STEWART MEADOWS VILLAGE
HANSEN CREEK IMPROVEMENTS

A PROJECT FOR:
KOGAP ENTERPRISES

MYERS LANE
MEDFORD, OR 97504

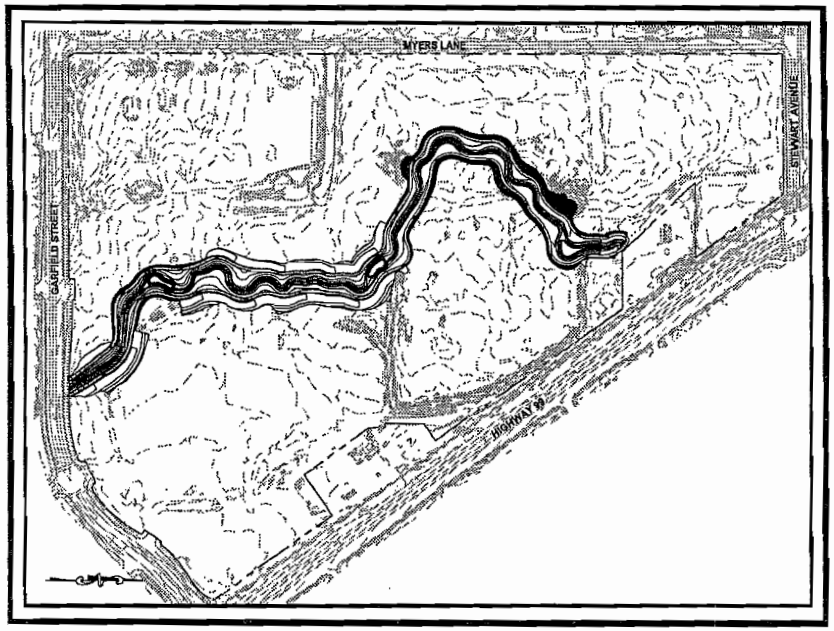
GENERAL CIVIL NOTES:

1. ALL WORK AND MATERIALS SHALL CONFORM TO CURRENT OREGON UNIFORM PLUMBING CODE, 2004 STATE OF OREGON APWA / ODOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND ALL APPLICABLE STATE, CITY, AND COUNTY REGULATIONS AND STANDARDS. CONTACT ENGINEER FOR DIRECTIVE IN THE EVENT OF CONFLICTING STANDARDS.
2. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE COORDINATED WITH THE GOVERNING AGENCY INSPECTOR AND SHALL CONFORM TO THAT AGENCY'S CURRENT ENGINEERING STANDARD SPECIFICATIONS AND STANDARD DETAILS.
3. CONTRACTOR SHALL VERIFY ALL ENGINEERING, ELEVATIONS AND LOCATIONS PRIOR TO CONSTRUCTION, NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION ACTIVITIES.
4. ALL GRADE SURVEYING AND HORIZONTAL LAYOUT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PERFORMED BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF OREGON USING CURRENT ELECTRONIC DRAWINGS GENERATED BY THE PROJECT ENGINEER. COORDINATE WITH ENGINEER PRIOR TO CONSTRUCTION.
5. ALL EXISTING SITE UTILITIES IDENTIFIED ON THIS PLAN ARE NOT INTENDED TO BE EXACT OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY ALL UTILITIES AND PROTECT AS REQUIRED DURING THE COURSE OF CONSTRUCTION.
6. CONTRACTOR SHALL NOTIFY ALL APPLICABLE REGULATORY AGENCIES AND UTILITY COMPANIES A MINIMUM OF 48 HOURS PRIOR TO BEGINNING WORK.
7. CONTRACTOR SHALL NOTIFY CITY OF MEDFORD A MINIMUM OF 48 HOURS PRIOR TO BEGINNING WORK.
8. ALL SITE WORK SHALL BE COMPLETED IN CONFORMANCE WITH THE PROJECT GEOTECHNICAL REPORT DATED JUNE 18, 2008 PREPARED BY AURIGEN ASSOCIATES, INC.
9. ALL SITE CONCRETE SHALL BE f'c = 3000 psi @ 28 DAYS, 6% ENTRAINED AIR, 4" SLUMP, UNLESS NOTED OTHERWISE.
10. CONTRACTOR SHALL CONFORM WITH ALL CONDITIONS AND REQUIREMENTS OF THE JOINT PERMIT ISSUED BY THE OREGON DEPARTMENT OF STATE LANDS AND UNITED STATES ARMY CORPS OF ENGINEERS AT ALL TIMES DURING CONSTRUCTION. REFER TO PERMIT FOR ADDITIONAL INFORMATION.
11. CONTRACTOR SHALL CONFORM WITH ALL CONDITIONS AND REQUIREMENTS OF THE 1200-C PERMIT ISSUED BY THE OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY AT ALL TIMES DURING CONSTRUCTION. REFER TO PERMIT FOR ADDITIONAL INFORMATION.
12. CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS PRIOR TO CONSTRUCTION.
13. ALL LANDSCAPED AREAS SHALL BE PREPARED AS NOTED ON LANDSCAPING PLANS.
14. REFER TO LANDSCAPING PLANS FOR PLACEMENT LOCATIONS AND REQUIREMENTS FOR IRRIGATION SLEEVES.
15. HOLD SUB-GRADE ELEVATIONS DOWN 12" WITHIN GROUND COVER PLANTING AREAS; REFER TO LANDSCAPE PLANS FOR ADDITIONAL INFORMATION PERTAINING TO TOP SOIL REQUIREMENTS.
16. CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL MATERIALS TO BE USED THROUGHOUT THE PROJECT FOR THE ENGINEER'S REVIEW AND APPROVAL PRIOR TO ORDERING ANY MATERIALS. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR THE PLACEMENT OF ALL REBAR FOR CAST IN PLACE CONCRETE.
17. SEE PLAN SET AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

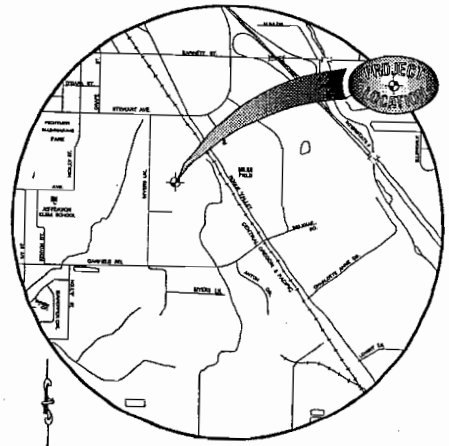
DRAWING LIST:

CIVIL DRAWINGS:

C0.0	COVER SHEET
C0.1	EXISTING CONDITIONS AND DEMOLITION PLAN
C0.2	EROSION CONTROL NOTES
C0.3	EROSION CONTROL PLAN: PHASE 1 - HANSEN CREEK REALIGNMENT
C0.4	EROSION CONTROL PLAN: PHASE 2 - HANSEN CREEK FILL
C0.5	EROSION CONTROL DETAILS
C1.0	OVERALL PLAN
C1.1	OVERALL PROFILES
C1.2	OVERALL PLAN - FLOODPLAIN LIMITS
C1.3	HYDRAULIC PROFILE
C2.0	PLAN AND PROFILE: HANSEN CREEK STATION 0+00 TO 5+49
C2.1	PLAN AND PROFILE: HANSEN CREEK STATION 5+50 TO 10+00
C2.2	PLAN AND PROFILE: HANSEN CREEK STATION 10+00 TO 14+00
C2.3	PLAN AND PROFILE: HANSEN CREEK STATION 14+00 TO 20+00
C2.4	PLAN AND PROFILE: PEDESTRIAN PATH STATION
C3.0	CREEK REALIGNMENT SECTIONS: STATION 0+50 TO 4+00
C3.1	CREEK REALIGNMENT SECTIONS: STATION 4+50 TO 8+00
C3.2	CREEK REALIGNMENT SECTIONS: STATION 8+50 TO 12+00
C3.3	CREEK REALIGNMENT SECTIONS: STATION 12+50 TO 16+00
C3.4	CREEK REALIGNMENT SECTIONS: STATION 16+50 TO 20+00
C3.5	CREEK REALIGNMENT SECTIONS: STATION 20+50 TO 24+00
C3.6	CREEK REALIGNMENT SECTIONS: STATION 24+50 TO 28+00
C3.7	CREEK REALIGNMENT SECTIONS: STATION 28+50 TO 30+00
C4.0	ENLARGED PLAN: STEP POOL #1 AND GRANGE CO-OP CULVERT INLET
C4.1	ENLARGED PLAN: STEP POOL #2
C4.2	ENLARGED PLAN: STEP POOL #3
C4.3	ENLARGED PLAN: DANFIELD SKIN CULVERT OUTLET
C5.0	MISCELLANEOUS DETAILS



1 C0.0 **OVERALL SITE PLAN**
NTS



A C0.0 **VICINITY MAP**
NTS

PROJECT TEAM CONTACT INFORMATION:

OWNER
KOGAP ENTERPRISES, INC.
ED IHTEL
118 STEWART AVENUE
MEDFORD, OR 97501
(541) 779-4313

LANDSCAPE ARCHITECT
KENCAIRN LANDSCAPE ARCHITECTURE
KERRY KENCAIRN
844 A STREET
ASHLAND, OR 97520
(541) 488-8194

WATER COMPANY
MEDFORD WATER COMMISSION
ERIC JOHNSON
500 S. IVY STREET
MEDFORD, OR 97501
(541) 774-2442

TELEPHONE COMPANY
QWEST
JIM MARTIN
133 W. 4TH STREET
MEDFORD, OR 97501
(541) 776-4364

CIVIL ENGINEER
2CB ENGINEERING, INC.
SCOTT BOUDEMA, PE
600 KLAMATH AVENUE
KLAMATH FALLS, OR 97601
(541) 884-7451

GEOTECHNICAL ENGINEER
AURIGEN ASSOCIATES, INC.
MARK AURIGEN, PE
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ASHLAND, OR 97520
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ELECTRIC COMPANY
PACIFIC POWER
JUSTIN WOODS
518 E. GRAPE STREET
MEDFORD, OR 97501
(541) 776-8481

GAS COMPANY
AVISTA UTILITIES
MIKE SMITH
846 SUBURBAN PARK DRIVE
MEDFORD, OR 97504
(541) 858-4728

SURVEYOR
HARDY ENGINEERING
RICHARD BATH
PO BOX 1628
MEDFORD, OR 97504
(541) 772-4886

PHOTOGRAMMTER
EDI WEST - GEOTERRA MAPPING GROUP
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EUGENE, OR 97402
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CABLE COMPANY
CHARTER COMMUNICATIONS
DENVER EUBANKS
526 E. GRAPE STREET
MEDFORD, OR 97501
(541) 282-8672

CITY OF MEDFORD
CITY OF MEDFORD - PUBLIC WORKS
LARRY BEMSON
411 W. 8TH STREET - MODULAR BUILDING
MEDFORD, OR 97501
(541) 774-2100

EROSION CONTROL NOTE:

PLAN SHEETS C0.1, C0.2, C0.3, AND C0.4 CONTAIN EROSION AND SEDIMENT CONTROL REQUIREMENTS THAT MUST BE IMPLEMENTED AS PART OF THIS PROJECT. THE INFORMATION CONTAINED WITHIN THE REFERENCED PLAN SHEET SHALL BE CONSIDERED A MINIMUM AND SHALL BE MODIFIED AS REQUIRED BY THE CONTRACTOR, TO CONTAIN ALL SEDIMENT ON SITE. SPECIAL ATTENTION SHALL BE TAKEN AT ALL EXISTING STORM DRAIN CATCH BASINS AND STORM DRAIN CHANNELS AS TO ELIMINATE ANY SEDIMENT TRANSFER INTO THE EXISTING STORM DRAINAGE SYSTEM.

AN ALL WEATHER ROCK SURFACE SHALL BE PROVIDED AT ALL CONSTRUCTION SITE ENTRANCES. ALL CONSTRUCTION IS ALL BE MAINTAINED WITHIN THE DEVELOPMENT LIMITS OF THIS PHASE. REFER TO EROSION CONTROL PLANS FOR ADDITIONAL INFORMATION.

UTILITY STATEMENT

EXISTING UNDERGROUND UTILITIES ILLUSTRATED IN THESE PLANS ARE APPROXIMATED BASED ON MAPS OBTAINED FROM THE CITY OF MEDFORD PUBLIC WORKS FILES, OR HAVE BEEN LOCATED BY A UTILITY LOCATE COMPANY. LAYOUT INDICATED IN NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. ALL LINES WITHIN PROJECTED WORK ZONE SHALL BE FIELD VERIFIED AS REQUIRED PRIOR TO CONSTRUCTION.

ABBREVIATIONS:

AC	ASPHALT
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ASTM	AMERICAN STANDARD TEST METHOD
CONC	CONCRETE
DEQ	DEPARTMENT OF ENVIRONMENTAL QUALITY
DIP	DUCTILE IRON PIPE
DWG	DRAWING
(E)	EXISTING
GC	GENERAL CONTRACTOR
GND	GROUND
MAX	MAXIMUM
MIN	MINIMUM
(N)	NEW
OSSC	OREGON STRUCTURAL SPECIALTY CODE
ODOT	OREGON DEPARTMENT OF TRANSPORTATION
PVC	POLYVINYL CHLORIDE
REQ'D	REQUIRED
STD	STANDARD
TOC	TIME OF CONCENTRATION
TYP	TYPICAL
UPC	UNIFORM PLUMBING CODE

LEGEND:

- NEW ASPHALT PAVING
- NEW LANDSCAPING
- NEW SITE CONCRETE
- PROPERTY LINE
- EXISTING NATURAL GAS
- EXISTING SANITARY SEWER
- EXISTING DOMESTIC WATER
- NEW FENCE
- EXISTING FENCE
- EXISTING SURFACE CONTOUR
- NEW SURFACE CONTOUR

SYMBOLS (EXISTING):

- STORM DRAIN MANHOLE
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEANOUT
- FIRE HYDRANT
- GAS VALVE
- WATER METER
- WATER VALVE
- STREET LIGHT
- TELEPHONE PEDESTAL
- SIGN
- POWER POLE
- GUY WIRE
- FIBER PEDESTAL

APPROVED
DEVELOPMENT ENGINEERING — DATE

APPROVED
MEDFORD WATER COMMISSION — DATE

APPROVED
EAGLE POINT SEWER SERVICE — DATE

ZBINDEN • CARTER • SOUDERS
ENGINEERING
900 Monmouth Parkway, Monmouth, Polk, OR 97361
(541) 444-7481 phone fax (541) 487-4406

PRELIMINARY NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

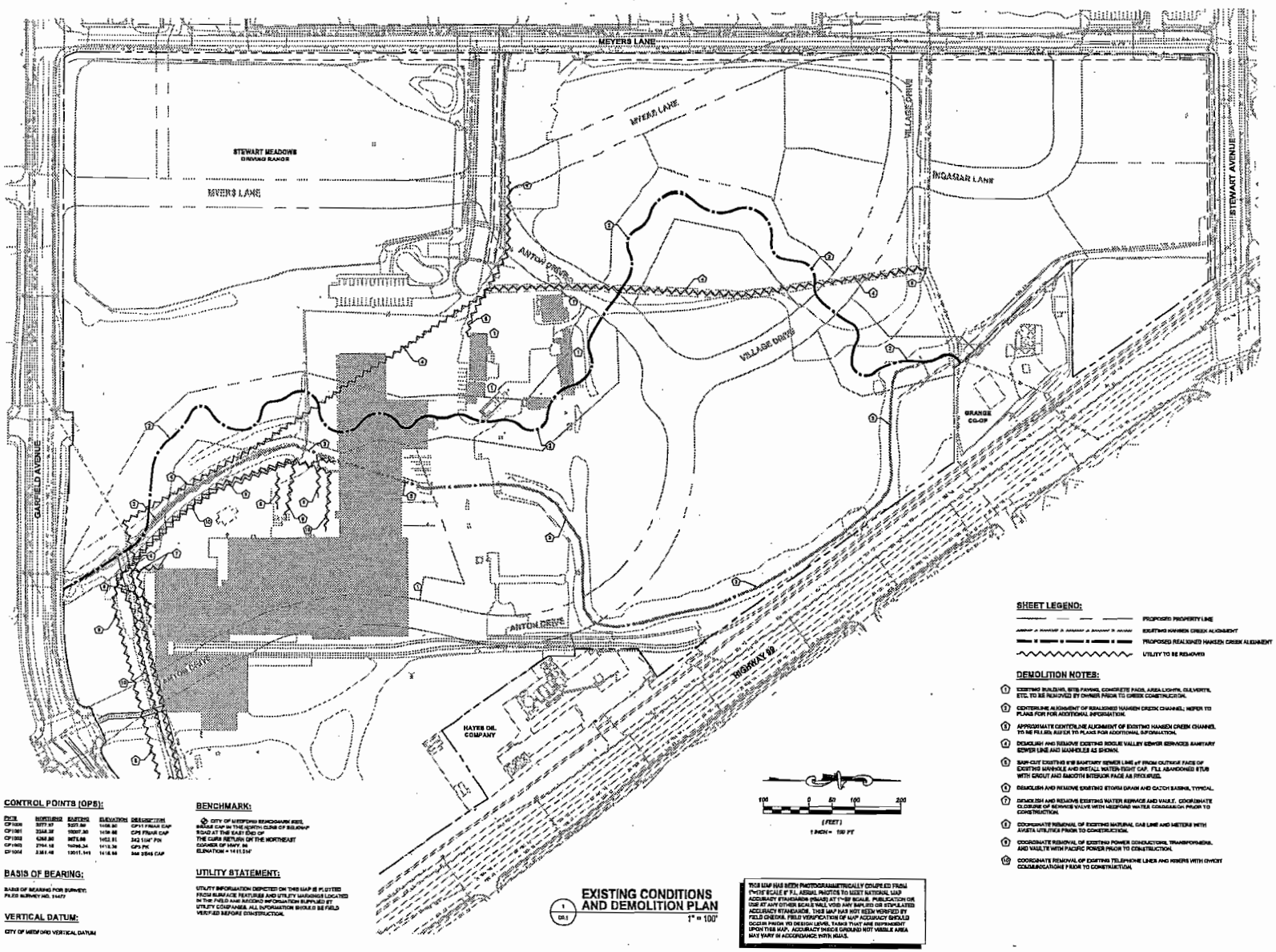
CITY OF MEDFORD – ENGINEERING DEPT.

HANSEN CREEK PUBLIC IMPROVEMENTS

COVER SHEET

DESIGNED BY	DATE	PROJECT NO.
DRAWN BY	DATE 04.07.10	SD-942-D
CHECKED BY	DATE 04.07.10	
APPROVED BY	DATE	DRAWING NO.
APPROVED BY	DATE	C0.0

95% CONSTRUCTION DOCUMENTS – FOR AGENCY REVIEW ONLY



EXISTING CONDITIONS AND DEMOLITION PLAN

1" = 100'

LEGEND:

- ASPHALT SURFACE
- ASPHALT EDGE
- EX ELEC — BURIED ELECTRIC LINE
- EX GAS — BURIED GAS LINE
- EX. 8in SS >> — BURIED SANITARY SEWER LINE
- Ex. 12in SD — BURIED STORM DRAIN LINE
- EX TELE — BURIED TELEPHONE LINE
- EX WTR — BURIED WATER LINE
- CATCH BASIN
- CATCH/INLET MANHOLE
- CLEAN OUT
- CONCRETE SURFACE
- CP — CONTROL POINT
- (XX) RECORD
- ELECTRIC JUNCTION BOX
- ELECTRIC VAULT
- FENCE, CHAIN LINK
- FIRE HYDRANT
- FOUND SURVEY MONUMENT
- GAS METER
- GAS VALVE
- GUY POLE
- GUY WIRE
- LIGHT POLE, AREA
- OHW — ORDINARY HIGH WATER
- POWER POLE, UTILITY POLE
- PROPERTY LINE
- SANITARY SEWER MANHOLE
- SIGN
- TREE, AS NOTED

PHOTOGRAMMETRY BY:

3Di West
GeoTerra Mapping Group
3400 W. 11TH, EUGENE OREGON 97402
PHONE: 541-343-8877 FAX: 541.343.8879

HORIZONTAL AND VERTICAL CONTROL PROVIDED BY:

Hardey Engineering & Associates, Inc.
HEA
P.O. BOX 1628
MEDFORD, OREGON 97501-0093
PHONE: 541-772-6440
FAX: 541-772-6472
EMAIL: info@hea-inc.com

SHEET LEGEND:

- PROPOSED PROPERTY LINE
- EXISTING HANSEN CREEK ALIGNMENT
- PROPOSED REALIGNED HANSEN CREEK ALIGNMENT
- UTILITY TO BE REMOVED

DEMOLITION NOTES:

1. EXISTING BUILDING, SITE PAVING, CONCRETE PADS, AREA LIGHTS, CULVERTS, ETC. TO BE REMOVED BY OWNER PRIOR TO CREEK CONSTRUCTION.
2. CENTERLINE ALIGNMENT OF REALIGNED HANSEN CREEK CHANNEL. REFER TO PLANS FOR FOR ADDITIONAL INFORMATION.
3. APPROXIMATE CENTERLINE ALIGNMENT OF EXISTING HANSEN CREEK CHANNEL TO BE FILLED. REFER TO PLANS FOR ADDITIONAL INFORMATION.
4. DEMOLISH AND REMOVE EXISTING ROGUE VALLEY SEWER SERVICES SANITARY SEWER LINE AND MANHOLES AS SHOWN.
5. SAW-CUT EXISTING 8"Ø SANITARY SEWER LINE AT FROM OUTSIDE FACE OF EXISTING MANHOLE AND INSTALL WATER-TIGHT CAP. FILL ABANDONED STUB WITH GROUT AND SMOOTH INTERIOR FACE AS PROFILED.
6. DEMOLISH AND REMOVE EXISTING STORM DRAIN AND CATCH BASINS, TYPICAL.
7. DEMOLISH AND REMOVE EXISTING WATER SERVICE AND VAULT. COORDINATE CLOSURE OF SERVICE VALVE WITH MEDFORD WATER COMMISSION PRIOR TO CONSTRUCTION.
8. COORDINATE REMOVAL OF EXISTING NATURAL GAS LINE AND METERS WITH AVISTA UTILITIES PRIOR TO CONSTRUCTION.
9. COORDINATE REMOVAL OF EXISTING POWER CONDUCTORS, TRANSFORMERS, AND VAULTS WITH PACIFIC POWER PRIOR TO CONSTRUCTION.
10. COORDINATE REMOVAL OF EXISTING TELEPHONE LINES AND RISERS WITH QWEST COMMUNICATIONS PRIOR TO CONSTRUCTION.

CONTROL POINTS (CPS):

PNT#	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP1000	5977.97	5225.80	1438.80	CP#1 FINAL CAP
CP1001	3348.39	10007.30	1439.86	CP2 FINAL CAP
CP1002	4262.80	9872.66	1452.81	3/4" PIN
CP1003	2764.16	10264.34	1413.39	CP3 PK
CP1004	3361.48	10011.343	1418.56	5/8" REBAR CAP

BENCHMARK:

◆ CITY OF MEDFORD BENCHMARK #205, BRASS CAP IN THE NORTH CURB OF BIGWAY ROAD AT THE EAST END OF THE CURB RETURN ON THE NORTHEAST CORNER OF HWY. 99. ELEVATION = 1411.034'

BASIS OF BEARING:

BASIS OF BEARING FOR SURVEY: PLSS SURVEY NO. 11477

UTILITY STATEMENT:

UTILITY INFORMATION DEPICTED ON THIS MAP IS PLOTTED FROM SURFACE FEATURES AND UTILITY MARKINGS LOCATED IN THE FIELD AND RECORD INFORMATION SUPPLIED BY UTILITY COMPANIES. ALL INFORMATION SHOULD BE FIELD VERIFIED BEFORE CONSTRUCTION.

VERTICAL DATUM:

CITY OF MEDFORD VERTICAL DATUM

THIS MAP WAS BOTH PHOTOGRAMMETRICALLY COMPILED FROM 1"=100' SCALE P.L. ASSIAL PHOTOS TO MEET NATIONAL MAP ACCURACY STANDARDS (MAAS) AT 1"=20' SCALE. PUBLICATION OR USE AT ANY OTHER SCALE SHALL VOID ANY IMPLIED OR STIPULATED ACCURACY STANDARDS. THIS MAP HAS NOT BEEN VERIFIED BY FIELD CHECKS. FIELD VERIFICATION OF MAP ACCURACY SHOULD OCCUR PRIOR TO DESIGN LEVEL TASKS THAT ARE REPRESENTED UPON THIS MAP. ACCURACY INSIDE GROUND NOT VISIBLE AREA MAY VARY IN ACCORDANCE WITH MAAS.

ZBINDEN • CARTER • SOUDERS
ENGINEERING
900 Klamath Avenue, Klamath Falls, OR 97601
(541) 884-7441 — (541) 883-5886

PRELIMINARY NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY
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CITY OF MEDFORD – ENGINEERING DEPT.

HANSEN CREEK PUBLIC IMPROVEMENTS
EXISTING CONDITIONS AND DEMOLITION PLAN

DRAWN BY	DATE	PROJECT NO.
CHECKED BY	DATE 04.27.16	SD-942-D
REVIEWED BY	DATE 05.27.16	DRAWING NO.
	DATE	C0.1
APPROVED BY	DATE	

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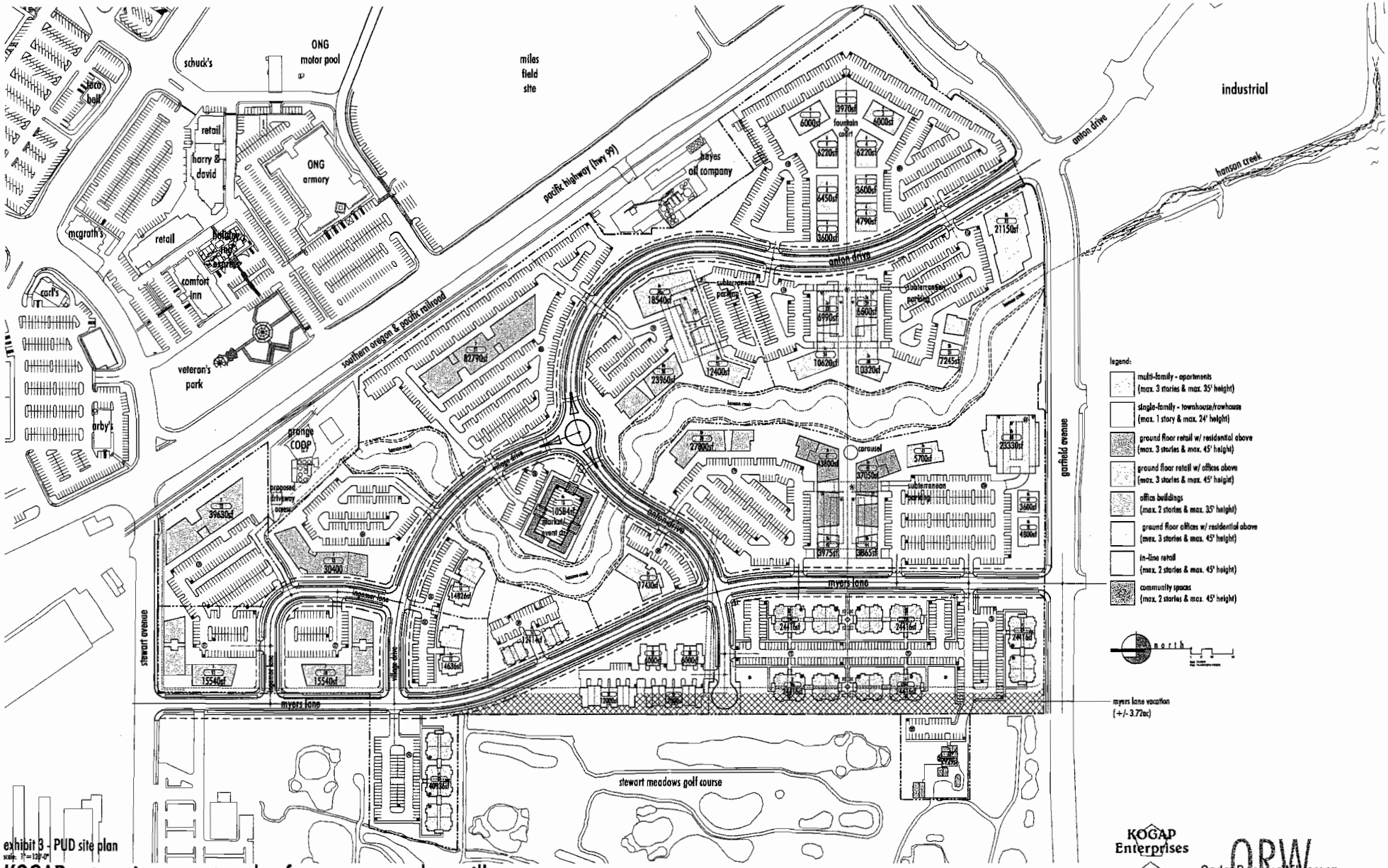


exhibit B - PUD site plan

scale: 1" = 120'-0"

KOGAP enterprises - master plan for stewart meadows village

nw corner garfield and pacific highway; medford, oregon

17 october, 2008

Figure 4.

KOGAP Enterprises

KOGAP

ORW Ogden Roemer Wilkerson Architecture

COLLABORATIVE APPROACH - HONEST DESIGN

DRAINAGE BASIN SUMMARIES:

DRAINAGE BASIN #1
TOTAL AREA = 8.20 ACRES

HYDROLOGIC SOIL GROUP C = 3.94 ACRES
OPEN SPACE = 1.70 ACRES
IMPERVIOUS AREA = 2.24 ACRES

HYDROLOGIC SOIL GROUP D = 4.26 ACRES
OPEN SPACE = 2.28 ACRES
IMPERVIOUS AREA = 1.98 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 2.09 CFS
2-YEAR PEAK DISCHARGE = ±2.59 CFS
10-YEAR PEAK DISCHARGE = ±4.53 CFS

DRAINAGE BASIN #2
TOTAL AREA = 8.00 ACRES

HYDROLOGIC SOIL GROUP D = 8.00 ACRES
OPEN SPACE = 2.59 ACRES
IMPERVIOUS AREA = 3.42 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 1.50 CFS
2-YEAR PEAK DISCHARGE = ±2.10 CFS
10-YEAR PEAK DISCHARGE = ±3.56 CFS

DRAINAGE BASIN #3
TOTAL AREA = 8.06 ACRES

HYDROLOGIC SOIL GROUP C = 0.36 ACRES
OPEN SPACE = 0.10 ACRES
IMPERVIOUS AREA = 0.16 ACRES

HYDROLOGIC SOIL GROUP D = 5.73 ACRES
OPEN SPACE = 2.43 ACRES
IMPERVIOUS AREA = 3.31 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 1.52 CFS
2-YEAR PEAK DISCHARGE = ±2.11 CFS
10-YEAR PEAK DISCHARGE = ±3.59 CFS

DRAINAGE BASIN #4
TOTAL AREA = 4.21 ACRES

HYDROLOGIC SOIL GROUP D = 4.21 ACRES
OPEN SPACE = 1.99 ACRES
IMPERVIOUS AREA = 2.23 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 1.05 CFS
2-YEAR PEAK DISCHARGE = ±1.46 CFS
10-YEAR PEAK DISCHARGE = ±2.54 CFS

DRAINAGE BASIN #5
TOTAL AREA = 1.66 ACRES

HYDROLOGIC SOIL GROUP D = 1.66 ACRES
OPEN SPACE = 0.68 ACRES
IMPERVIOUS AREA = 0.98 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 0.42 CFS
2-YEAR PEAK DISCHARGE = ±0.61 CFS
10-YEAR PEAK DISCHARGE = ±1.03 CFS

DRAINAGE BASIN #6
TOTAL AREA = 10.86 ACRES

HYDROLOGIC SOIL GROUP C = 2.29 ACRES
OPEN SPACE = 1.11 ACRES
IMPERVIOUS AREA = 1.18 ACRES

HYDROLOGIC SOIL GROUP D = 8.27 ACRES
OPEN SPACE = 3.71ACRES
IMPERVIOUS AREA = 4.56 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 2.84 CFS
2-YEAR PEAK DISCHARGE = ±3.38 CFS
10-YEAR PEAK DISCHARGE = ±5.84 CFS

DRAINAGE BASIN #7
TOTAL AREA = 4.65 ACRES

HYDROLOGIC SOIL GROUP D = 4.65 ACRES
OPEN SPACE = 1.66 ACRES
IMPERVIOUS AREA = 1.99 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 1.14 CFS
2-YEAR PEAK DISCHARGE = ±1.49 CFS
10-YEAR PEAK DISCHARGE = ±2.61 CFS

DRAINAGE BASIN #8
TOTAL AREA = 2.61 ACRES

HYDROLOGIC SOIL GROUP D = 2.61 ACRES
OPEN SPACE = 1.09 ACRES
IMPERVIOUS AREA = 1.52 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 0.65 CFS
2-YEAR PEAK DISCHARGE = ±0.85 CFS
10-YEAR PEAK DISCHARGE = ±1.60 CFS

DRAINAGE BASIN #9
TOTAL AREA = 4.16 ACRES

HYDROLOGIC SOIL GROUP D = 4.16 ACRES
OPEN SPACE = 1.74 ACRES
IMPERVIOUS AREA = 2.43 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 1.04 CFS
2-YEAR PEAK DISCHARGE = ±1.51 CFS
10-YEAR PEAK DISCHARGE = ±2.55 CFS

DRAINAGE BASIN #10
TOTAL AREA = 1.83 ACRES

HYDROLOGIC SOIL GROUP D = 1.83 ACRES
OPEN SPACE = 0.73 ACRES
IMPERVIOUS AREA = 0.90 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 0.41 CFS
2-YEAR PEAK DISCHARGE = ±0.56 CFS
10-YEAR PEAK DISCHARGE = ±0.99 CFS

DRAINAGE BASIN #11
TOTAL AREA = 7.78 ACRES

HYDROLOGIC SOIL GROUP D = 7.78 ACRES
OPEN SPACE = 3.66 ACRES
IMPERVIOUS AREA = 4.12 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 1.96 CFS
2-YEAR PEAK DISCHARGE = ±2.65 CFS
10-YEAR PEAK DISCHARGE = ±4.45 CFS

DRAINAGE BASIN #12
TOTAL AREA = 2.53 ACRES

HYDROLOGIC SOIL GROUP D = 2.53 ACRES
OPEN SPACE = 1.51 ACRES
IMPERVIOUS AREA = 1.05 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 0.53 CFS
2-YEAR PEAK DISCHARGE = ±0.82 CFS
10-YEAR PEAK DISCHARGE = ±1.45 CFS

DRAINAGE BASIN #13
TOTAL AREA = 2.01 ACRES

HYDROLOGIC SOIL GROUP D = 2.01 ACRES
OPEN SPACE = 0.86 ACRES
IMPERVIOUS AREA = 1.15 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 0.50 CFS
2-YEAR PEAK DISCHARGE = ±0.72 CFS
10-YEAR PEAK DISCHARGE = ±1.23 CFS

DRAINAGE BASIN #14
TOTAL AREA = 3.39 ACRES

HYDROLOGIC SOIL GROUP C = 0.79 ACRES
OPEN SPACE = 0.14 ACRES
IMPERVIOUS AREA = 0.63 ACRES

HYDROLOGIC SOIL GROUP D = 2.60 ACRES
OPEN SPACE = 0.56 ACRES
IMPERVIOUS AREA = 1.04 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 0.85CFS
2-YEAR PEAK DISCHARGE = ±1.39 CFS
10-YEAR PEAK DISCHARGE = ± 2.23 CFS

DRAINAGE BASIN #15
TOTAL AREA = 4.56 ACRES

HYDROLOGIC SOIL GROUP C = 0.02 ACRES
OPEN SPACE = 0.01 ACRES
IMPERVIOUS AREA = 0.01 ACRES

HYDROLOGIC SOIL GROUP D = 4.56 ACRES
OPEN SPACE = 0.94 ACRES
IMPERVIOUS AREA = 2.61 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 1.14 CFS
2-YEAR PEAK DISCHARGE = ±1.87 CFS
10-YEAR PEAK DISCHARGE = ±3.01 CFS

DRAINAGE BASIN #16
TOTAL AREA = 1.77 ACRES

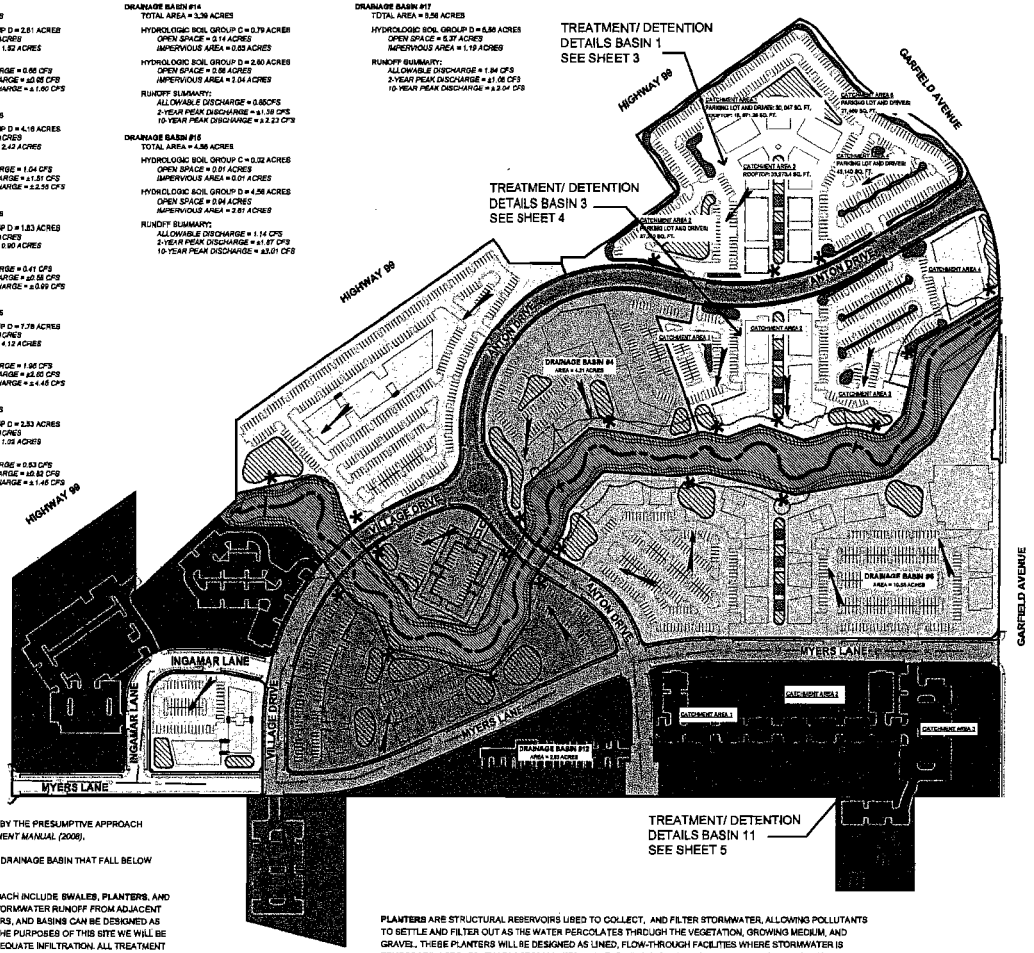
HYDROLOGIC SOIL GROUP D = 1.77 ACRES
OPEN SPACE = 0.53ACRES
IMPERVIOUS AREA = 1.44 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 0.44 CFS
2-YEAR PEAK DISCHARGE = ±0.73 CFS
10-YEAR PEAK DISCHARGE = ±1.18 CFS

DRAINAGE BASIN #17
TOTAL AREA = 8.56 ACRES

HYDROLOGIC SOIL GROUP D = 8.56 ACRES
OPEN SPACE = 5.37 ACRES
IMPERVIOUS AREA = 1.19 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 1.94 CFS
2-YEAR PEAK DISCHARGE = ±1.66 CFS
10-YEAR PEAK DISCHARGE = ±3.04 CFS



LEGEND:

- DRAINAGE BASIN #1
- DRAINAGE BASIN #2
- DRAINAGE BASIN #3
- DRAINAGE BASIN #4
- DRAINAGE BASIN #5
- DRAINAGE BASIN #6
- DRAINAGE BASIN #7
- DRAINAGE BASIN #8
- DRAINAGE BASIN #9
- DRAINAGE BASIN #10
- DRAINAGE BASIN #11
- DRAINAGE BASIN #12
- DRAINAGE BASIN #13
- DRAINAGE BASIN #14
- DRAINAGE BASIN #15
- DRAINAGE BASIN #16
- DRAINAGE BASIN #17

SURFACE DRAINAGE DIRECTION OF FLOW
* POINTS OF DISCHARGE TO CREEK
DETENTION / FLOW ATTENUATION
TREATMENT SWALES

CATCHMENT AREAS DEFINED:

FOR THE PURPOSES OF THIS PROJECT WE WILL USE THE CRITERIA LAID OUT BY THE PRESUMPTIVE APPROACH CALCULATOR (PAC) AS DETAILED IN *THE PORTLAND STORMWATER MANAGEMENT MANUAL (2008).*

IN ORDER TO USE THE PAC WE ARE SIZING CATCHMENT AREAS WITHIN EACH DRAINAGE BASIN THAT FALL BELOW THE 1 ACRE THRESHOLD FOR TREATMENT.

VEGETATED SURFACE FACILITIES AVAILABLE WITH THE PRESUMPTIVE APPROACH INCLUDE **SWALES, PLANTERS,** AND **BASINS (PONDS),** ALL OF WHICH ARE DESIGNED TO RECEIVE AND MANAGE STORMWATER RUNOFF FROM ADJACENT IMPERVIOUS SURFACES. UNDER PRESUMPTIVE APPROACH, SWALES, PLANTERS, AND BASINS CAN BE DESIGNED AS INFILTRATION, PARTIAL INFILTRATION, OR FLOW-THROUGH FACILITIES. FOR THE PURPOSES OF THIS SITE WE WILL BE FOCUSED ON FLOW-THROUGH FACILITIES AS OUR SOIL TYPES PRECLUDE ADEQUATE INFILTRATION. ALL TREATMENT AREAS WILL FLOW INTO DETENTION PRIOR TO ENTERING CREEK, PROVIDING FLOW ATTENUATION FOR ALL STORMWATER DISCHARGED FROM THE SITE.

FACILITY DESCRIPTION

SWALES ARE TYPICALLY LONG, NARROW, GENTLY SLOPING LANDSCAPED DEPRESSIONS THAT COLLECT AND CONVEY STORMWATER RUNOFF. THEY ARE PLANTED WITH DENSE VEGETATION THAT TREATS STORMWATER FROM ROOFTOPS, PARKING LOTS, AND STREETS. AS THE STORMWATER FLOWS ALONG THE LENGTH OF THE SWALE, THE VEGETATION AND CHECK DAMS SLOW THE STORMWATER DOWN, FILTER IT, ALLOW IT TO INFILTRATE THE GROUND. WHERE SOILS DO NOT DRAIN WELL, SWALES CAN OVERFLOW TO AN APPROVED DISCHARGE POINT SUCH AS A DRY WELL OR SUMP. *(PORTLAND STORMWATER MANUAL).*

PLANTERS ARE STRUCTURAL RESERVOIRS LIBED TO COLLECT, AND FILTER STORMWATER, ALLOWING POLLUTANTS TO SETTLE AND FILTER OUT AS THE WATER PERCOLATES THROUGH THE VEGETATION, GROWING MEDIUM, AND GRAVEL. THESE PLANTERS WILL BE DESIGNED AS LINED, FLOW-THROUGH FACILITIES WHERE STORMWATER IS TEMPORARILY STORED. EXCESS STORMWATER COLLECTS IN A PERFORATED PIPE AT THE BOTTOM OF THE FLOW-THROUGH PLANTER AND DRAINS TO AN APPROVED DISCHARGE POINT.

DRY DETENTION PONDS ARE DESIGNED TO FILL DURING STORM EVENTS AND SLOWLY RELEASE THE WATER OVER A NUMBER OF HOURS. DRY DETENTION PONDS MUST BE DESIGNED USING ACCEPTABLE HYDROLOGIC MODELING TECHNIQUES TO MEET APPLICABLE FLOW CONTROL REQUIREMENTS. AN OVERFLOW MECHANISM TO AN APPROVED DISCHARGE POINT IS REQUIRED.

OUR TREATMENT WILL INCLUDE SEDIMENT REMOVAL (CATCH BASIN AND FORE BAYS) ALONG WITH VEGETATED SWALES AND FLOW-THROUGH PLANTERS. WE WILL ALSO PROVIDE FOR DETENTION USING DRY DETENTION PONDS THAT DO NOT INFILTRATE.

TABLE OF CONTENTS

1 STORMWATER BASIN SCHEMATIC
2 3 CONCEPTUAL BASIN DEMONSTRAITION 3
3 BASIN 1
4 BASIN 3
5 BASIN 11
6 ROADWAY TREATMENT
7 STORMWATER PRACTICES & DETAILS
8 STORMWATER PRACTICES & DETAILS

CONCEPTUAL STORMWATER BASIN SCHEMATIC

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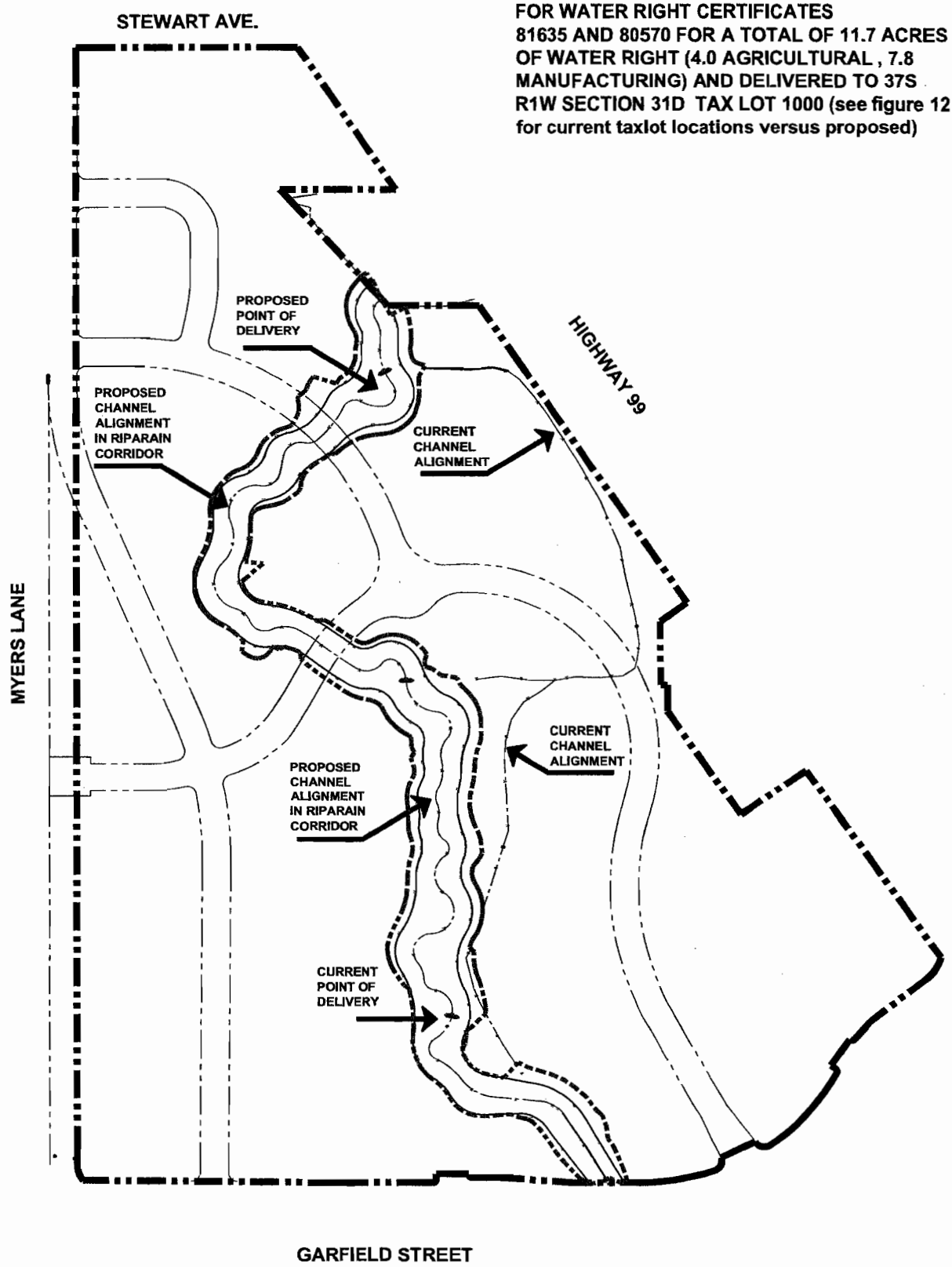
Scale 1" = 240'-0"

KOGAP ENTERPRISES
STEWART AVENUE
MEDFORD, OREGON

March 26, 2012

Figure 5

FOR WATER RIGHT CERTIFICATES 81635 AND 80570 FOR A TOTAL OF 11.7 ACRES OF WATER RIGHT (4.0 AGRICULTURAL , 7.8 MANUFACTURING) AND DELIVERED TO 37S R1W SECTION 31D TAX LOT 1000 (see figure 12 for current taxlot locations versus proposed)



6

STEWART MEADOWS
POINT OF DELIVERY CHANGE PROPOSAL
KOGAP ENTERPRISES, MEDFORD, OREGON

Scale 1" = 100'-0"
Drawn By: KK
Revision Dates:

REGISTERED LANDSCAPE ARCHITECT STATE OF OREGON REG. # 493 Kerry KenCairn

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DRAINAGE BASIN SUMMARIES:

DRAINAGE BASIN #1
TOTAL AREA = 8.20 ACRES

HYDROLOGIC SOIL GROUP C = 3.94 ACRES
OPEN SPACE = 1.70 ACRES
IMPERVIOUS AREA = 2.24 ACRES

HYDROLOGIC SOIL GROUP D = 4.26 ACRES
OPEN SPACE = 2.28 ACRES
IMPERVIOUS AREA = 1.98 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 2.05 CFS
2-YEAR PEAK DISCHARGE = ±2.59 CFS
10-YEAR PEAK DISCHARGE = ±4.53 CFS

DRAINAGE BASIN #3
TOTAL AREA = 6.08 ACRES

HYDROLOGIC SOIL GROUP C = 0.35 ACRES
OPEN SPACE = 0.19 ACRES
IMPERVIOUS AREA = 0.16 ACRES

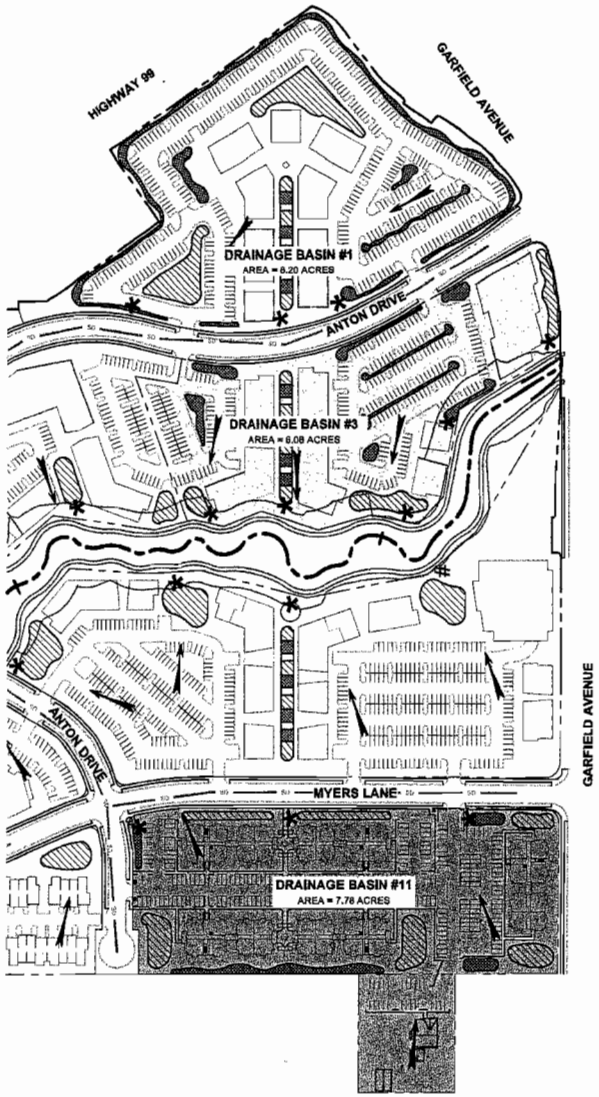
HYDROLOGIC SOIL GROUP D = 5.73 ACRES
OPEN SPACE = 2.42 ACRES
IMPERVIOUS AREA = 3.31 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 1.52 CFS
2-YEAR PEAK DISCHARGE = ±2.11 CFS
10-YEAR PEAK DISCHARGE = ±3.59 CFS

DRAINAGE BASIN #11
TOTAL AREA = 7.78 ACRES

HYDROLOGIC SOIL GROUP D = 7.78 ACRES
OPEN SPACE = 3.66 ACRES
IMPERVIOUS AREA = 4.12 ACRES

RUNOFF SUMMARY:
ALLOWABLE DISCHARGE = 1.95 CFS
2-YEAR PEAK DISCHARGE = ±2.60 CFS
10-YEAR PEAK DISCHARGE = ±4.45 CFS



LEGEND:

- DRAINAGE BASIN #1
- DRAINAGE BASIN #3
- DRAINAGE BASIN #11
- UNDERGROUND STORMWATER CONVEYANCE
- CONCEPTUAL STORMWATER DISCHARGE LOCATION
- CONCEPTUAL DRAINAGE PATTERN
- DETENTION AND ENERGY DISSIPATION
- QUALTIY TREATMENT

GENERAL NOTES:

1. THE TOTAL 2-YEAR PEAK RUNOFF VOLUME IS 8.98 ACRE FEET.
2. THE TOTAL 10-YEAR PEAK RUNOFF VOLUME IS 15.16 ACRE FEET.
3. ALL CALCULATIONS WERE PREPARED USING THE SANTA BARBARA UNIT HYDROGRAPH METHOD USING THE DESIGN SOFTWARE HYDRAFLOW HYDROGRAPHS 2007 VERSION 9.22 DISTRIBUTED BY INTELLISOLVE.

3 CONCEPTUAL BASIN DEMONSTRATIONS

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REG. # 493
Kerry KenCairn 11/12/99

Revision Date:

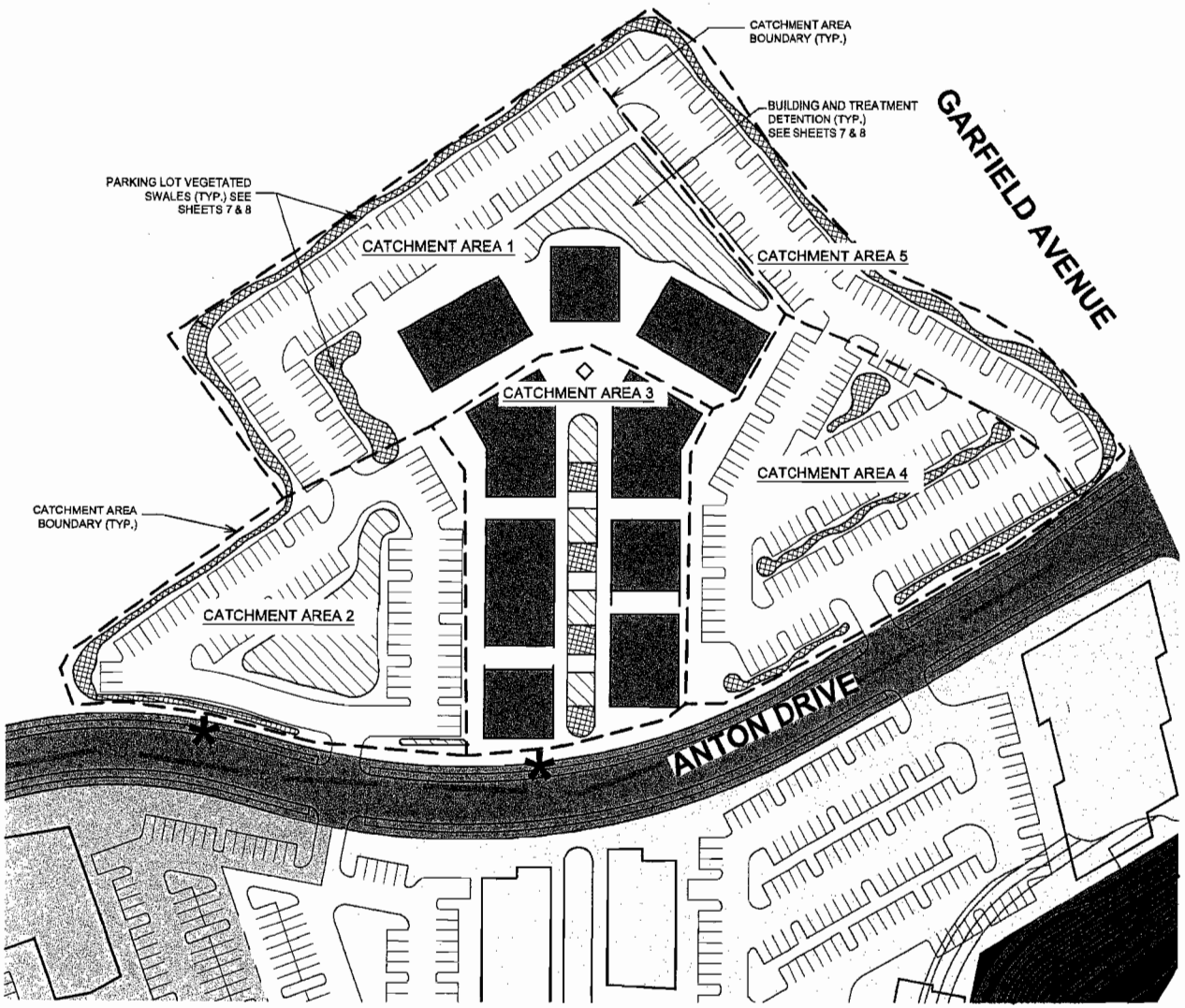
Drawn By: KK and TP

Scale 1" = 240'-0"

KOGAP ENTERPRISES
STEWART AVENUE
MEDFORD, OREGON

March 29, 2012

Figure 7



DRAINAGE BASIN #1

(DISCHARGES TO CREEK VIA ANTON DRIVE)
AREA = 6.20 ACRES

TOTAL IMPERVIOUS:	183,823.2 SQ. FT. (4.22 ACRES)
IMPERVIOUS REQUIRING TREATMENT:	134,578.54 SQ. FT. (3.09 ACRES)
DETENTION AREA:	27,590.8 SQ. FT. (.63 ACRES)
TREATMENT AREA:	19,073.54 SQ. FT. (.44 ACRES)

CATCHMENT AREA 1:
PARKING LOT AND DRIVES REQUIRING TREATMENT: 30,047 SQ. FT.
ROOFTOP DETENTION (NOT TREATED): 15,971.26 SQ. FT.
TREATMENT AREA: 7,077 SQ. FT
DETENTION AREA: 11,024 SQ. FT.

CATCHMENT AREA 2:
PARKING LOT AND DRIVES REQUIRING TREATMENT: 27,270 SQ. FT.
TREATMENT AREA: 3,204 SQ. FT.
DETENTION AREA: 8,877 SQ. FT.

CATCHMENT AREA 3:
ROOFTOP DETENTION (NOT TREATED): 33,273.4 SQ. FT.
DETENTION AREA: 4,956 SQ. FT.

CATCHMENT AREA 4:
PARKING LOT AND DRIVES REQUIRING TREATMENT: 43,140 SQ. FT.
TREATMENT AREA: 4,766 SQ. FT.

CATCHMENT AREA 5:
PARKING LOT AND DRIVES REQUIRING TREATMENT: 27,469
TREATMENT AREA: 5,566 SQ. FT.

LEGEND

TREATMENT AREA

DETENTION AREA

DISCHARGE POINT *

BASIN 1

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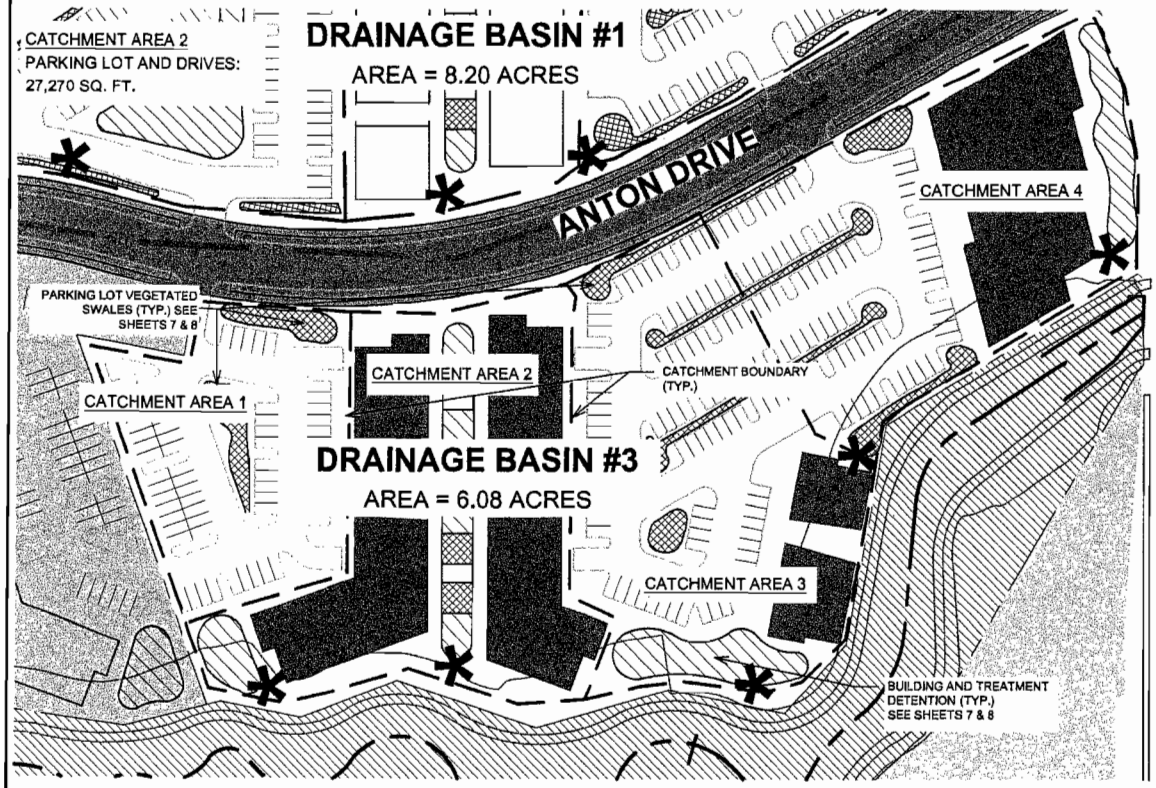
Drawn By: KK

Scale 1" = 80'-0"

KOGAP ENTERPRISES
STEWART AVENUE
MEDFORD, OREGON

March 29, 2012

Figure 8a



DRAINAGE BASIN #3

(DISCHARGES DIRECTLY TO CREEK, POST TREATMENT)
AREA = 6.08 ACRES

TOTAL IMPERVIOUS:	151,153.2 SQ. FT. (3.47 ACRES)
IMPERVIOUS REQUIRING TREATMENT:	88,103.94 SQ. FT. (2.02 ACRES)
DETENTION AREA:	18,359.18 SQ. FT. (.42 ACRES)
TREATMENT AREA:	11,652.58 SQ. FT. (.27 ACRES)

CATCHMENT AREA 1:
PARKING LOT AND DRIVES REQUIRING TREATMENT: 26,728 SQ. FT.
TREATMENT AREA: 3,439 SQ. FT.

CATCHMENT AREA 2:
ROOFTOP DETENTION (NOT TREATED): 34,655 SQ. FT.
DETENTION AREA: 7,050 SQ. FT.

CATCHMENT AREA 3:
PARKING AND DRIVES REQUIRING TREATMENT: 13,298 SQ. FT
ROOFTOP DETENTION (NOT TREATED): 7,243.63 SQ. FT.
DETENTION AREA: 5,147 SQ. FT.
TREATMENT AREA: 3,939 SQ. FT.

CATCHMENT AREA 4:
PARKING AND DRIVES REQUIRING TREATMENT: 13,160 SQ. FT.
ROOFTOP DETENTION (NOT TREATED): 21,151.14 SQ. FT.
DETENTION AREA: 3,891 SQ. FT.
TREATMENT AREA: 4,897 SQ. FT.

LEGEND

TREATMENT AREA

DETENTION AREA

DISCHARGE POINT *

BASIN 3

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REG # 493
Kerry KenCairn

Revision Date:

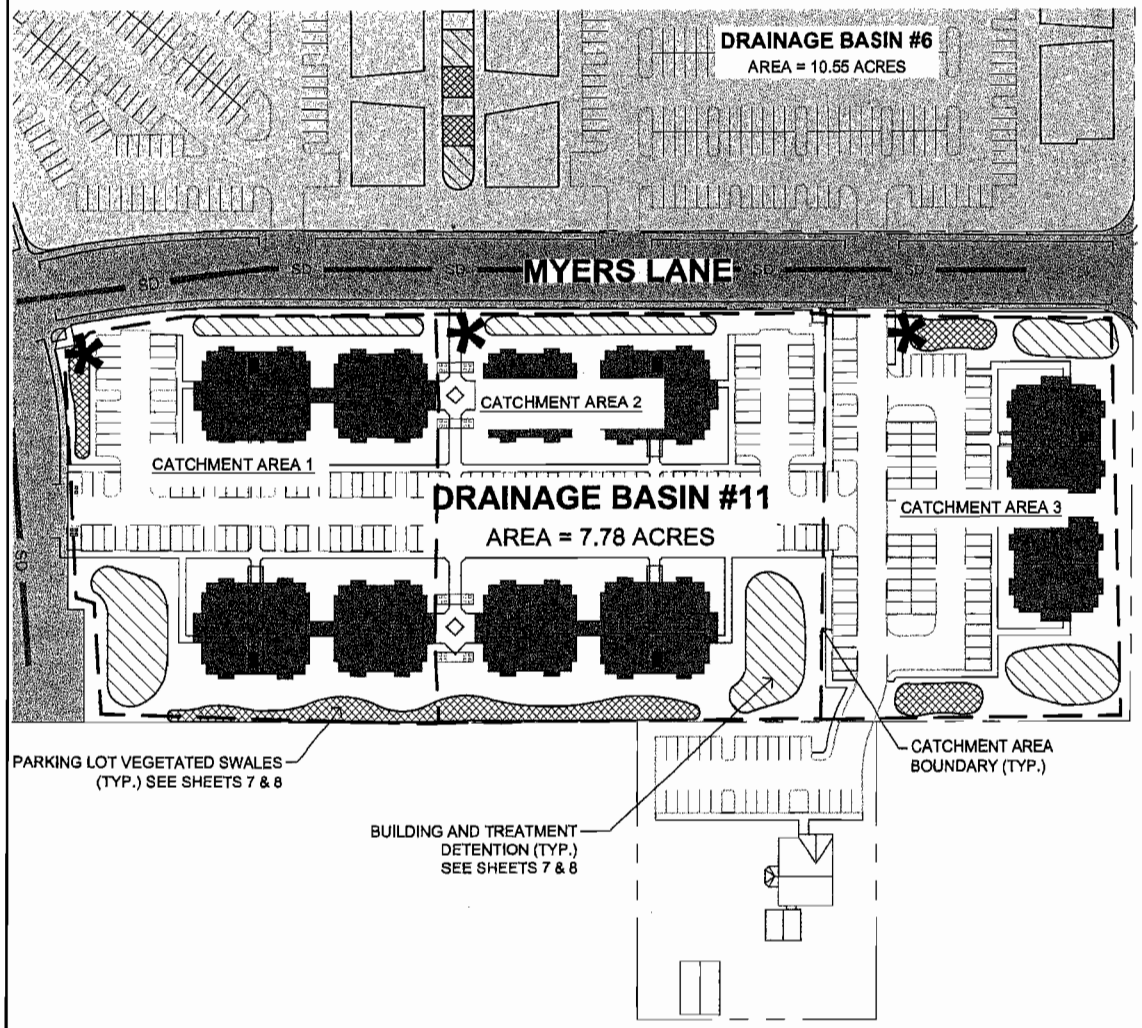
Drawn By: KK

Scale 1" = 80'-0"

KOGAP ENTERPRISES
STEWART ANVENUE
MEDFORD, OREGON

March 29, 2012

Figure 8b



DRAINAGE BASIN #11

(DISCHARGES TO NEW MYERS LANE VIA UNDERGROUND STORMWATER SYSTEM)
AREA = 7.78 ACRES

TOTAL IMPERVIOUS:	179,467.2 SQ. FT. (4.12 ACRES)
IMPERVIOUS REQUIRING TREATMENT:	123,427 SQ. FT. (2.83 ACRES)
DETENTION AREA:	21,870.62 SQ. FT. (.5 ACRES)
TREATMENT AREA:	10,382.12 SQ. FT. (.24 ACRES)

CATCHMENT AREA 1:
PARKING LOT AND DRIVES REQUIRING TREATMENT: 28,346 SQ. FT.
ROOFTOPS DETAINED (NOT TREATED): 24, 272 SQ. FT.
TREATMENT AREA: 3,837 SQ. FT.
DETENTION AREA: 7,938 SQ. FT.

CATCHMENT AREA 2:
PARKING LOT AND DRIVES REQUIRING TREATMENT: 34,800 SQ. FT.
ROOFTOPS DETAINED (NOT TREATED): 24,272 SQ. FT.
TREATMENT AREA: 3,131 SQ. FT.
DETENTION AREA: 7,938 SQ. FT.

CATCHMENT AREA 3:
PARKING LOT AND DRIVES REQUIRING TREATMENT: 37, 120 SQ. FT.
ROOFTOPS DETAINED (NOT TREATED): 12, 336 SQ. FT.
TREATMENT AREA: 3,282 SQ. FT.
DETENTION AREA: 5,992 SQ. FT.

LEGEND

TREATMENT AREA

DETENTION AREA

DISCHARGE POINT *

BASIN 11

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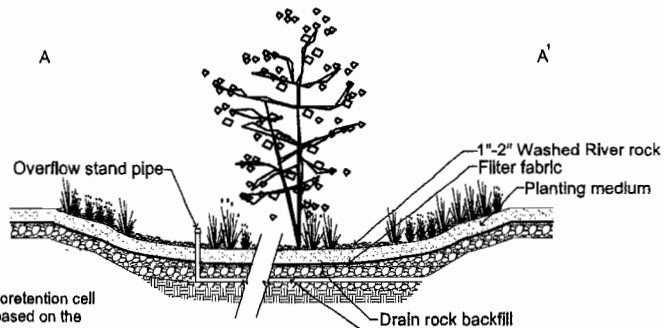
KOGAP ENTERPRISES
STEWART AVENUE
MEDFORD, OREGON

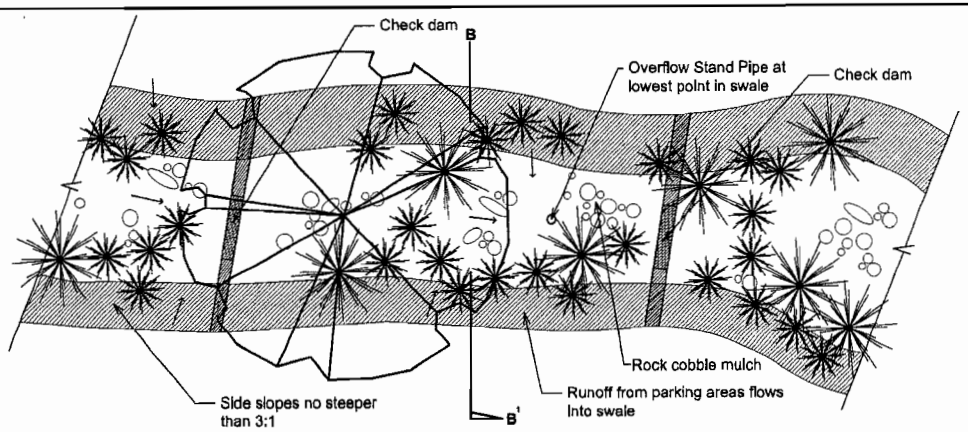
March 29, 2012

Figure 8c

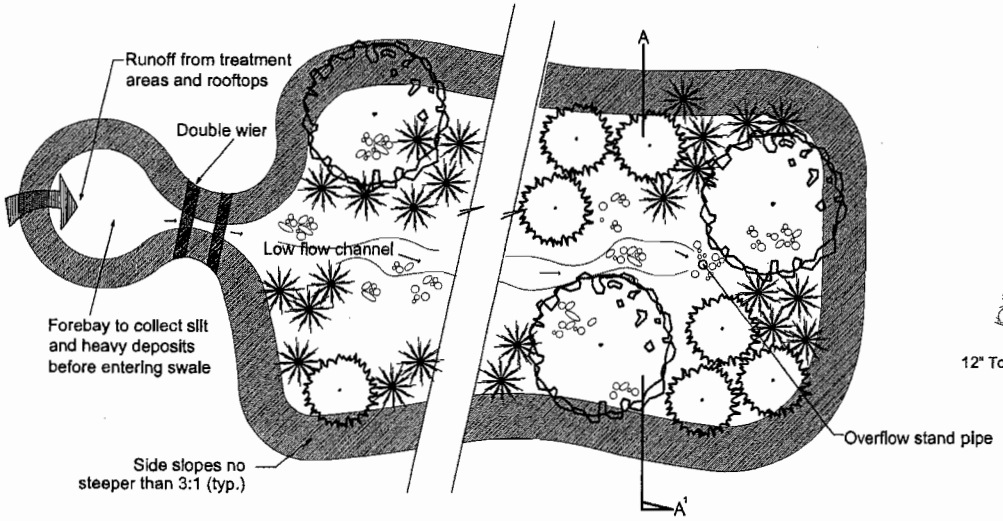


Note:
1. Depth of bioretention cell may change based on the elevation of the existing storm drain system. Project engineer shall provide final grades and details.
2. Irrigation to plant material shall be provided.

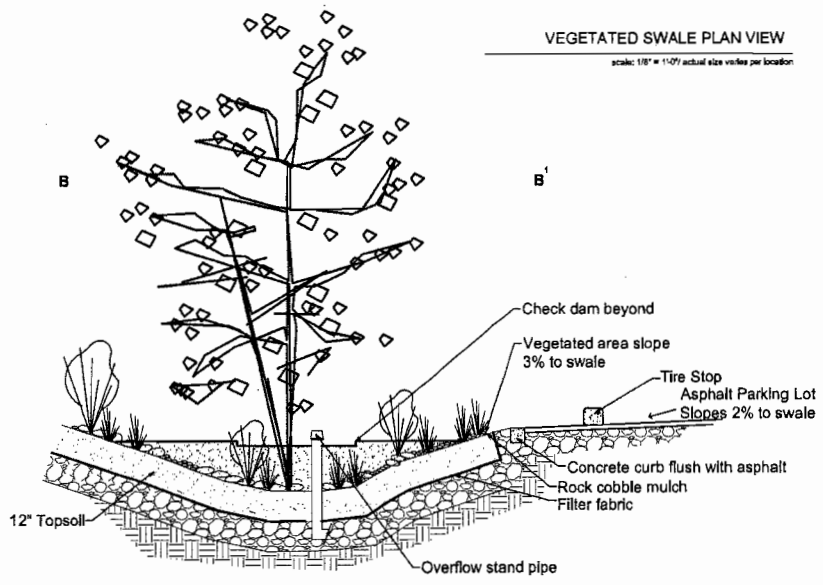
DRY DETENTION BASIN SECTION A- A'
scale: 1/8" = 1'-0"



VEGETATED SWALE PLAN VIEW
scale: 1/8" = 1'-0" actual size varies per location



DRY DETENTION BASIN W/ FORE BAY PLAN VIEW
scale: 1/8" = 1'-0" actual size varies per location



VEGETATED SWALE SECTION B - B'
scale: 1/4" = 1'-0"

STORMWATER MANAGEMENT PRACTICES & DETAILS

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Kerry Kencairn 11-12-99

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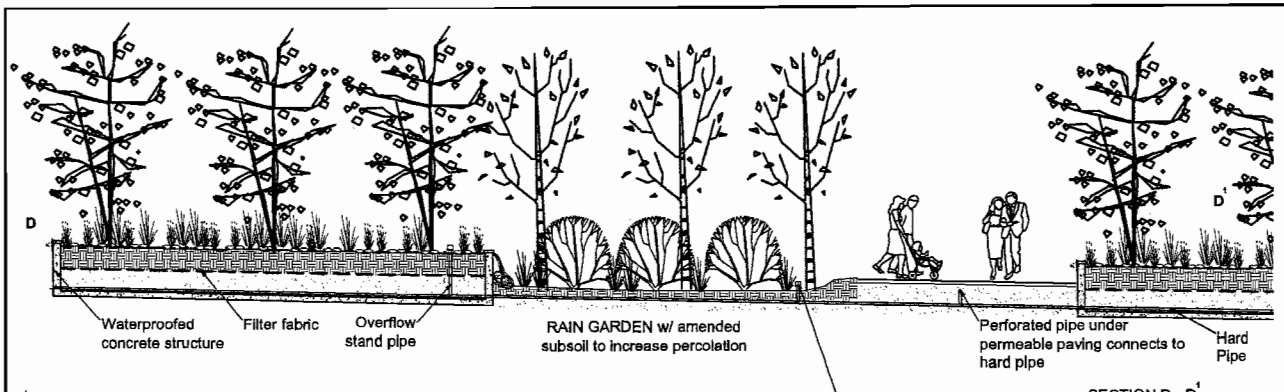
Drawn By: TMP

Scale: N/A

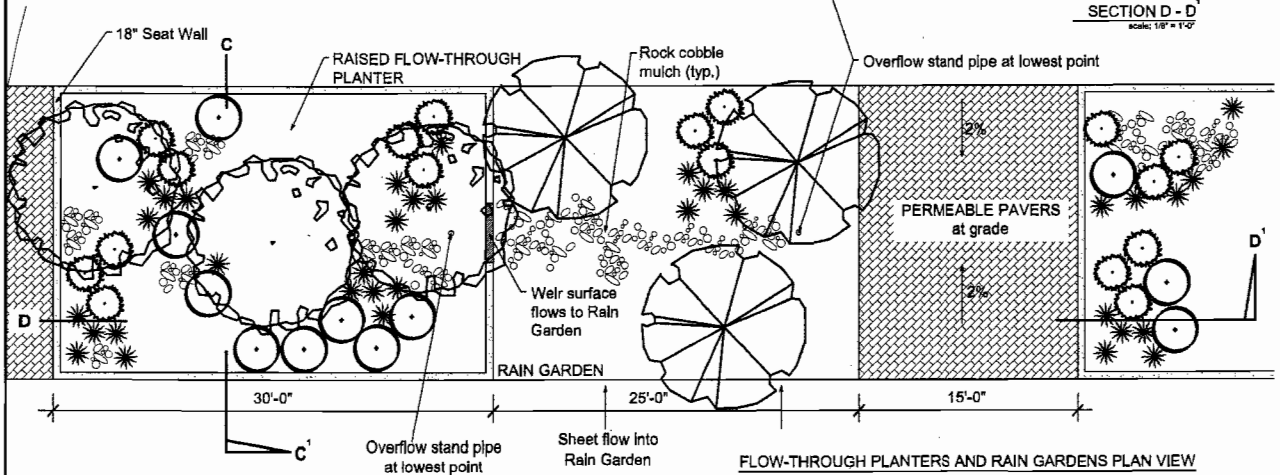
KOGAP ENTERPRISES
STEWART AVENUE
MEDFORD, OREGON

March 29, 2012

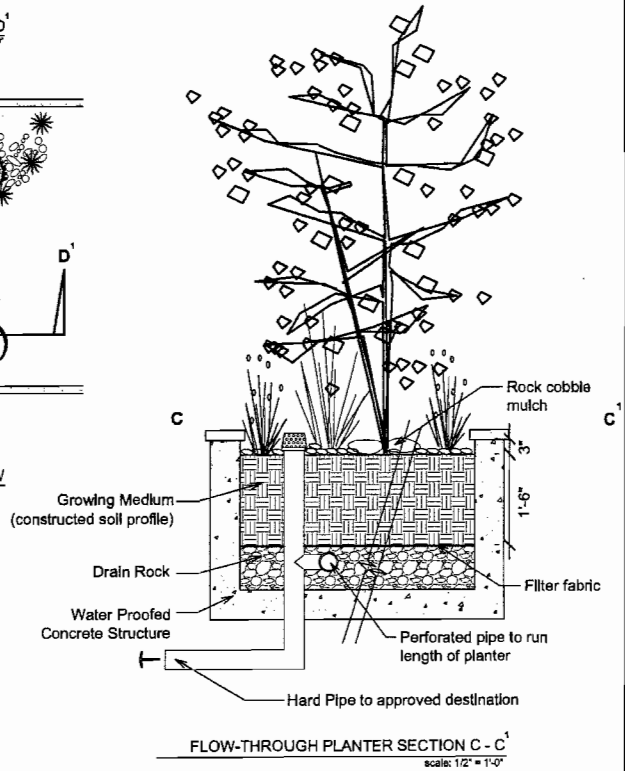
Figure 9



SECTION D - D'
scale: 1/8" = 1'-0"



FLOW-THROUGH PLANTERS AND RAIN GARDENS PLAN VIEW
scale: 1/8" = 1'-0"



FLOW-THROUGH PLANTER SECTION C - C'
scale: 1/2" = 1'-0"

STORMWATER MANAGEMENT PRACTICES & DETAILS

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11-12-99

Revision Date:

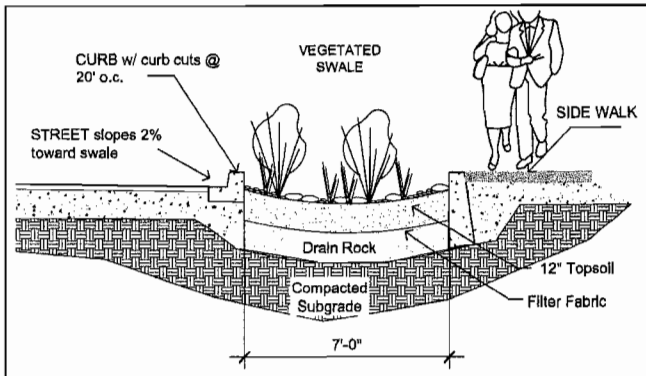
Drawn By: TMP

Scale: N/A

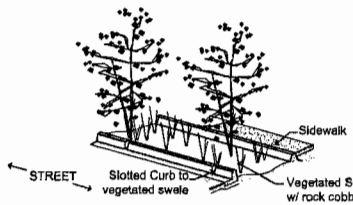
KOGAP ENTERPRISES
STEWART AVENUE
MEDFORD, OREGON

March 29, 2012

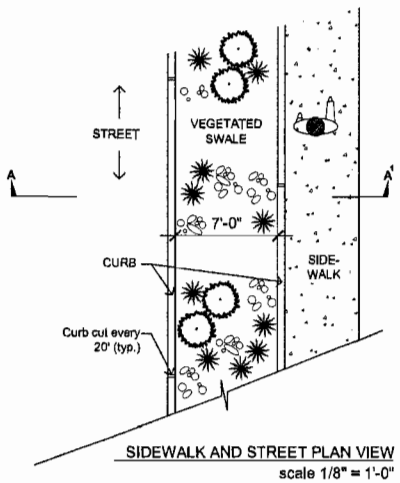
Figure 10



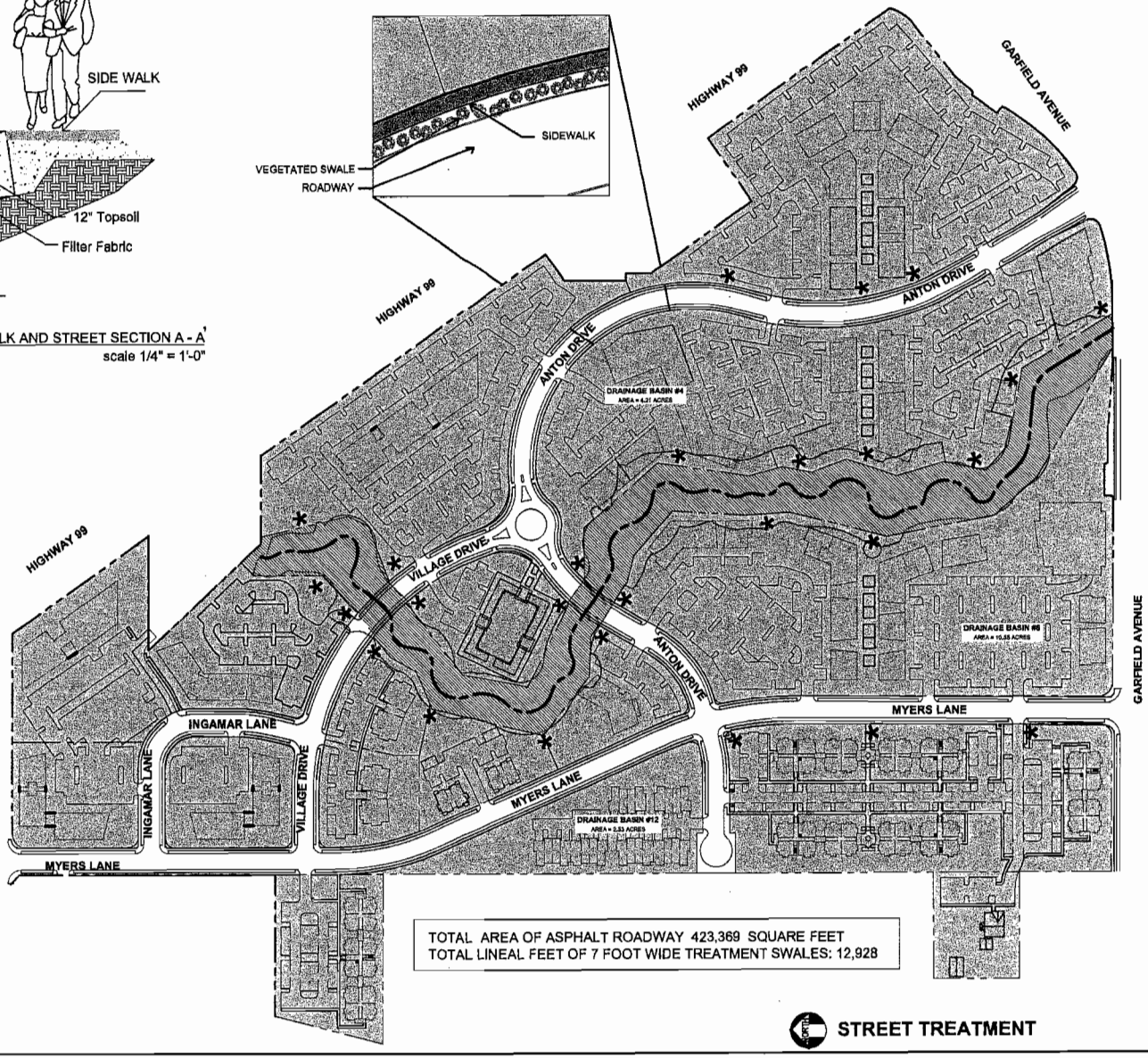
SIDEWALK AND STREET SECTION A - A'
scale 1/4" = 1'-0"



SIDEWALK AND STREET AXONOMETRIC
scale 1/16" = 1'-0"



SIDEWALK AND STREET PLAN VIEW
scale 1/8" = 1'-0"



TOTAL AREA OF ASPHALT ROADWAY 423,369 SQUARE FEET
TOTAL LINEAL FEET OF 7 FOOT WIDE TREATMENT SWALES: 12,928

STREET TREATMENT

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Kerry Kent Cairn
11/13/95

Revision Date:

Drawn By: KK

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KOGAP ENTERPRISES
STEWART AVENUE
MEDFORD, OREGON

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Figure 11

TYPICAL PROSPED CREEK SECTION

KOGAP ENTERPRISES
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Figure 12

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