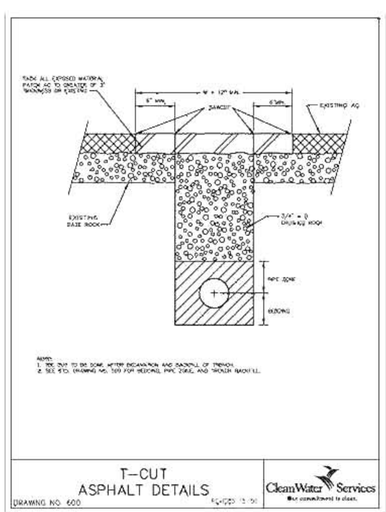


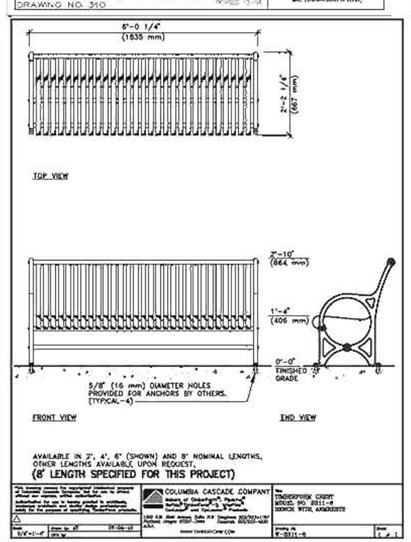


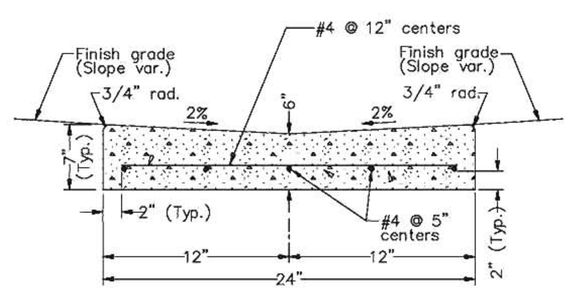










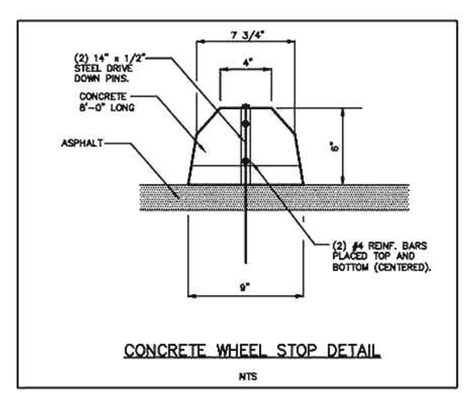


NOTES:
1. CONSTRUCT CONTRACTION JOINTS AT 15' MAXIMUM SPACING, AND AT ENDS OF EACH INLET AND RAMP.

2. DIMENSIONS ARE NOMINAL, VARY TO CONFORM WITH CURB MACHINE APPROVED BY THE ENGINEER.

VALLEY GUTTER DETAIL

N.T.S.



CONCRETE WHEEL STOP DETAIL

NTS

SHEET NO. DET1
DRAWING NO. 9 OF 16
PROJECT NO. XXXXX

SHUTE PARK AQUATIC AND RECREATION CENTER PARKING LOT

CONSTRUCTION DETAILS

PLOT DATE: May 19, 2015
FILE NAME: N0902_09_DET1.dwg

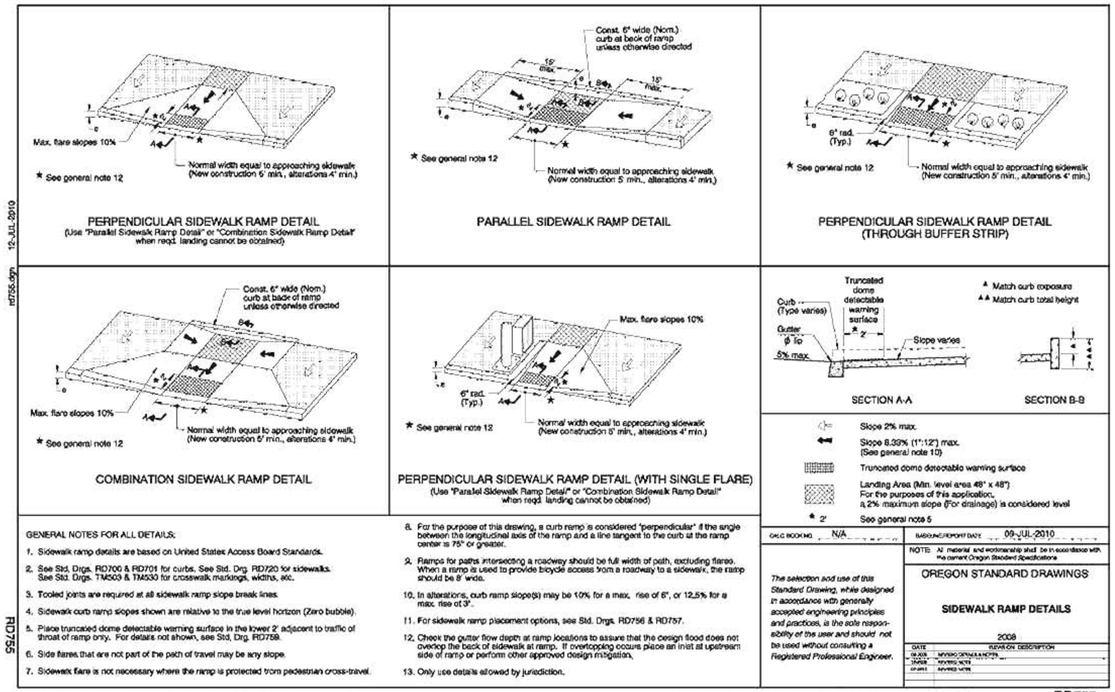
Hillsboro OREGON
PHONE: 503.681.6146 | FAX: 503.681.6245
150 E MAIN ST | 4TH FLOOR | HILLSBORO, OR 97123-4089

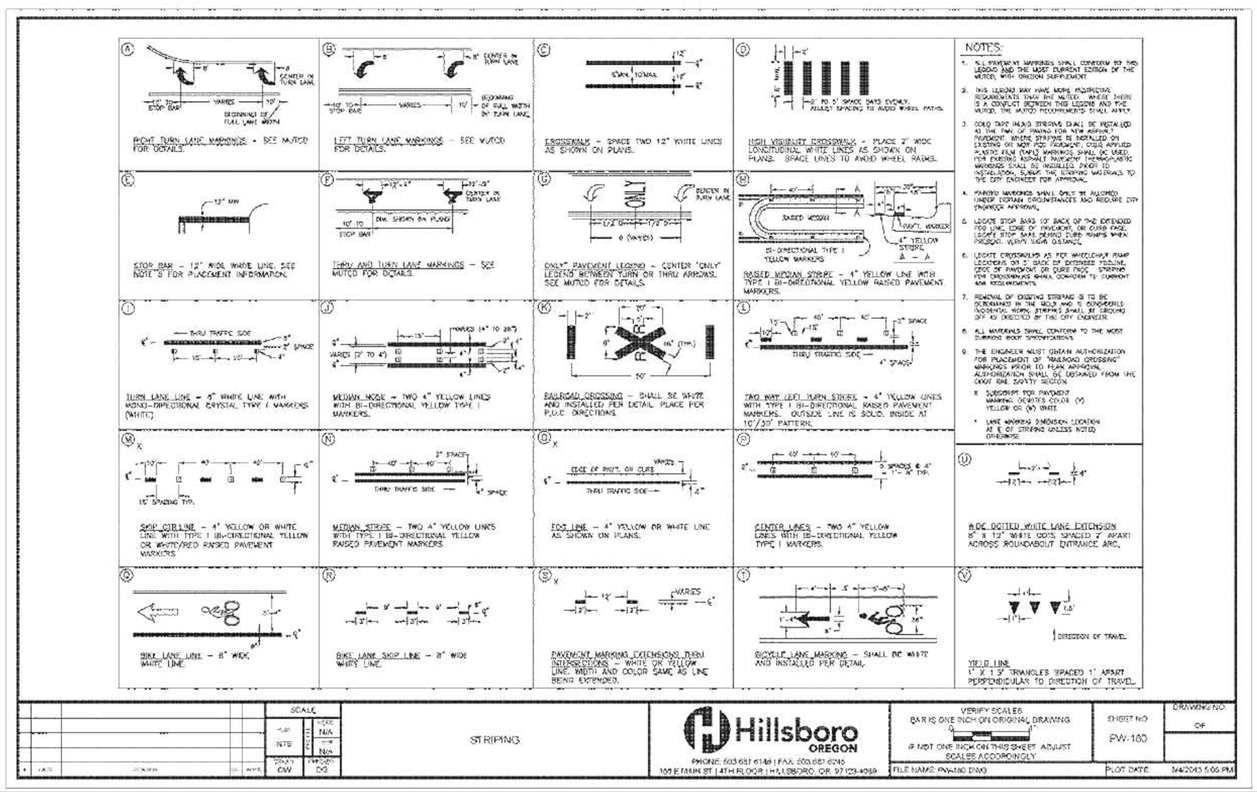
REGISTERED PROFESSIONAL ENGINEER
GREGORY M. THIEL
EXPIRES: 6/30/2016

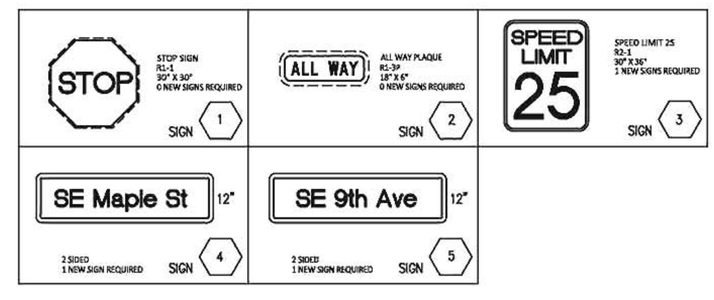
NW ENGINEERS
Engineering & Planning
3409 NW John Olsen Place
Hillsboro, OR 97124
503 601 4402 - fax
503 601 4401

SCALE					
PLAN	HORIZ.	VERT.	DRAWN: MJC	CHECKED: GMT	

DATE	REVISION	BY	APP'D
5-5-15	BID SET		
5-19-15	ADDENDUM #1 SET		







SHEET NO. DET2
DRAWING NO. 10 OF 16
PROJECT NO. XXXXX
PLOT DATE: May 19, 2015

SHUTE PARK AQUATIC AND RECREATION CENTER PARKING LOT
CONSTRUCTION DETAILS

FILE NAME: N3302_10_DET2.dwg

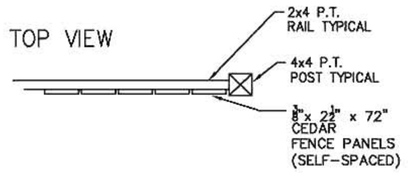
Hillsboro OREGON
PHONE: 503.681.6148 | FAX: 503.681.6245
150 E MAIN ST | 4TH FLOOR | HILLSBORO, OR 97123-4089

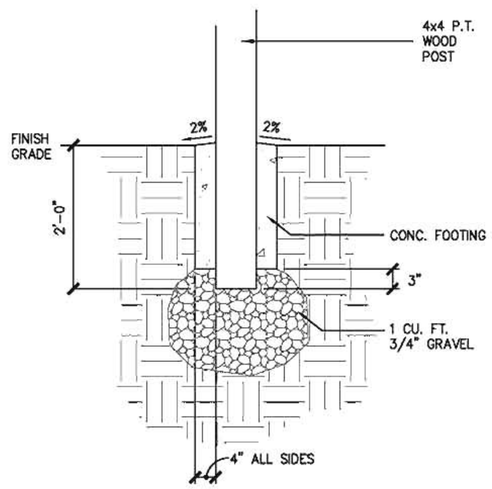
REGISTERED PROFESSIONAL ENGINEER — GREGORY M. THIEL — OREGON
EXPIRES: 12/31/2016

NW ENGINEERS
Engineering & Planning
3400 NW John Olsen Place
Hillsboro, OR 97124
503 601 4402 - fax

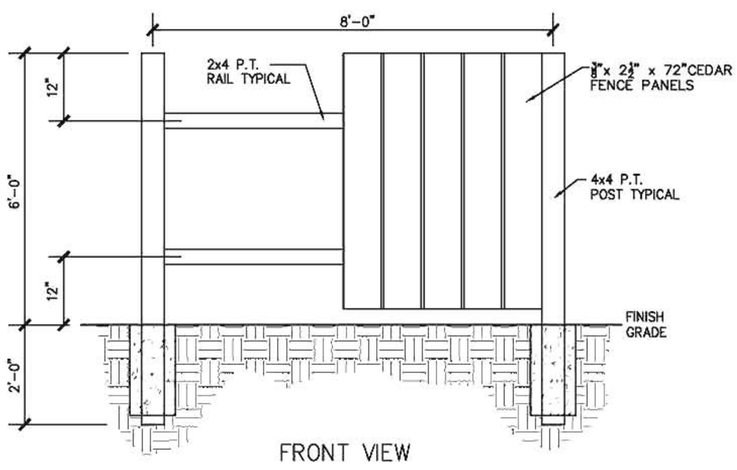
SCALE: PLAN; HORIZ.; VERT.; DRAWN: MJC; CHECKED: GMT

DATE	REVISION	BY	APP'D
5-5-15	BID SET		
5-19-15	ADDENDUM #1 SET		





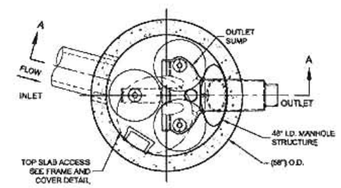
FOOTING DETAIL



FRONT VIEW

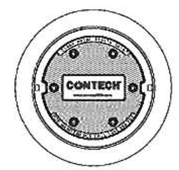
WOOD FENCE DETAIL

N.T.S.



PLAN VIEW

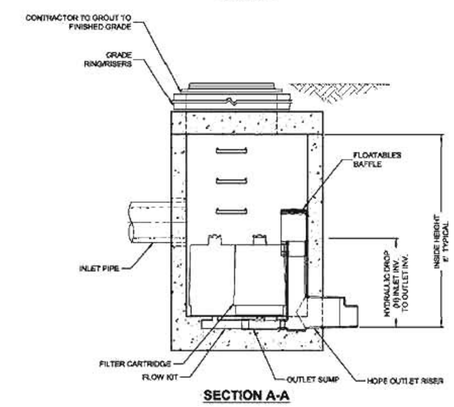
STANDARD OUTLET RISER
FLOWOUT: 40A



FRAME AND COVER

(DIAMETER VARIES)

N.T.S.



SECTION A-A

StormFilter®

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 (3). VOLUME SYSTEM IS ALSO AVAILABLE WITH MAXIMUM 3 CARTRIDGES, Ø48" MANHOLE. STORMFILTER PEAK HYDRAULIC CAPACITY IS 1.0 CFS. IF THE SITE CONDITIONS EXCEED 1.0 CFS AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION

CARTRIDGE HEIGHT	27"		18"		LOW DROP	
RECOMMENDED HYDRAULIC DROP (-I)	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

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			SFMH #1
WATER QUALITY FLOW RATE (cfs)			0.04
PEAK FLOW RATE (cfs)			0.36
RETURN PERIOD OF PEAK FLOW (yrs)			25
# OF CARTRIDGES REQUIRED			2
CARTRIDGE FLOW RATE			15.0
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)			PERLITE
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	179.73	PVC 3034	8"
INLET PIPE #2	*	*	*
OUTLET PIPE	177.43	PVC 3034	8"
RIM ELEVATION			185.94
ANTI-FLOTATION BALLAST	WIDTH	HEIGHT	
	*	*	
NOTES/SPECIAL REQUIREMENTS:			

* PER ENGINEER OF RECORD

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			SFMH #2
WATER QUALITY FLOW RATE (cfs)			0.02
PEAK FLOW RATE (cfs)			0.18
RETURN PERIOD OF PEAK FLOW (yrs)			25
# OF CARTRIDGES REQUIRED			1
CARTRIDGE FLOW RATE			15.0
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)			PERLITE
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	180.10	PVC 3034	8"
INLET PIPE #2	*	*	*
OUTLET PIPE	177.80	PVC 3034	8"
RIM ELEVATION			185.49
ANTI-FLOTATION BALLAST	WIDTH	HEIGHT	
	*	*	
NOTES/SPECIAL REQUIREMENTS:			

* PER ENGINEER OF RECORD

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.

CONTECH®
ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

SFMH48
STORMFILTER
STANDARD DETAIL

SHEET NO. DET3
DRAWING NO. 11 OF 16
PROJECT NO. XXXXX
PLOT DATE: May 19, 2015
FILE NAME: N0302_11_DET3.dwg

SHUTE PARK AQUATIC AND RECREATION CENTER PARKING LOT
CONSTRUCTION DETAILS

Hillsboro OREGON
PHONE: 503.681.6146 | FAX: 503.681.6245
150 E. MAIN ST | 4TH FLOOR | HILLSBORO, OR 97123-4089

REGISTERED PROFESSIONAL ENGINEER
OREGON
GREGORY M. THEL
EXPIRES: 6/30/2016

NW ENGINEERS
Engineering & Planning
3409 NW John Olsen Place
Hillsboro, OR 97124
503 801 4422 fax
503 801 4421

SCALE
PLAN
HORIZ.
VERT.
HEIGHT
DRAWN: MJC
CHECKED: GMT

#	DATE	REVISION	BY	APP'D
5-5-15	BID SET			
5-18-15	ADDENDUM #3 SET			

GENERAL SIGNING NOTES:

1) CONTRACTOR SHALL SUPPLY AND INSTALL ALL SIGNS, AND IS RESPONSIBLE FOR STAKING SIGN LOCATIONS AND OBTAINING UTILITY LOCATES FOR STAKED SIGN LOCATIONS. SIGNS SHALL BE LOCATED PER TYPICAL SIGN LOCATION OR AS SHOWN ON THE PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE FINAL STREET NAMES WITH THE COUNTY SURVEY OFFICE AT 503-846-8723 BEFORE ORDERING AND INSTALLING STREET NAME SIGNS.

2) ALL SIGNING SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE CITY'S PERMANENT SIGNING LEGEND.

3) STREET NAME SIGNS SHALL BE:
(VERIFY FINAL STREET NAMES BEFORE ORDERING AND INSTALLING)

A. FOR LOCAL STREET INTERSECTIONS:
EIGHT (8) INCH 0.100 INCH FLAT BLADE ALUMINUM BLANKS, MOUNTED ON TOP OF POST WITH SPECIAL BRACKETS.

LETTERING: FOUR (4) INCH INITIAL UPPERCASE WITH (3) INCH LOWERCASE SERIES D
PRE-FIXES: THREE (3) INCH UPPERCASE SERIES D
SUFFIXES: THREE (3) INCH INITIAL UPPERCASE WITH (2.25) INCH LOWERCASE SERIES D
SUPERSCRIPT FOR NUMERICAL STREET NAMES: TWO (2) INCH UPPERCASE SERIES D
LAYOUT PER "TYPICAL STREET NAME SIGN LAYOUT" TWO (2) SIDED

B. FOR COLLECTOR AND ARTERIAL STREET INTERSECTIONS (40 MPH MAX SPEED):
TWELVE (12) INCH 0.100 INCH FLAT BLADE ALUMINUM BLANKS, MOUNTED DIRECTLY TO POST WITH RIVETS

LETTERING: SIX (6) INCH INITIAL UPPERCASE WITH (4.5) INCH LOWERCASE SERIES D
PRE-FIXES: FOUR (4) INCH UPPERCASE SERIES D
SUFFIXES: FOUR (4) INCH INITIAL UPPERCASE WITH (3) INCH LOWERCASE SERIES D
SUPERSCRIPT FOR NUMERICAL STREET NAMES: THREE (3) INCH UPPERCASE SERIES D
LAYOUT PER "TYPICAL STREET NAME SIGN LAYOUT" ONE (1) SIDED, TWO (2) SIGNS PER STREET NAME

C. FOR MULTI-LANE COLLECTOR AND ARTERIAL STREET INTERSECTIONS (GREATER THAN 40MPH):
EIGHTEEN (18) INCH 0.125 INCH FLAT BLADE ALUMINUM BLANKS, MOUNTED DIRECTLY TO POST WITH RIVETS

LETTERING: EIGHT (8) INCH INITIAL UPPERCASE WITH (6) INCH LOWERCASE SERIES D
PRE-FIXES: SIX (6) INCH UPPERCASE SERIES D
SUFFIXES: SIX (6) INCH INITIAL UPPERCASE WITH (4) INCH LOWERCASE SERIES D
SUPERSCRIPT FOR NUMERICAL STREET NAMES: FOUR (4) INCH UPPERCASE SERIES D
LAYOUT PER "TYPICAL STREET NAME SIGN LAYOUT" ONE (1) SIDED, TWO (2) SIGNS PER STREET NAME

D. FOR SIGNALIZED INTERSECTIONS:
TWENTY FOUR (24) INCH 0.125 INCH FLAT BLADE ALUMINUM BLANKS, MOUNTED TO MAST ARM OR STRAIN POLE FOR SPAN WIRE SIGNAL SYSTEMS

LETTERING: TWELVE (12) INCH INITIAL UPPERCASE WITH (9) INCH LOWERCASE SERIES D
PRE-FIXES : EIGHT (8) INCH UPPERCASE SERIES D
SUFFIXES: EIGHT (8) INCH INITIAL UPPERCASE WITH SIX (6) INCH LOWERCASE SERIES D
SUPERSCRIPT FOR NUMERICAL STREET NAMES: SIX (6) INCH UPPERCASE SERIES D
LAYOUT PER "TYPICAL STREET NAME LAYOUT" ONE (1) SIDED WITH BORDER

4. MATERIAL:
BACKGROUND: GREEN HI-INTENSITY PRISMATIC REFLECTIVE SHEETING
LETTERS: WHITE HI-INTENSITY PRISMATIC REFLECTIVE SHEETING

5. WIDTH OF SIGN PER BELOW TABLES FOR EIGHT (8) AND TWELVE (12) INCH BLANKS
(NOT INCLUDING PREFIXES AND SUFFIXES)
SUFFIXES ABBREVIATIONS BELOW PER: "COMMON ABBREVIATIONS"

8 INCH BLANKS (TWO SIDED)		12 INCH BLANKS (ONE SIDED)	
# OF CHARACTERS	BLANK WIDTH	# OF CHARACTERS	BLANK WIDTH
UP TO 6	24 INCH	UP TO 6	38 INCH
7 TO 9	30 INCH	7 TO 9	48 INCH
10 TO 11	36 INCH	10 TO 11	55 INCH
12 TO 13	42 INCH	12 TO 13	61 INCH
OVER 13	48 INCH	14 TO 15	68 INCH

6. FOR MAST ARM STREET NAME SIGN SPACING USE ODOT STANDARDS

7. COMMON ABBREVIATIONS:

AVE = AVENUE	LN = LANE	RD = ROAD
BLVD = BOULEVARD	LP = LOOP	ST = STREET
CIR = CIRCLE	PKWY = PARKWAY	TER = TERRACE
CT = COURT	PL = PLACE	WAY = WAY
DR = DRIVE		

8. POSTS:
A MINIMUM OF 2 X 2 INCH X 10 FOOT GALVANIZED "UNISTRUT TELESPAR" OF 12 GAUGE PERFORATED POSTS OR APPROVED EQUIVALENT SHALL BE USED.

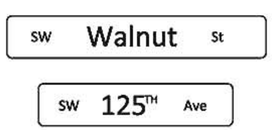
A 2 INCH X 2 INCH X 12 FOOT (MIN.) 12 GAUGE GALVANIZED "UNISTRUT TELESPAR" OR 12 GAUGE PERFORATED POSTS OR APPROVED EQUIVALENT SHALL BE USED WHEN A COMBINATION OF SIGNS IS MORE THAN 36 INCHES IN HEIGHT. SIGN COMBINATIONS AND MINIMUM SIGN MOUNTING HEIGHT SHALL DETERMINE POST LENGTH.

SOME SIGNS MAY REQUIRE LARGER SUPPORTS THAN LISTED ABOVE. SEE ODOT DETAIL TM681 FOR REQUIREMENTS.

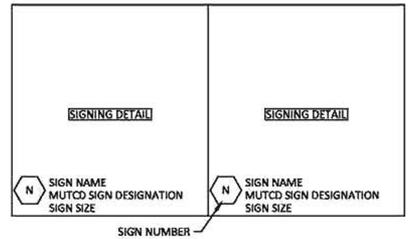
SIGN POSTS AND ANCHORS SHALL BE INSTALLED PER "TYPICAL SIGN INSTALLATION." NO OTHER TYPE OF POST SHALL BE USED UNLESS PRIOR APPROVAL FROM THE CITY TRAFFIC ENGINEER IS OBTAINED.

TYPICAL STREET NAME SIGN TEXT LAYOUT

NTS



SIGNING LEGEND



SIGNING CALLOUT NOTES

N	INSTALL NEW SIGN
N / M	INSTALL NEW SIGN (N) ON NEW (M) SUPPORT
RXN	REMOVE EXISTING SIGN (N)
RXN / M	REMOVE EXISTING SIGN (N) AND (M) SUPPORT
RIN / M	REINSTALL SIGN (N) ON NEW (M) SUPPORT
EXN	MAINTAIN AND PROTECT EXISTING SIGN (N) AND SUPPORT
RIN	REINSTALL EXISTING SIGN ON EXISTING SUPPORT

N = SIGN NUMBER
M = MATERIALS, OPTIONS ARE:
S = STEEL "TELESPAR"

SIGNS SHOWN WITH BROKEN BORDERS ARE EXISTING

SIGNING MATERIALS:

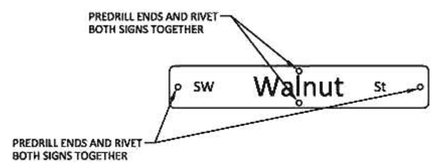
STOP & YIELD SIGNS	REFLECTIVE SHEETING, TYPE IV
SCHOOL ADVANCE AND CROSSING SIGNS	YELLOW/GREEN REFLECTIVE SHEETING TYPE 9
STREET NAME SIGNS (POST AND OVERHEAD MOUNTED)	LETTERS - SHEETING, TYPE IV BACKGROUND - REFLECTIVE SHEETING, TYPE IV
ALL OTHER SIGNS (POST MOUNTED)	REFLECTIVE SHEETING, TYPE IV
OVERHEAD SIGNING (EXCEPT STREET NAME SIGNS)	REFLECTIVE SHEETING, TYPE 9

TYPICAL SIGN SIZES:

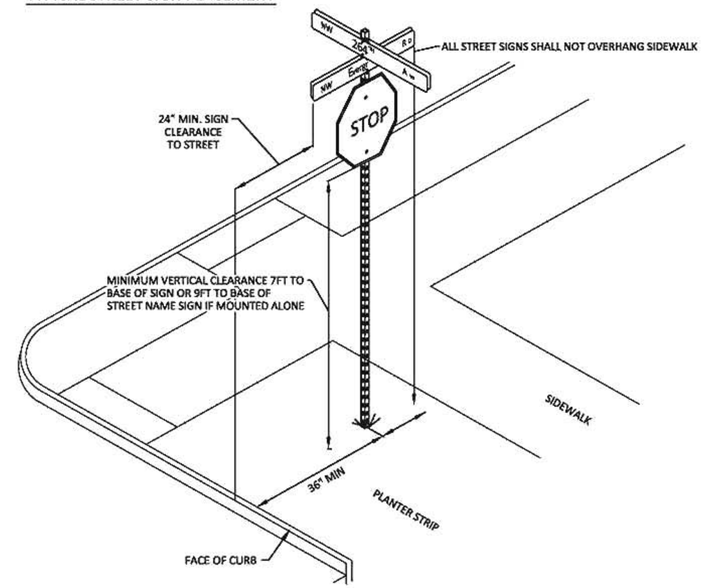
STOP SIGNS	30" X 30"
SPEED SIGNS	30" X 36"
NO PARKING SIGNS (R7-1)	12" X 18"

SIGNS AT BOTH ENDS OF THE ZONE SHALL HAVE SINGLE ARROWS POINTING IN APPROPRIATE DIRECTION
SIGNS WITHIN ZONE SHALL HAVE DOUBLE ARROWS

FOR SPECIFIC SIGN DETAILS AND SIZES, CONTACT THE CITY TRAFFIC SECTION AT 503-615-6562.



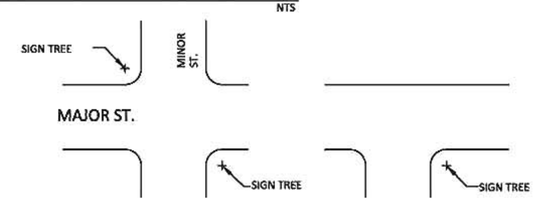
TYPICAL STREET SIGN PLACEMENT



ALL SIGNS SHALL NOT OVERHANG EDGE OF SIDEWALK

TYPICAL INTERSECTION SIGN PLACEMENT

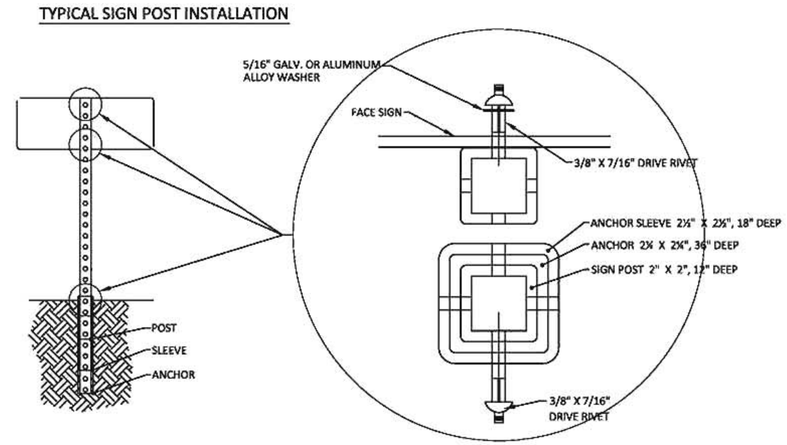
NTS



CROSS INTERSECTION

TEE INTERSECTION

TYPICAL SIGN POST INSTALLATION



SHEET NO. DET4
DRAWING NO. 12 OF 16
PROJECT NO. XXXXX
PLOT DATE: May 19, 2015

SHUTE PARK AQUATIC AND RECREATION CENTER PARKING LOT
SIGN AND POST DETAILS

FILE NAME: N0302_12_DET4.dwg

Hillsboro OREGON
PHONE: 503.681.6146 | FAX: 503.681.6245
150 E MAIN ST | 4TH FLOOR | HILLSBORO, OR 97123-4089

REGISTERED PROFESSIONAL ENGINEER — OREGON — M. THEL GREGORY — EXPIRES: 6/30/2016

NW ENGINEERS
Engineering & Planning
3409 NW John Olsen Place
Hillsboro, OR 97124
503 601 4402 - fax
503 601 4401

SCALE: PLAN | HORIZ. | VERT. | PROFILE
DRAWN: MJC
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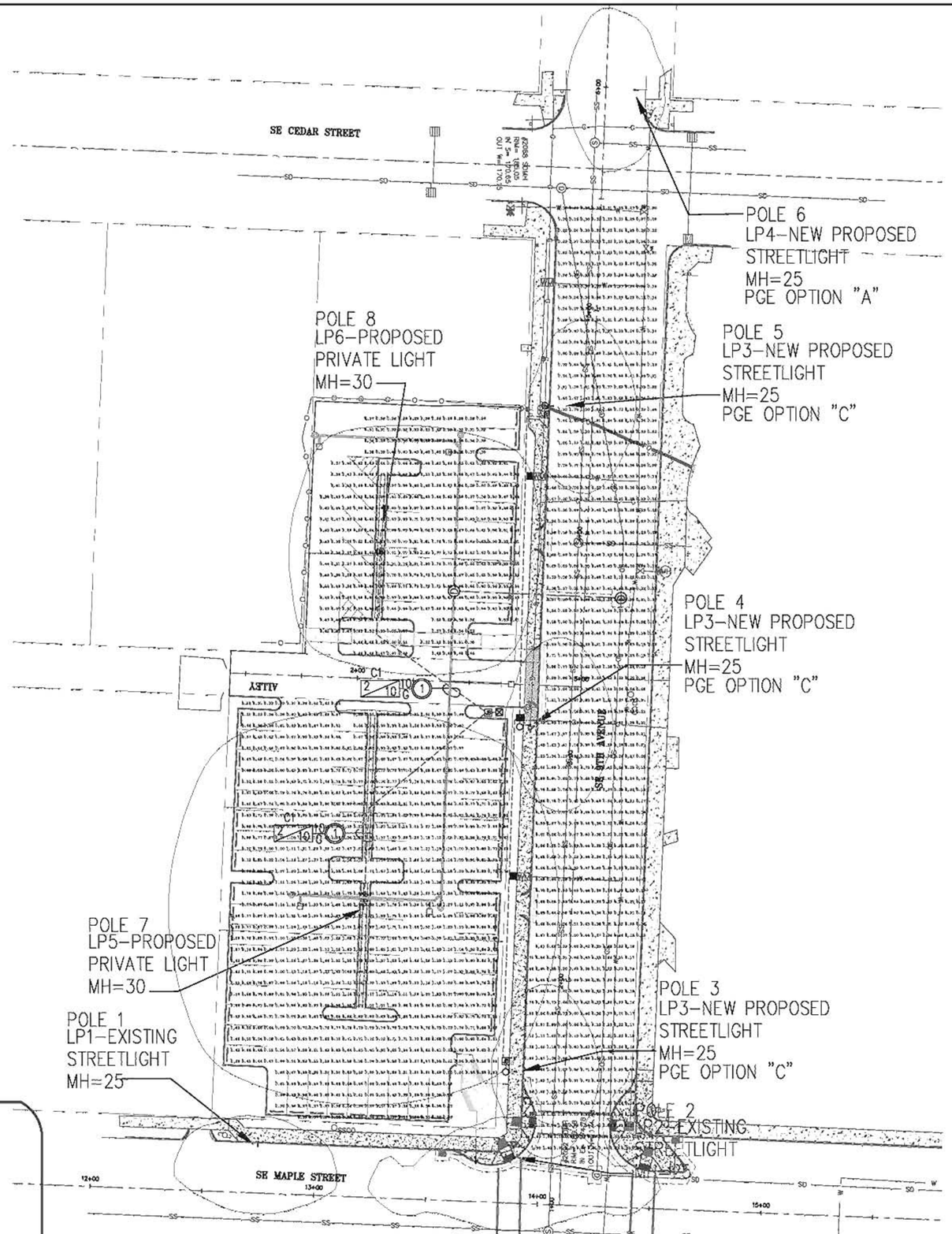


Street Lighting Design
Scale: 1" = 25'

= INSTALL MILBANK SERVICE
PART NUMBER U5242-O-100S
VERIFY POWER SOURCE WITH PGE

JB = INSTALL JB 10" X 17"
WITH LID MARKED "LIGHTING"

SLC = INSTALL CITY OF HILLSBORO STREET LIGHTING CONTROLLER
GRAY COOPER B-LINE CMP-4111, SINGLE PHASE,
3 WIRE, 240 VOLT DEDICATED METERED SERVICE.
VERIFY POWER SOURCE WITH LISA GUARNERO AT 503-672-5479

LEGEND

1 = CONDUIT SIZE
2 = GROUNDING CONDUCTOR SIZE
3 = NUMBER OF XHHW LIGHTING CONDUCTORS
4 = LIGHTING CONDUCTORS SIZE
5 = LIGHTING CIRCUIT NUMBER
G = DESIGNATES A GROUNDING CONDUCTOR

Northstar Electrical Contractors
19450 S.W. Cipole Road, Suite 107
Tualatin, Oregon 97062-7111
Phone 503-612-0840
Fax 503-612-0891
Email lgdesign@NorthStarElect.com

HILLSBORO
PARKING LOT
HILLSBORO, OR

NO.	REV DATE	REV DESCRIPTION
1	12.1.14	CITY REDLINES
2	3.26.15	SITE CHANGES
3	5.5.15	CITY REDLINES

Title: PRIVATELIGHTING
Designed by: Adam Suminski
Checked by: Jesse Culp
Date: 10/22/14

DWG. NO
EL1

Project No.:

CITY OF HILLSBORO STREET LIGHTING NOTES:

1. LIGHT POLES SHALL BE ALUMINUM LIGHT POLE, WITH 4' DAVIT MAST ARM, MOUNTED 25 FEET HIGH ON A PRECAST CONCRETE BASE.

HILLSBORO APPROVED LIGHT POLES ARE:
P&K POLES RTA7L25AAD1432D
VALMONT 2500751004D4
HAPCO 41-103PGE

2. JUNCTION BOXES SHALL BE CITY OF HILLSBORO APPROVED.

HILLSBORO APPROVED 13" X 24" JUNCTION BOXES ARE:
NEWBASIS FCA132418T-00043
QUAZITE A4213418A017
ARMORCAST A6001946TAX18-PGE
HIGHLINE CHA1324H18SE1

HILLSBORO APPROVED 17" X 30" JUNCTION BOXES ARE:
NEWBASIS FCA173018T-00043
QUAZITE A42173018A017
ARMORCAST A6001640TAX18-PGE
HIGHLINE CHA173018HE1

"STREET LIGHTING" SHALL BE IN THE LID MARKING AREA.

3. LUMINAIRES SHALL BE HILLSBORO APPROVED 49/52 WATT LED, MAST-ARM MOUNTED, GRAY COBRA-HEAD.

HILLSBORO APPROVED COBRAHEAD LED LUMINAIRES IS:
49W LEOTEK GCD1-20E-MV-NW-2-GY-700-HSS
52W LEOTEK GCD1-30E-MV-NW-2-GY-530-HSS

4. HILLSBORO APPROVED PHOTOELECTRIC CONTROLS ARE:
SELC 8483

5. WIRE SHALL BE STRANDED COPPER, XHHW TYPE WIRE.

6. STREET LIGHTING MATERIAL SUBMITTALS SHALL BE MADE PRIOR TO ORDERING EQUIPMENT. CONTACT BRAD ECKLAND, TRAFFIC MAINTENANCE SUPERVISOR AT 503-615-6562 FOR MATERIAL REVIEW AND STREET LIGHTING INSPECTIONS.

7. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CITY OF HILLSBORO STANDARD SPECIFICATIONS AND DETAILS EXCEPT AS MODIFIED IN THE CONTRACT DOCUMENTS AND PLANS.

8. ALL ELECTRICAL EQUIPMENT SHALL CONFORM TO THE CURRENT STANDARDS OF THE NATIONAL ELECTRICAL MANUFACTURES ASSOCIATION (NEMA) AND THE UNDERWRITERS LABORATORIES, INC (U.L.) WHEREVER APPLICABLE. IN ADDITION TO THE REQUIREMENTS OF THE PLANS, STANDARD SPECIFICATIONS, AND THE SPECIAL PROVISION, ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE CURRENT REQUREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) THE NATIONAL ELECTRICAL SAFETY CODE, STANDARDS OFTHE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), AND ANY LOCAL ORDINANCES WHICH MAY APPLY.

9. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION. THE PLAN LOCATION OF UTILITIES SHOWN ARE APPROXIAMATE BASED ON AVAILABLE RECORDS AND FIELD OBSERVATIONS. NEITHER THE OWNER NOR THE ENGINEER CAN GUARANTEE THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN.

10. THE CONTRACTOR WILL DETERMINE THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES WHICH PERTAIN TO AND AFFECT THE CONSTRUCTION OF THE PROJECT. FIELD ADJUSTMENTS FOR THE PLACEMENT OF CONDUIT, PULL BOXES, POLE AND CABINET FOUNDATIONS SHALL BE USED TO AVOID CONFLICTS WITH EXISTING UNDERGROUND AND OVERHEAD UTILITIES.

11. THE CONTRACTOR SHALL COORDINATE WORK WITH LISA GUARNERO OF P.G.E. AT (503) 672-5479 TO DETERMINE POWER SOURCE FOR THE LIGHTING SYSTEM.

12. THE CONTRACTOR SHALL INSTALL IN-LINE FUSE HOLDER AT BOTTOM OF EACH LIGHT POLE IN ACCORDANCE TO SECTION 2920.26.

13. INSTALL BUSHING ON ALL CONDUIT ENDS, IN JUNCTION BOX, AND IN STREET LIGHT POLES.

14. GROUT THE BASE OF EACH POLE AND INSTALL A WEEP HOLE.

15. ALL ELECTRICAL WORK SHALL COMPLY WITH NFPA 70E ARC FLASH RULES. WHICH WILL INCLUDE AN ARC FLASH ANALYSIS AND LABELING THE CABINET.

PRIVATE LIGHTING NOTES:

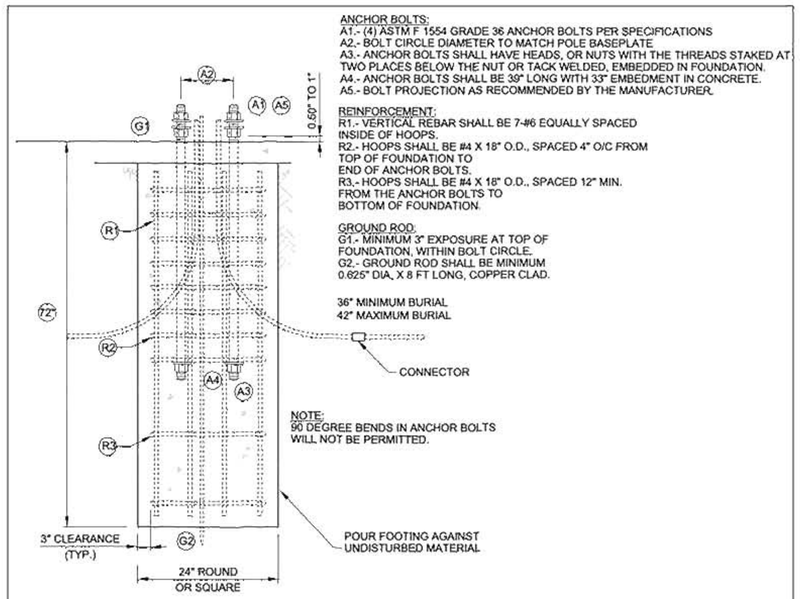
1. LP5/LP6: LIGHT POLES SHALL BE 30 FOOT BRONZE, METAL WITH A CAST IN PLACE BASE.

30 FT LIGHT POLES ARE:
RUUD PS4S30H1BZ

2. LP5/LP6: LUMINAIRES SHALL BE 264/107 WATT LED, 240V, ARM MOUNTED, BRONZE SHOEBOX FIXTURE WITH A NORMAL POWER FACTOR REACTOR BALLAST, WITH TWISTLOCK P.E. RECEPTACLE.

SHOEBOX LUMINAIRES ARE:
264W COOPER GLEON-AE-05-LED-E1-5WQ
107W COOPER GLEON-AE-02-LED-E1-5WQ

3. LIGHTING CONTRACTOR/INSTALLER IS SOLELY RESPONSIBLE FOR INSTALLATION OF CORRECT MATERIAL BASED ON CURRENT PLAN SET MATERIAL LIST AND JURISDICTION SPECIFICATIONS AND STANDARDS. LIGHT POLE AND FIXTURE SUBMITTAL TO PROPER JURISDICTION RECOMMENDED.



ANCHOR BOLTS:
A1.- (4) ASTM F 1554 GRADE 36 ANCHOR BOLTS PER SPECIFICATIONS
A2.- BOLT CIRCLE DIAMETER TO MATCH POLE BASEPLATE
A3.- ANCHOR BOLTS SHALL HAVE HEADS, OR NUTS WITH THE THREADS STAKED AT TWO PLACES BELOW THE NUT OR TACK WELDED, EMBEDDED IN FOUNDATION.
A4.- ANCHOR BOLTS SHALL BE 39" LONG WITH 33" EMBEDMENT IN CONCRETE.
A5.- BOLT PROJECTION AS RECOMMENDED BY THE MANUFACTURER.

REINFORCEMENT:
R1.- VERTICAL REBAR SHALL BE 7-#6 EQUALLY SPACED INSIDE OF HOOPS.
R2.- HOOPS SHALL BE #4 X 18" O.D., SPACED 4" O/C FROM TOP OF FOUNDATION TO END OF ANCHOR BOLTS.
R3.- HOOPS SHALL BE #4 X 18" O.D., SPACED 12" MIN. FROM THE ANCHOR BOLTS TO BOTTOM OF FOUNDATION.

GROUND ROD:
G1.- MINIMUM 3" EXPOSURE AT TOP OF FOUNDATION, WITHIN BOLT CIRCLE.
G2.- GROUND ROD SHALL BE MINIMUM 0.625" DIA. X 8 FT LONG, COPPER CLAD.

36" MINIMUM BURIAL
42" MAXIMUM BURIAL

NOTE:
90 DEGREE BENDS IN ANCHOR BOLTS WILL NOT BE PERMITTED.

ELEVATION VIEW
LIGHT FOUNDATION

NUMERIC SUMMARY

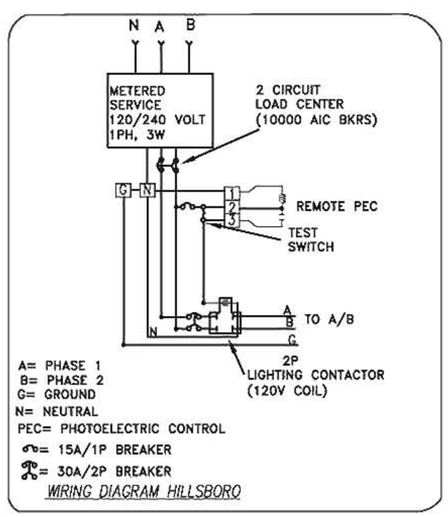
PROJECT: HILLSBORO PARKING LOT

LABEL	CALC TYPE	UNITS	AVG	MAX	MIN	AVG/MIN
NORTH PARKING LOT	ILLUMINANCE	FC	0.53	0.83	0.25	2.12
SOUTH PARKING LOT	ILLUMINANCE	FC	0.89	2.03	0.28	3.18
CROSSWALK	ILLUMINANCE	FC	0.79	1.93	0.26	3.04
SOUTH SIDEWALK	ILLUMINANCE	FC	0.15	0.22	0.10	1.50
EAST SIDEWALK	ILLUMINANCE	FC	0.35	0.61	0.10	3.50
SE 9TH AVE	ILLUMINANCE	FC	0.52	1.89	0.13	4.00

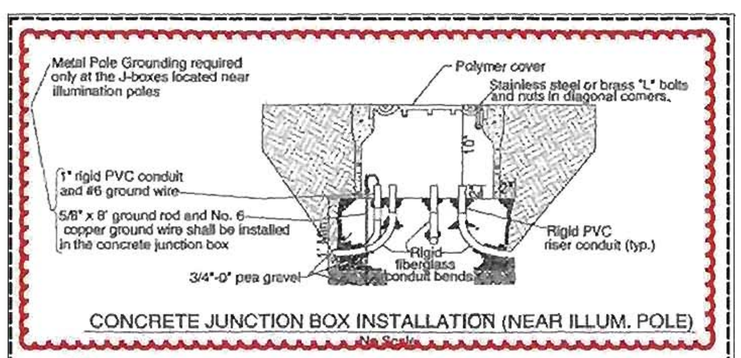
LUMINAIRE SCHEDULE

PROJECT: HILLSBORO PARKING LOT

QTY	LABEL	DESCRIPTION	MH	WATTS	LUMENS	ARM	ARRANGEMENT	LLF
1	LP1-EXISTING STREETLIGHT	LED, 'COBRAHEAD' STYLE, FLAT LENS LUMINAIRE MOUNTED ON A GRAY FIBERGLASS POLE	25	47	3830	4	SINGLE	0.950
1	LP2-EXISTING STREETLIGHT	LED, 'COBRAHEAD' STYLE, FLAT LENS LUMINAIRE MOUNTED ON A PGE POWER POLE	25	66	6079	6	SINGLE	0.950
1	LP3-PROPOSED STREETLIGHT	LED, 'COBRAHEAD' STYLE, FLAT LENS LUMINAIRE MOUNTED ON AN ALUMINUM POLE	25	52	3923	4	SINGLE	0.950
1	LP4-PROPOSED STREETLIGHT	LED, 'COBRAHEAD' STYLE, FLAT LENS LUMINAIRE MOUNTED ON A PGE POWER POLE	30	47	3399	8	SINGLE	0.950
1	LP5-PROPOSED STREETLIGHT	LED, 'SHOEBOX' STYLE, LUMINAIRE MOUNTED ON A METAL POLE	30	264	27014	0.667	SINGLE	0.950
1	LP6-PROPOSED STREETLIGHT	LED, 'SHOEBOX' STYLE, LUMINAIRE MOUNTED ON A METAL POLE	30	107	11059	0.667	SINGLE	0.950



WIRING DIAGRAM HILLSBORO



CONCRETE JUNCTION BOX INSTALLATION (NEAR ILLUM. POLE)
No Scale

NOTE

1. See Plans for circuit wires.
2. Illumination Circuits shall be spliced according to Section 02920.25
3. Polymer concrete junction box cover, if used, is not required to be bonded.
4. Metallic conduit, if used, shall be bonded and connected to circuit ground wires.
5. Install bushings on all conduit ends in junction boxes and in street light poles.

1. CITY OF HILLSBORO CONDUIT AND JUNCTION BOXES: A MINIMUM OF 2 INCH CONDUIT SHALL RUN BETWEEN JUNCTION BOXES AND A MINIMUM OF 2-1 INCH CONDUITS SHALL RUN FROM THE JUNCTION BOX TO THE LIGHT POLE. ALL CONDUIT RUNS SHALL BE MARKED WITH A 6 INCH WIDE RED MARKING TAPE INSTALLED 6 INCHES BELOW THE SURFACE. THE CONDUIT SHALL BE SCHEDULE 40 PVC EXCEPT FOR ALL ELBOWS SHALL BE FIBERGLASS; NO SPLICING ALLOWED WITHIN THE CONDUIT. FIBERGLASS CONDUIT SHALL EXTEND 1 FOOT OUTSIDE OF THE FOUNDATION. JUNCTION BOXES SHALL BE NO MORE THAN 3 FEET FROM EACH POLE SERVED AND THERE SHALL BE 1 JUNCTION BOX FOR EACH STREET LIGHT POLE. INSTALL 1 JUNCTION BOX FOR EACH LIGHTING CONTROLLER AND INCLUDE 1 SPARE 2 INCH CONDUIT INSTALLED TO THE CONTROLLER. ALL JUNCTION BOXES SHALL BE OPEN BOTTOM POLYMER CONCRETE OR POLYMER FIBERGLASS, WITH SKID RESISTANT COVER MARKED STREET LIGHTING. INSTALL BUSHING ON ALL CONDUIT ENDS AND SEAL THE ENDS WITH AN APPROVED CONDUIT PLUG. INSTALL A LOCATE TRACE WIRE IN EACH SPARE CONDUIT PER ODOT/APWA STANDARDS SECTION 960.42A.

Street Lighting Design
Scale: AS NOTED

Northstar Electrical Contractors
19450 S.W. Cipole Road, Suite 107
Tualatin, Oregon 97062-7111
Phone 503-612-0840
Fax 503-612-0891
Email ltgdesign@NorthStarElect.com

HILLSBORO
PARKING LOT
CITY OF HILLSBORO

NO.	REV DATE	REV DESCRIPTION
1	12.1.14	CITY REDLINES
2	3.26.15	SITE CHANGES
3	5.5.15	CITY REDLINES

Title: LIGHTING DETAILS
Designed by: Adam Suminski
Checked by: Jesse Culp
Date: 10/22/14

DWG. NO
EL2

Project No.:

All trees 2" cal., B&B
Except: A. circinatum Multi - (3) 1.5" cal. stems min.
Styrax japonica - 2.5" cal. B&B

Tree List

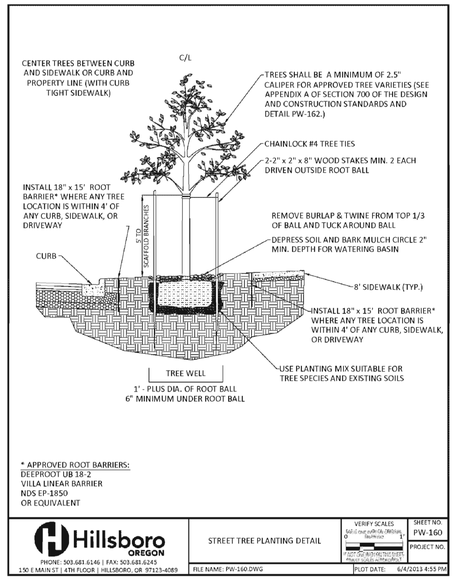
ACI	(1)	*Acer circinatum 'Multi'* Vine Maple
SJ	(1)	*Styrax japonica* Japanese Snowbell
AG	(8)	*Acer grisium* Paper Bark Maple
CB	(2)	*Carpinus betulus 'Fastigata'* Upright Hornbeam
MA	(2)	*Maackia amurensis* Amur Maackia
MAD	(1)	*Malas 'Adirondack'* Adirondack Crabapple
PP	(4)	*Parrotia persica* Persian Parrotia
UP	(10)	*Ulmas parvifolia 'UPMTF' Bosque* Lacebark Elm

Shrub List

- *Berberis thunburgii* Japanese Barberry, (48) 1 gal. @ 4' o.c.
- *Caryopteris x clandonensis* Bluebeard (14) 1 gal. @ 2' o.c.
- *Daphne caucasia* Caucasian Daphne, (10) 1 gal. @ 2'-6" o.c.
- *Euonymous fortunei 'Emerald Gaeity'* Winter Creeper, (32) 1 gal. @ 2'-6" o.c.
- *Lavandula stoechas* French Lavander, (48) 6" pots @ 2' o.c.
- *Lonicera pileata* Privet Honeysuckle, (92) 1 gal. @ 2'-6" o.c.
- *Mahonia aquifolium 'Compacta'* Compact Oregon Grape, (128) 1 gal. @ 3' o.c.
- *Myrica californica* Pacific Waxmyrtle, (18),1 gal. @ 4' o.c.
- *Viburnum tinus 'Spring Bouquet'* Compact Viburnum, (24) 2 gal. @ 4' o.c.
- *Philadelphus lewisii* Mock Orange, (1) 2 gal.
- *Pittosporum tobira 'Wheeleri'* Wheeler Dwarf Pittosporum, (30) 1 gal. @ 3' o.c.
- *Raphiolepis indica 'Clara'* Clara Indian Hawthorn, (74) 1 gal. @ 3' o.c.
- *Hypericum calycinum* St. Johnswort, 4" pots @ 2' o.c.

Ground Covers

- *Trachelosemum jasminoides* Star Jasmine, (180) 4" pots @ 2' o.c.
- *Lithodora diffusa* Lithodora, (84) 4" pots @ 12" o.c.
- *Salvia officinalis* Sage, (98) 4" pots @ 2' o.c.



NORTH

20 0 10 20 40

1 inch = 20 ft.
11x17 SCALE: 1 inch = 40 ft.

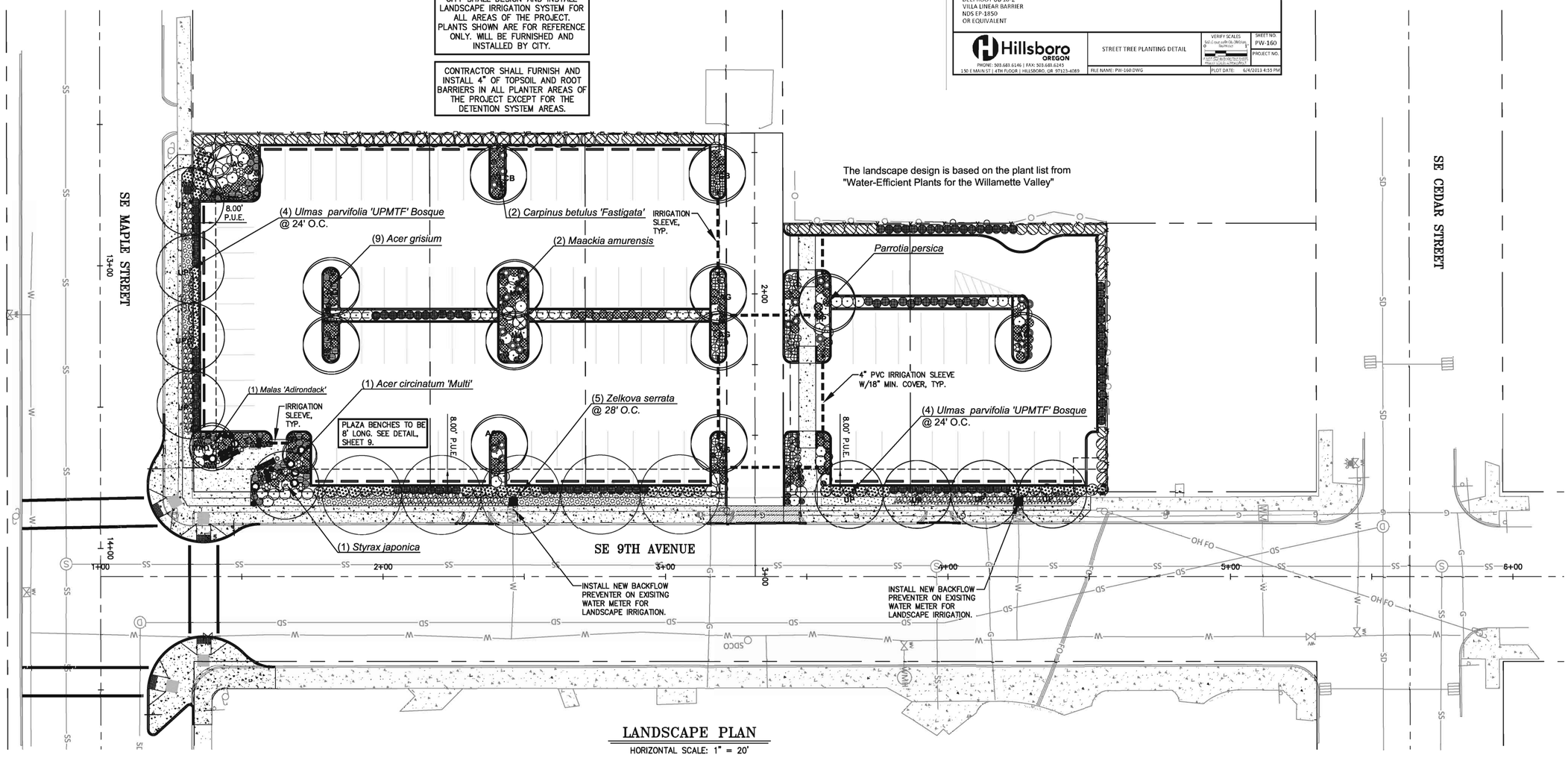
LEGEND

- - - - - - 4" SCH 40 PVC PIPE (SLEEVES FOR IRRIGATION). 8 SLEEVES TO BE INSTALLED IN THE LOCATIONS INDICATED.

CITY SHALL DESIGN AND INSTALL LANDSCAPE IRRIGATION SYSTEM FOR ALL AREAS OF THE PROJECT. PLANTS SHOWN ARE FOR REFERENCE ONLY. WILL BE FURNISHED AND INSTALLED BY CITY.

CONTRACTOR SHALL FURNISH AND INSTALL 4" OF TOPSOIL AND ROOT BARRIERS IN ALL PLANTER AREAS OF THE PROJECT EXCEPT FOR THE DETENTION SYSTEM AREAS.

The landscape design is based on the plant list from "Water-Efficient Plants for the Willamette Valley"



LANDSCAPE PLAN

HORIZONTAL SCALE: 1" = 20'

SHEET NO. LSC1
DRAWING NO. 15 OF 16
PROJECT NO. XXXXX
PLOT DATE: May 19, 2015

SHUTE PARK AQUATIC AND RECREATION CENTER PARKING LOT

LANDSCAPE PLAN

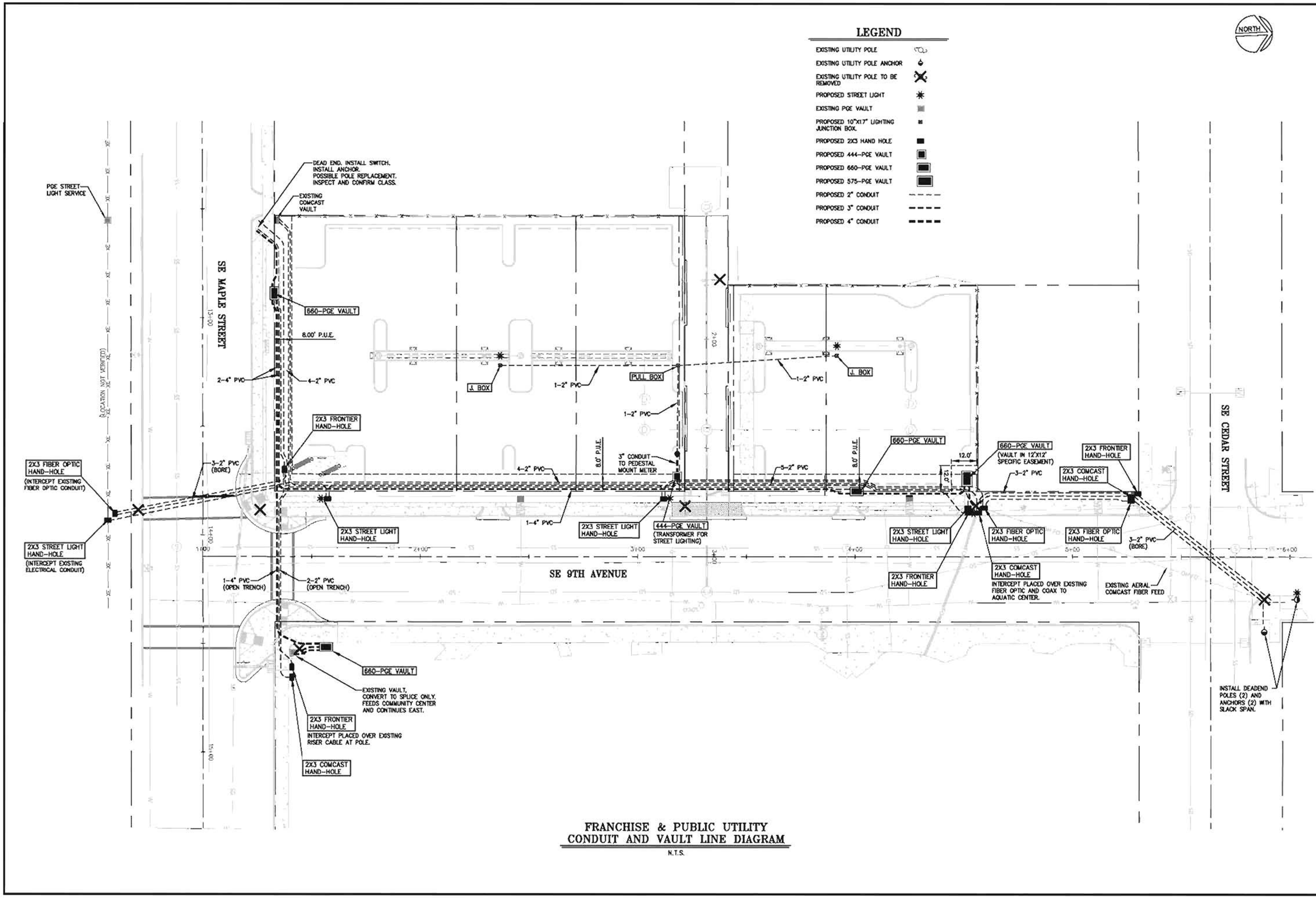
FILE NAME: N0302_15_LSC1.dwg

Hillsboro OREGON
PHONE: 503.681.6146 | FAX: 503.681.6245
150 E MAIN ST | 4TH FLOOR | HILLSBORO, OR 97123-4089

NW ENGINEERS
Engineering & Planning
3409 NW John Olsen Place
Hillsboro, OR 97124
503 601 4402 - fax
503 601 4421

SCALE: PLAN 1"=20'
PROFILE: HORIZ. VERT.
DRAWN: LD
CHECKED:

#	DATE	REVISION	BY	APP'D
1	5-5-15	BID SET		
2	5-19-15	ADDENDUM #1 SET		



FRANCHISE & PUBLIC UTILITY
CONDUIT AND VAULT LINE DIAGRAM
N.T.S.

SHEET NO. FUTL
DRAWING NO. 16 OF 16
PROJECT NO. XXXXX
PLOT DATE: May 19, 2015

SHUTE PARK AQUATIC AND RECREATION CENTER PARKING LOT
FRANCHISE & PUBLIC UTILITY CONDUIT AND VAULT LINE DIAGRAM
FILE NAME: N0302_16_FUTL.dwg

Hillsboro OREGON
PHONE: 503.681.6146 | FAX: 503.681.6245
150 E MAIN ST | 4TH FLOOR | HILLSBORO, OR 97123-4089

REGISTERED PROFESSIONAL ENGINEER
GREGORY M. THIEL
EXPIRES: 6/30/2016

NW ENGINEERS
Engineering & Planning
3409 NW John Olsen Place
Hillsboro, OR 97124
503.601.4401 503.601.4402 - fax

SCALE
PLAN 1"=20'
PROFILE HORIZ. VERT.
DRAWN: MJC
CHECKED: GMT

#	DATE	REVISION	BY	APP'D
5-5-15	BID SET			
5-19-15	ADDENDUM #1 SET			